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AIRCRAFT AND AIRPORT NOISE REDUCTION

GOVERNMENT
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HEARINGS

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

UNITED STATES SENATE

NINETY-FIFTH CONGRESS

SECOND SESSION

ON

S. 747

TO AMEND THE FEDERAL AVIATION ACT OF 1958 AND THE AIRPORT AND AIRWAY DEVELOPMENT ACT OF 1970 TO ESTABLISH A PROGRAM FOR THE REDUCTION OF AIRCRAFT NOISE, AND FOR OTHER PURPOSES

S. 3064

TO PROVIDE LOAN GUARANTEES TO AIRCRAFT OPERATORS TO ASSIST THEM IN COMPLYING WITH FEDERAL AIRCRAFT NOISE STANDARDS, TO AMEND THE AIRPORT AND AIRWAY DEVELOPMENT ACT OF 1970 TO PROVIDE ASSISTANCE TO AIRPORT OPERATORS AND AIRCRAFT OPERATORS TO ASSIST THEM IN COMPLYING WITH NOISE STANDARDS, AND FOR OTHER PURPOSES

H.R. 8729

TO PROVIDE ASSISTANCE TO AIRPORT OPERATORS TO PREPARE AND CARRY OUT NOISE COMPATIBILITY PROGRAMS, TO PROVIDE ASSISTANCE TO AIRCRAFT OPERATORS TO COMPLY WITH NOISE STANDARDS, AND FOR OTHER PURPOSES

MAY 24, 25, AND JUNE 13, 14, AND 17, 1978

Serial No. 95–108

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AIRCRAFT AND AIRPORT NOISE REDUCTION

WEDNESDAY, MAY 24, 1978

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE ON AVIATION,
Washington, D.C.

The subcommittee met at 9:35 a.m. in room 235, Russell Senate Office Building, Hon. Howard W. Cannon (chairman of the committee) presiding.

OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN. the hearings will come to order.

Today is the first round of hearings on aircraft noise and the various legislative proposals pending in the Congress to aid the airports in developing programs and in planning ways to reduce the impact of noise in their communities, and to aid carriers in meeting the noise regulations promulgated by the Federal Aviation Administration. We will be considering specifically S. 3064, introduced by Senator Pearson and myself; S. 747, introduced by Senator Javits; and H.R. 8729, introduced in the House by Congressman Anderson, who is our first witness today.

All of these bills have a common goal; that is, to provide mechanisms through which air carriers will be able to comply with FAR 36 and to achieve an overall benefit to the public by substantially reducing the aircraft noise both at the source and through airport planning and land acquisition.

The bills do, however, differ in the type of mechanisms they provide to achieve this goal. S. 747 empowers the Civil Aeronautics Board to establish a program for the reduction of aircraft noise through a surcharge imposed on the airlines. Funds from the surcharge would be collected by the Board, held in trust, then disbursed to the carriers to help them fund expenditures made in accordance with the Board's guidelines to reduce noise. The bill also establishes a new grant-in-aid program under the Airport and Airway Development Act of 1970 of $300 million to aid carriers in financing the retrofit of aircraft not meeting the noise regulations.

A different approach is taken in title III of the House bill, reducing by 2 percent the 8-percent ticket tax and imposing in lieu thereof a 2-percent excise tax. Air carriers would be entitled to claim a credit or refund against this tax liability for the purpose of retrofitting, re-engining, or replacing their noncompliant aircraft. This title also imposes a tax on international passenger transportation and domestic and international transportation of property.

Title III of the Senate bill, S. 3064, takes a much different approach to aid the air carriers. This title creates a federally guaranteed loan program of $20 billion to aid carriers in replacing noisy aircraft. A carrier would be able to replace a non-FAR 36 aircraft with one meeting FAR 36, or replace a FAR 36 aircraft with one meeting the stage 3 requirements of that regulation. Our intention is to allow carriers operating two- and three-engine aircraft to have until 1990 for replacement if they have signed a binding contract for purchase of an airplane by 1985 and if they are replacing the old aircraft with one meeting stage 3 of FAR 36. While the language of the bill does not currently reflect this intent, it will be amended to do so.

Title I of S. 3064 is a provision for grants for airport planning and land acquisitions to help the airport operator establish the compatible uses of land adjacent to airports. The program grants for land acquisition, acoustical shielding, preferential runway systems, and other noise compatibility programs would be $150 million for fiscal year 1979 and $250 million for 1980. The noise compatibility planning grants are limited to $15 million per year.

Title II of the Senate bill creates additional discretionary funding of $225 million for fiscal year 1979 and $268 million for 1980 for air carrier airports and additional discretionary funding of $35 million for 1979 and $42 million for 1980 for small airports. It also retains for fiscal years 1979 and 1980 the 90-to-10 matching Federal fund formula. In addition, title II contains additional FAA operations and maintenance funds of $100 million for fiscal years 1979 and 1980. With the exception of the additional FAA O. & M. money, titles I and II of the Senate bill are identical to titles I and II in the House bill.

Clearly, the different mechanisms contained in the various proposals before us today reflect the variety of current opinion on the best method of aiding the air carriers' compliance with the noise regulations. The House Committees of Public Works and Transportation and Ways and Means have had ample opportunity for debate of the financing feature contained in title III of the House bill. Our hearings this week and in June will focus on the merits of the financing program as compared to the loan guarantee program, and on the need for a financing provision in light of the recent profitability of the airlines. We will also be examining closely the actual noise attenuation achieved through retrofit of two- and three-engine aircraft to determine whether or not retrofit results in significant reduction of perceived noise.

[The bills follow:]

95TH CONGRESS
1ST SESSION

S. 747

IN THE SENATE OF THE UNITED STATES

FEBRUARY 21, 1977

Mr. JAVITS introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To amend the Federal Aviation Act of 1958 and the Airport and Airway Development Act of 1970 to establish a program for the reduction of aircraft noise, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Aircraft Noise Reduction Act of 1977".

SEC. 2. The Federal Aviation Act of 1958 (49 U.S.C. 1301 et seq.) is amended by inserting the following new section at the end of title IV:

"PROGRAM FOR THE REDUCTION OF AIRCRAFT NOISE

"SEC. 418. (a) The Board is directed, upon petition, and after consultation with the Secretary of Transportation, to

establish within one year of receiving such petition, in accordance with the terms and conditions of this section, a program to supplement carrier revenues for the purpose of the full financing of the modification or the partial financing of the replacement of subsonic turbojet-powered airplanes in order to reduce aircraft noise in accordance with standards established under section 611 of this Act. In conjunction therewith, the Board is empowered, upon petition (1) to fix and determine, after notice and hearing, a noise reduction surcharge for a period not to exceed ten years on amounts paid to such persons (other than foreign air carriers) as it shall determine for the transportation of persons or property by air designed to recover amounts not to exceed the amounts that would be paid for such transportation under a 2-percent tax under sections 4261 and 4271 of the Internal Revenue Code of 1954; (2) to order the placement in trust of revenues received from such a surcharge; (3) to appoint a trustee or trustees to administer the trust; and (4) to establish, upon petition, after notice and hearing, a method for the distribution of revenues placed in trust to such persons referred to in clause (1) as it shall determine, taking into account the amount of expense to be incurred by each such person in the replacement or modification of airplanes for the purpose of reducing aircraft noise and such other factors the Board finds

may cause a particular person's expense under this program to differ from the amounts placed in the trust by that person.

"(b) (1) The trustee or trustees appointed under subsection (a) of this section shall disburse funds placed in trust in accordance with the method of distribution established by the Board under subsection (a) (4) of this section and such other regulations and standards consistent therewith that the Board, after consultation with the Secretary of Transportation, may prescribe.

"(2) Funds may not be disbursed under this section for the replacement of an airplane (A) in an amount that exceeds one-third of the cost of the replacement aircraft (less the amount to be received upon disposal of the airplane it replaces); or (B) unless the replacement airplane incorporates technology necessary to meet applicable Federal aircraft noise standards in effect at the time of the disbursement of the funds for replacement of the airplane. Funds may not be disbursed under this section to any person if, in the aggregate, the capacity of the airplanes acquired by that person with the use of funds disbursed under this section would exceed the aggregate capacity of the airplane replaced.

"(c) The trustee or trustees appointed under this section shall pay to the United States for deposit in the general fund of the Treasury or, if it is in operation, the Airport and

Airway Trust Fund, any moneys in the trust unused at the end of program established under this section.".

SEC. 3. Section 14(f) of the Airport and Airway Development Act of 1970 (49 U.S.C. 1714(f) is amended by adding at the end thereof the following new paragraph:

"(4) Amounts deposited in the general fund of the Treasury or in the trust fund under section 418(c) of the Federal Aviation Act of 1958 shall be appropriated only for the purpose of making grants under this Act for the purpose of reducing the adverse impact of aricraft noise on any area adjacent to a public airport.".

SEC. 4. Section 14 of the Airport and Airway Development Act of 1970 (49 U.S.C. 1714) is amended by adding at the end thereof the following new subsection:

"(g) AIRCRAFT NOISE REDUCTION.—(1) The Secretary is authorized to make grants, upon such terms and conditions as are specified by this subsection and any others he considers appropriate, to any person (other than a foreign air carrier as that term is defined in the Federal Aviation Act of 1958) engaged in the transportation of persons or property by air for compensation or hire to assist in financing the modification of such categories of two-, three-, or four-engine civil subsonic turbojet-powered airplanes as the Secretary may determine in order to comply with standards

established under section 611 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1431).

"(2) To finance grants under this subsection, the Secretary is authorized to incur obligations in behalf of the United States in an aggregate amount not to exceed $300,000,000. Amounts in the Airport and Airway Trust Fund shall be available, as provided by appropriations Acts, to meet obligations of the United States incurred under this subsection.

"(3) The Secretary may not make a grant under this subsection unless he determines or requires that—

"(A) the modification will be accomplished in a timely manner, taking into consideration the requirements established under section 611 of the Federal Aviation Act of 1958, as amended; and

"(B) no part of any grant will be used to pay costs incurred before the date of enactment of this section.".

SEC. 5. Section 11(3)(A) of the Airport and Airway Development Act of 1970 (49 U.S.C. 1711(3)(A)) is amended by inserting after "snow removal equipment," the words "and including the purchase and installation of noise monitoring equipment".

95TH CONGRESS
2D SESSION

S. 3064

IN THE SENATE OF THE UNITED STATES

MAY 11 (legislative day, APRIL 24), 1978

Mr. CANNON (for himself and Mr. PEARSON) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To provide loan guarantees to aircraft operators to assist them in complying with Federal aircraft noise standards, to amend the Airport and Airway Development Act of 1970 to provide assistance to airport operators and aircraft operators to assist them in complying with noise standards, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Aircraft and Airport Noise Reduction Act of 1978".

TITLE I

SEC. 101. For purposes of this title—

(1) the term "airport" means any air carrier air-

port whose projects for airport development are eligible for terminal development costs under section 20(b) of the Airport and Airway Development Act of 1970 (49 U.S.C. 1720);

(2) the term "airport operator" means any person holding a valid certificate issued pursuant to section 612 of the Federal Aviation Act of 1958 to operate an airport;

(3) the term "Secretary" means the Secretary of Transportation.

SEC. 102. Not later than the last day of the twelfth month which begins after the date of enactment of this Act, the Secretary, after consultation with the Administrator of the Environmental Protection Agency and such other Federal, State, and interstate agencies as he deems appropriate, shall by regulation—

(1) establish a single system of measuring noise to be uniformly applied in measuring the noise at airports and the areas surrounding such airports;

(2) establish a single system for determining the impact of noise upon individuals which results from the operations of an airport and which includes, but is not limited to, noise intensity, duration, frequency, and time of occurrence;

(3) identify land uses which are normally com-

patible with various impacts of noise on individuals.

SEC. 103. (a) (1) After the effective date of the regulations promulgated in accordance with section 102 of this title, any airport operator of an airport may submit to the Secretary a noise impact map which sets forth, in accordance with the regulations promulgated pursuant to section 102, the noncompatible uses in each area of the map, as of the date of submission of such map, a description of the projected aircraft operations at such airport during 1985, and the ways, if any, in which such operations will affect such map.

(2) If, after the submission to the Secretary of a noise impact map under paragraph (1), any change in the operation of an airport would create any new noncompatible use in any area surrounding such airport, the operator of such airport shall submit a revised noise impact map showing such new noncompatible use.

(b) (1) Section 11 of the Arport and Airway Development Act of 1970 (49 U.S.C. 1711) is amended by renumbering paragraphs (6) through (21), and all references thereto, as paragraphs (7) through (22), respectively, and by adding immediately after paragraph (5) the following new paragraph:

"(6) 'Airport noise compatibility planning' means the development for planning purposes of information necessary

to prepare and submit (A) the noise impact map and related information permitted by section 103 of the Airport and Aircraft Noise Reduction Act, including any cost associated with obtaining such information, and (B) a noise compatibility program for approval by the Secretary pursuant to section 104 of such Act.".

(2) (A) Section 13 (a) of the Airport and Airway Development Act of 1970 (49 U.S.C. 1713) is amended by—

(i) inserting "(1)" immediately before the first sentence thereof; and

(ii) adding at the end thereof the following new paragraph:

"(2) In order to promote the development of an effective noise compatibility program, the Secretary may make grants of funds to sponsors of air carrier airports whose projects for airport development are eligible for terminal development costs under section 20 (b) of this title for noise compatibility planning.".

(B) Section 13 (b) of such Act is amended to read as follows:

"(b) AMOUNT AND LIMITATION OF GRANTS.—(1) The award of grants under subsection (a) (1) of this section is subject to the following limitations:

"(A) The total funds obligated for grants under

subsection (a) (1) of this section may not exceed $150,000,000, and the amount obligated in any one fiscal year may not exceed $15,000,000.

"(B) The United States share of any airport master planning grant or airport noise compatability planning grant under this section shall be that per centum for which a project for airport development at that airport would be eligible under section 17 of this Act. In the case of any airport system planning grant under this section, the United States share shall be 75 per centum.

"(C) No more than 10 per centum of the funds made available under this paragraph in any fiscal year may be allocated for projects within a single State, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, or Guam. Grants for projects encompassing an area located in two or more States shall be charged to each State in the proportion which the number of square miles the project encompasses in each State bears to the square miles encompassed by the entire project.

"(2) For the purpose of carrying out subsection (a) (2) of this section, there is authorized to be appropriated, for fiscal years ending on or after September 30, 1979, out of the Airport and Airway Trust Fund, not to exceed $15,000,000.".

SEC. 104. (a) Any airport operator who has submitted a noise impact map and the related information permitted by section 103 (a) (1) may, after consultation with the officials of any unit of local government in the area surrounding such airport, the Federal officials having local responsibility for such airport, any air carrier using such airport, and any regional planning authority, submit a noise compatibility program to the Secretary for his approval. Such program shall set forth the measures which such operator proposes for the reduction of existing noncompatible uses and the prevention of the introduction of additional noncompatible uses within the area covered by the noise impact map submitted by such operator. Such measures may include, but are not limited to—

(1) the implementation of any preferential runway system;

(2) the implementation of any restriction on the use of such airport by any type or class of aircraft;

(3) the construction of barriers and acoustical shielding, including the soundproofing of public buildings;

(4) the use of flight procedures to control the operation of aircraft to reduce the impact of noise in the area surrounding the airport;

(5) acquisition of land and interests therein.

(b) The Secretary shall approve or disapprove any pro-

gram submitted to him pursuant to subsection (a) within one hundred and eighty days after it is received by him. The Secretary shall approve such program (1) if the measures to be undertaken in carrying out such program (A) provide for the continuation of safe flight operation, (B) do not create an undue buurden on interstate of foreign commerce, and (C) are reasonably consistent with obtaining the goal of reducing existing noncompatible uses and preventing the introduction of additional noncompatible uses, and (2) if the program provides for its revision made necessary by any revised noise impact map submitted under section 103 (a) (2) of this title. Failure of the Secretary to approve or disapprove such program within such time period shall be deemed to be an approval of such program, except any part of such program which relates to flight procedures referred to in subsection (a) (4) of this section.

(c) The Secretary is authorized to make grants under this Act for any project to carry out a noise compatibility program approved under subsection (b) of this section. Grants under this Act may be made to operators of airports submitting noise compatibility programs and to units of local government in the area surrounding such airports if the Secretary determines such units have the capability to carry out projects for which grant applications are made in accordance with such noise compatibility programs. The Federal

share of any project for which a grant is made under this subsection shall be 80 per centum of the cost of the project. All of the provisions of the Airport and Airway Development Act of 1970 applicable to grants made under that Act (except section 17 and those provisions relating to apportionment) shall be applicable to any grant made under this Act, unless the Secretary determines that any provision of such Act of 1970 is inconsistent with, or unnecessary to carry out, the purposes of this Act.

(d) There is authorized to be appropriated, out of the Airport and Airway Trust Fund, not to exceed $150,000,000 for the fiscal year ending September 30, 1979, and not to exceed $250,000,000 for the fiscal year ending September 30, 1980, to be expended, at the discretion of the Secretary, for making grants under subsection (c) of this section.

SEC. 105. The Secretary, acting through the Administrator of the Federal Aviation Administration, after consultation with the officials of any unit of local government in the area surrounding such airport, shall prepare and publish a noise impact map and a noise compatibility program for the airport established by the Act of June 29, 1940 (54 Stat. 686), and the airport the construction of which was authorized by the Act of September 7, 1950 (64 Stat. 770). Such map and program shall be prepared and published in accordance with the requirements of this Act

no later than one year after the effective date of the regulations promulgated in accordance with section 102 of this Act.

SEC. 106. Any noise impact map submitted to, or prepared by, the Secretary under this title and the list of land uses identified by the Secretary under this title as those which are normally compatible with various impacts of noise on individuals shall not be received in evidence in any trial, hearing, or other proceeding in or before any court in the United States.

SEC. 107. No person who acquires property or an interest therein after the date of enactment of this Act in an area surrounding an airport shall be entitled to recover damages with respect to the noise attributable to such airport unless, in addition to any other elements for recovery of damages, such person can show—

(1) a significant change in the type or frequency of aircraft operations at the airport; or

(2) a significant change in the airport layout; or

(3) a significant change in flight patterns; or

(4) a significant increase in nighttime operations,

occurred after the date of the acquisition of such property or interest therein.

SEC. 108. The Secretary shall study (1) airport noise compatibility planning carried out with grants made under

section 13 of the Airport and Airway Development Act of 1970, and (2) airport noise compatibility programs carried out with grants made under this title, to determine to what extent such planning and programs are achieving the goals of reducing existing noncompatible uses of land around airports and preventing the introduction of new noncompatible uses around airports. Not later than January 1, 1987, the Secretary shall submit to Congress a report setting forth the determinations made pursuant to such study together with legislative recommendations, if any, which the Secretary determines necessary.

TITLE II

SEC. 201. (a) Paragraph (3) of subsection (a) of section 14 of the Airport and Airway Development Act of 1970 (49 U.S.C. 1714) is amended by striking out "$495,000,000 for fiscal year 1979, and $525,000,000 for fiscal year 1980." and inserting in lieu thereof "$720,000,000 for fiscal year 1979, and $793,000,000 for fiscal year 1980.".

(b) Paragraph (4) of subsection (a) of section 14 of the Airport and Airway Development Act of 1970 is amended by striking out "$80,000,000 for fiscal year 1979, and $85,000,000 for fiscal year 1980." and inserting in lieu thereof "$115,000,000 for fiscal year 1979, and $127,000,000 for fiscal year 1980.".

(c) Subsection (e) of section 14 of the Airport and

Airway Development Act of 1970 is amended by striking out "$300,000,000 for fiscal year 1979, and $325,000,000 for fiscal year 1980." and inserting in lieu thereof "$400,000,000 for fiscal year 1979, and $425,000,000 for fiscal year 1980.".

SEC. 202. Paragraph (2) (A) of subsection (a) of section 17 of the Airport and Airway Development Act of 1970 (49 U.S.C. 1717) is amended by striking out "1977 and 1978, and shall be 80 per centum of the allowable project costs in the case of grants from funds for fiscal years 1979 and 1980," and inserting in lieu thereof "1977 through 1980".

SEC. 203. Part II of the Airport and Airway Development Act of 1970 (49 U.S.C. 1711 et seq.) is amended by adding at the end thereof the following new section:

"SEC. 31. Notwithstanding any other provision of this title, no airport development project involving the construction or extension of any runway may be approved by the Secretary at any general aviation airport located astride a line separating two counties within a single State if, before the submission of such project to the Secretary, such project has not been approved by the governing body of any village incorporated under the laws of that State which is located entirely within five miles of the nearest boundary of such airport.".

TITLE III

SEC. 301. For purposes of this title—

(1) the term "noncomplying aircraft" means any civil subsonic turbojet powered aircraft (A) which (i) has a maximum certificated takeoff weight of seventy-five thousand pounds or more, (ii) is registered in the United States, (iii) has a standard airworthiness certificate issued pursuant to section 603(c) of the Federal Aviation Act of 1958 (49 U.S.C. 1423), and (iv) as determined by the Civil Aeronautics Board, is in service on the effective date of this section, and (B) which does not comply with the noise standards prescribed for new subsonic aircraft in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on January 1, 1977;

(2) the term "retrofit" means the alteration of the engine or the engine nacelles of an aircraft with sound absorbent materials for the purpose of noise reduction; and

(3) the term "Secretary" means the Secretary of Transportation.

SEC. 302. (a) Not later than sixty days after the date of enactment of this title, the Secretary shall publish a list

in the Federal Register setting forth the name of each operator of each noncomplying aircraft and the registration number of such aircraft.

(b) (1) Except as provided in paragraph (2) of this subsection, not later than two months after the date the Secretary publishes the list required by subsection (a) of this section, each operator named in such list shall submit to the Secretary in writing a statement which sets forth, with respect to each noncomplying aircraft operated by such operator which appears on such list—

(A) that such aircraft will comply with (i) the noise standards set forth for new subsonic aircraft in regulations prescribed by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36) as such regulations were in effect on January 1, 1977, and (ii) any additional requirements relating to noise, set forth in regulations issued by the Secretary; and

(B) the means by which such operator will comply with such regulations which shall be by—

(i) retrofitting such noncomplying aircraft (including retrofitting spare engines where necessary);

(ii) replacing the engines in such noncomplying aircraft; or

(iii) replacing such noncomplying aircraft with another aircraft.

(2) Paragraph (1) of this subsection shall not apply to any operator of a noncomplying aircraft set forth in the list published pursuant to subsection (a) of this section if such aircraft is not used for the carriage of persons or property for compensation or hire.

SEC. 303. (a) The Secretary is authorized to guarantee any lender against loss of principal or interest on any loan made by such lender to an eligible air carrier for the purchase of aircraft which are being purchased in order to (1) replace noncomplying aircraft operated by such eligible air carrier with complying aircraft, or (2) replace any aircraft which does not comply with "stage 3" noise levels as set forth in 14 C.F.R. 36, as such regulation was in effect on May 1, 1978, with aircraft which do comply with such "stage 3" noise levels.

(b) Each guarantee made by the Secretary under this section shall be made in such form, on such terms and conditions, and pursuant to such regulations, as the Secretary deems necessary and which are not inconsistent with the provisions of this section.

(c) No guarantee shall be made (1) extending to more than the unpaid interest and 90 per centum of the unpaid

principal of any loan; (2) on any loan or combination of loans for more than 90 per centum of the purchase price of the aircraft, including spare parts, to be purchased therewith; (3) wherein the total face amount of such loan, and of any other loans to the same air carrier, or corporate predecessor air carrier, guaranteed and outstanding under the terms of this section, exceed that percentage of $20,000,000,000 which represents that carrier's percentage of the total aircraft revenue miles of all eligible air carriers for calendar year 1977; and (4) if the amount of such guarantee, added to the total face amount of all guarantees outstanding, will exceed $20,000,000,000.

(d) To permit him to make use of such expert advice and services as he may require in carrying out the provisions of this section, the Secretary may use available services and facilities of other agencies and instrumentalities of the Federal Government with their consent and on a reimbursable basis.

(e) Departments and agencies of the Federal Government shall exercise their powers, duties, and functions in such manner as will assist the Secretary in carrying out the objectives of this section.

(f) The Secretary shall make available to the Comptroller General of the United States such information with

respect to the loan guarantee program under this section as the Comptroller General may require to carry out his duties under the Budget and Accounting Act of 1921.

(g) Receipts under this section shall be credited to the Airport and Airway Development Fund, as provided under section 14(g) of the Airport and Airway Development Act. Administrative expenses under this section shall be paid from appropriations to the Department of Transportation for administrative expenses.

(h) No guarantee shall be made by the Secretary under this section after January 1, 1990.

(i) For the purposes of this section, an "eligible air carrier" is any operator listed by the Secretary under section 302 of this title.

SEC. 304. (a) (1) The total number of passenger seats on all replacement aircraft for which loans are guaranteed under section 303 shall not exceed by more than 10 per centum the total number of passenger seats on all aircraft of such operator which are replaced by such replacement aircraft.

(2) The total capacity for property of all replacement aircraft to be used in all-cargo service for which loans are guaranteed under section 303 shall not exceed by more than 10 per centum the total cargo capacity of all aircraft of such

operator used in all-cargo service which are to be replaced by such replacement aircraft.

SEC. 305. After January 1, 1985, no operator who is listed by the Secretary under section 302 shall operate any noncomplying aircraft in the United States, except that such an operator may continue to operate a noncomplying aircraft of two or three engines until January 1, 1990, if such operator has entered into a binding contract, before January 1, 1985, for the purchase of a replacement aircraft for such noncomplying aircraft.

SEC. 306. Notwithstanding any other provision of this or any other law, the Secretary is authorized to allow any noncomplying aircraft to be operated beyond the date by which such aircraft is to be in compliance with noise standards applicable to it in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on January 1, 1977, by waiving the application of such regulations to such aircraft for such period beyond such date of compliance as he determines reasonable to permit compliance. No such waiver shall be granted except upon application of the operator of the noncomplying aircraft and a finding by the Secretary that such operator has made a good faith effort to comply with such regulations and that there is good cause for failure of such operator to comply

with such regulations as applicable to such noncomplying aircraft. For the purpose of this section, the term "good cause" shall include the following:

(1) Any case where the supplier is unable to furnish or make available to such operator in a timely manner the necessary engine retrofit kits, replacement engines, or replacement aircraft.

(2) Any case where the operator's inability to operate such noncomplying aircraft will result in the end of scheduled service to the public.

(3) Any other circumstances the Secretary deems appropriate.

SEC. 307. Section 14 of the Airport and Airway Development Act of 1970 is amended by adding the following new subsection:

"(g) FUNDS TO BE SET ASIDE FOR AIRCRAFT LOAN GUARANTEES.—

"(1) The Secretary is authorized to obligate $1,000,000,000 of any sums in the Trust Fund, which are hereby reserved for the purposes of the loan guarantee program established by section 303 of the Aircraft and Airport Noise Reduction Act of 1978. Sums received by the Secretary in relation to that program shall be credited to the Trust Fund.

"(2) Notwithstanding any other provision of this

section, the Secretary shall maintain such funds and is authorized to make payments therefrom until such time as all loans guaranteed under section 303 of the Aircraft and Airport Noise Reduction Act of 1978 have been fully repaid.".

SEC. 308. Section 208(f) of the Airport and Airway Revenue Act of 1970 (49 U.S.C. 1742), is amended by adding the following new subsection:

"(4) AIRCRAFT LOAN GUARANTEE PROGRAM.—The Trust Fund shall be fully available for making expenditures to meet the obligations of the United States incurred in the guarantee of loans under section 303 of the Aircraft and Airport Noise Reduction Act of 1978 until such time as all loans so guaranteed have been fully repaid.".

Union Calendar No. 429

95TH CONGRESS
1ST SESSION

H. R. 8729

[Report No. 95–836]

IN THE HOUSE OF REPRESENTATIVES

AUGUST 3, 1977

Mr. ANDERSON of California (for himself, Mr. JOHNSON of California, Mr. HARSHA, Mr. HAMMERSCHMIDT, Mr. FARY, Mr. HOWARD, Mr. DON H. CLAUSEN, Mr. RAHALL, Mr. LEVITAS, Mr. TAYLOR, Mr. ROE, Mr. MINETA, Mr. YOUNG of Missouri, Mr. GINN, Mr. ERTEL, Mr. HEFNER, Mr. RONCALIO, Mr. FLIPPO, Mr. ROBERTS, Mr. MCCORMACK, Mr. BREAUX, Mr. RISENHOOVER, Mr. WALSH, Mr. OBERSTAR, and Mr. BONIOR) introduced the following bill; which was referred to the Committee on Public Works and Transportation

DECEMBER 13, 1977

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

[Strike out all after the enacting clause and insert the part printed in italic]

A BILL

To provide assistance to airport operators to prepare and carry out noise compatibility programs, to provide assistance to aircraft operators to comply with noise standards, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, ~~That this Act may be cited as the "Airport and Aircraft Noise Reduction Act".~~

~~TITLE I~~

~~SEC. 101. For purposes of this title—~~

~~(1) the term "airport" means any air carrier air-~~

~~port whose projects for airport development are eligible for terminal development costs under section 20(b) of the Airport and Airway Development Act of 1970 (49 U.S.C. 1720);~~

~~(2) the term "airport operator" means any person holding a valid certificate issued pursuant to section 612 of the Federal Aviation Act of 1958 to operate an airport;~~

~~(3) the term "Secretary" means the Secretary of Transportation.~~

~~SEC. 102. Not later than the last day of the twelfth month which begins after the date of enactment of this Act, the Secretary, after consultation with such Federal, State, and interstate agencies as he deems appropriate, shall by regulation—~~

~~(1) establish a single system of measuring noise to be uniformly applied in measuring the noise at airports and the areas surrounding such airports;~~

~~(2) establish a single system for determining the impact of noise upon individuals which results from the operations of an airport and which includes, but is not limited to, noise intensity, duration, frequency, and time of occurrence;~~

~~(3) identify land uses which are normally compatible with various impacts of noise on individuals.~~

~~SEC. 103. (a) (1) After the effective date of the regulations promulgated in accordance with section 102 of this title, any airport operator of an airport may submit to the Secretary a noise impact map which sets forth, in accordance with the regulations promulgated pursuant to section 102, the noncompatible uses in each area of the map, as of the date of submission of such map, a description of the projected aircraft operations at such airport during 1985, and the ways, if any, in which such operations will affect such map.~~

~~(2) If, after the submission to the Secretary of a noise impact map under paragraph (1), any change in the operation of an airport would create any new noncompatible use in any area surrounding such airport, the operator of such airport shall submit a revised noise impact map showing such new noncompatible use.~~

~~(b) (1) Section 11 of the Airport and Airway Development Act of 1970 (49 U.S.C. 1711) is amended by renumbering paragraphs (6) through (21), and all references thereto, as paragraphs (7) through (22), respectively, and by adding immediately after paragraph (5) the following new paragraph:~~

~~"(6) 'Airport noise compatibility planning' means the development for planning purposes of information necessary to prepare and submit (A) the noise impact map and re-~~

lated information permitted by section 103 of the Airport and Aircraft Noise Reduction Act, including any cost associated with obtaining such information, and (B) a noise compatibility program for approval by the Secretary pursuant to section 104 of such Act.".

(2) (A) Section 13 (a) of such Act (49 U.S.C. 1713) is amended by—

(i) inserting "(1)" immediately before the first sentence thereof; and

(ii) adding at the end thereof the following new paragraph:

"(2) In order to promote the development of an effective noise compatibility program, the Secretary may make grants of funds to sponsors of air carrier airports whose projects for airport development are eligible for terminal development costs under section 20 (b) of this title for noise compatibility planning.".

(B) Section 13 (b) of such Act is amended to read as follows:

"(b) AMOUNT AND LIMITATION OF GRANTS.—(1) The award of grants under subsection (a) (1) of this section is subject to the following limitations:

"(A) The total funds obligated for grants under subsection (a) (1) of this section may not exceed $150,

~~000,000, and the amount obligated in any one fiscal year may not exceed $15,000,000.~~

~~"(B) The United States share of any airport master planning grant or airport noise compatibility planning grant under this section shall be that per centum for which a project for airport development at that airport would be eligible under section 17 of this Act. In the case of any airport system planning grant under this section, the United States share shall be 75 per centum.~~

~~"(C) No more than 10 per centum of the funds made available under this paragraph in any fiscal year may be allocated for projects within a single State, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, or Guam. Grants for projects encompassing an area located in two or more States shall be charged to each State in the proportion which the number of square miles the project encompasses in each State bears to the square miles encompassed by the entire project.~~

~~"(2) For the purpose of carrying out subsection (a)(2) of this section, there is authorized to be appropriated, for fiscal years ending on or after September 30, 1979, out of the Airport and Airways Trust Fund, not to exceed $15,000,000.".~~

~~SEC. 104. (a) Any airport operator who has submitted a noise impact map and the related information permitted by section 103 (a) (1) may, after consultation with the officials of any unit of local government in the area surrounding such airport, the Federal officials having local responsibility for such airport, any air carrier using such airport, and any regional planning authority, submit a noise compatibility program to the Secretary for his approval. Such program shall set forth the measures which such operator proposes for the reduction of existing noncompatible uses and the prevention of the introduction of additional noncompatible uses within the area covered by the noise impact map submitted by such operator. Such measures may include, but are not limited to—~~

~~(1) the implementation of any preferential runway system;~~

~~(2) the implementation of any restriction on the use of such airport by any type or class of aircraft;~~

~~(3) the construction of barriers and acoustical shielding, including the soundproofing of public buildings;~~

~~(4) the use of flight procedures to control the operation of aircraft to reduce the impact of noise in the area surrounding the airport;~~

~~(5) acquisition of land and interests therein.~~

~~(b) The Secretary shall approve or disapprove any pro-~~

~~gram submitted to him pursuant to subsection (a) within one hundred and eighty days after it is received by him. The Secretary shall approve such program (1) if the measures to be undertaken in carrying out such program (A) provide for the continuation of safe flight operation, (B) do not create an undue burden on interstate or foreign commerce, and (C) are reasonably consistent with obtaining the goal of reducing existing noncompatible uses and preventing the introduction of additional noncompatible uses, and (2) if the program provides for its revision made necessary by any revised noise impact map submitted under section 103 (a) (2) of this title. Failure of the Secretary to approve or disapprove such program within such time period shall be deemed to be an approval of such program, except any part of such program which relates to flight procedures referred to in subsection (a) (4) of this section.~~

~~(c) The Secretary is authorized to make grants under this Act for any project to carry out a noise compatibility program approved under subsection (b) of this section. The Federal share of any project for which a grant is made under this subsection shall be 80 per centum of the cost of the project. All of the provisions of the Airport and Airway Development Act of 1970 applicable to grants made under that Act (except section 17 and those provisions relating to apportionment) shall be applicable to any grant made under~~

~~this Act, unless the Secretary determines that any provision of such Act of 1970 is inconsistent with, or unnecessary to carry out, the purposes of this Act.~~

~~(d) There is authorized to be appropriated, out of the Airport and Airway Trust Fund, not to exceed $150,000,000 for the fiscal year ending September 30, 1979, and not to exceed $250,000,000 for the fiscal year ending September 30, 1980, to be expended, at the discretion of the Secretary, for making grants under subsection (c) of this section.~~

~~SEC. 105. The Secretary, acting through the Administrator of the Federal Aviation Administration, shall prepare and publish a noise impact map and a noise compatibility program for the airport established by the Act of June 29, 1940 (54 Stat. 686), and the airport the construction of which was authorized by the Act of September 7 ,1950 (64 Stat. 770). Such map and program shall be prepared and published in accordance with the requirements of this Act not later than one year after the effective date of the regulations promulgated in accordance with section 102 of this Act.~~

~~SEC. 106. Any noise impact map submitted to, or prepared by, the Secretary under this title and the list of land uses identified by the Secretary under this title as those which are normally compatible with various impacts of noise on individuals shall not be received in evidence in any trial,~~

~~hearing, or other proceeding for damages to real property in or before any court of the United States if the United States is a party to such trial, hearing, and proceeding.~~

~~TITLE II~~

~~SEC. 201. (a) Paragraph (3) of subsection (a) of section 14 of the Airport and Airway Development Act of 1970 (49 U.S.C. 1714) is amended by striking out "$495,000,000 for fiscal year 1979, and $525,000,000 for fiscal year 1980." and inserting in lieu thereof "$720,000,000 for fiscal year 1979, and $793,000,000 for fiscal year 1980.".~~

~~(b) Paragraph (4) of subsection (a) of section 14 of the Airport and Airway Development Act of 1970 is amended by striking out "$80,000,000 for fiscal year 1979, and $85,000,000 for fiscal year 1980." and inserting in lieu thereof "$115,000,000 for fiscal year 1979, and $127,000,000 for fiscal year 1980.".~~

~~TITLE III~~

~~SEC. 301. For purposes of this title—~~

~~(1) the term "noncomplying aircraft" means any civil subsonic turbojet powered aircraft (A) which (i) has a maximum certificated takeoff weight of seventy-five thousand pounds or more, (ii) is registered in the United States, (iii) has a standard airworthiness certificate issued pursuant to section 603(c) of the Federal Aviation Act of 1958 (49 U.S.C. 1423), and~~

~~(iv) as determined by the Civil Aeronautics Board, is in service on July 1, 1977, and (B) which does not comply with the noise standards prescribed for new subsonic aircraft in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on January 1, 1977;~~

~~(2) the term "retrofit" means the alteration of the engine or the engine nacelles of an aircraft with sound absorbent materials for the purpose of noise reduction; and~~

~~(3) the term "Secretary" means the Secretary of Transportation.~~

~~SEC. 302. (a) Not later than sixty days after the date of enactment of this title, the Secretary shall publish a list in the Federal Register setting forth the name of each operator of each noncomplying aircraft as of July 1, 1977, and the registration number of such aircraft.~~

~~(b) (1) Except as provided in paragraph (2) of this subsection, not later than thirty days after the date the Secretary publishes the list required by subsection (a) of this section, each operator named in such list shall submit to the Secretary in writing a statement which sets forth, with respect to each noncomplying aircraft operated by such operator which appears on such list—~~

~~(A) that such aircraft will comply with (i) the noise standards set forth for new subsonic aircraft in regulations prescribed by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36) as such regulations were in effect on January 1, 1977, and (ii) any additional requirements relating to noise, set forth in regulations issued by the Secretary; and~~

~~(B) the means by which such~~ operator will comply ~~with such~~ regulations ~~which shall be by—~~

~~(i) retrofitting such noncomplying aircraft (including retrofitting spare engines where necessary);~~

~~(ii) replacing the~~ engines in such noncomplying ~~aircraft; or~~

~~(iii) replacing such noncomplying aircraft with another aircraft.~~

~~(2) Paragraph (1) of this subsection shall not apply to any operator of a noncomplying aircraft set forth in the list published pursuant to subsection (a) of this section if such aircraft~~ is not used for the carriage of persons or property ~~for compensation or hire.~~

~~SEC. 303. (a) Notwithstanding any other provision of law, not later than the thirtieth day after the last day of the thirty-day period described in section 302 (b) (1) of this title—~~

~~(1) any operator named in the list published under section 302 (a) of this title who is the operator of an aircraft which is used for the carriage of persons for compensation or hire shall,~~ in the case of the transportation of any person subject to the tax imposed by section 4261 (a) of the Internal Revenue Code of 1954, ~~impose a surcharge on any lawful rate, fare, or charge~~ for the carriage of such persons equal to 2 per centum of such rate, fare, or charge (excluding all Federal and ~~States taxes) ;~~

~~(2) any operator of an aircraft which is used for the carriage of persons for compensation or hire shall, in the case of the transportation of any person subject to the tax imposed by section 4261 (c) of the Internal Revenue Code of 1954, impose a surcharge on any lawful rate, fare, or charge (A) which is less than $100 for the carriage of such person of $2 in addition to such rate, fare, or charge, and (B) which is $100 or more for the carriage of such person of $10 in addition to such rate, fare, or charge;~~

~~(3) any operator named in the list published under section 302 (a) of this title who is the operator of an aircraft which is used for the carriage of property for compensation or hire shall, in the case of the transportation~~ of property subject to the tax imposed by sec-

~~tion 4271(a) of the Internal Revenue Code of 1954, impose a surcharge on any lawful rate, fare, or charge for the carriage of such property equal to 2 per centum of such rate, fare, or charge (excluding all Federal and State taxes); and~~

~~(4) any~~ operator of an aircraft ~~which~~ is used for the ~~carriage of property for compensation or hire shall, in the case of the transportation of property by air which transportation begins in the United States and is not subject to the tax imposed by section 4271(a) of the Internal Revenue Code of 1954, impose a surcharge on any lawful rate, fare, or charge for the carriage of such property equal to 5 per centum of such rate, fare, or charge (excluding all Federal and State taxes).~~

~~(b) (1) Any operator collecting a surcharge pursuant to subsection (a) of this section shall deposit all such surcharges in a separate account which shall be established by such operator. Except as provided in paragraph (5) of this subsection, amounts deposited in such account shall be expended only to pay the retrofit or replacement cost, in accordance with paragraph (2) of this subsection, for each noncomplying aircraft which is on the list published in the Federal Register in accordance with section 302(a) of this title.~~

~~(2) In any case where the method for compliance with noise standards for a noncomplying aircraft is—~~

~~(A) retrofitting, the amount of the cost to be paid from the account authorized in paragraph (1) shall be 50 per centum of the cost of such retrofitting, unless such aircraft has less than four engines in which case the cost to be paid shall be 90 per centum of the cost of such retrofitting;~~

~~(B) replacing the engines, the amount of the cost to be paid from the account authorized in paragraph (1) shall be 75 per centum of the cost of such replacement, but such amount shall not exceed an amount equal to 35 per centum of the cost of replacing that aircraft with a comparable aircraft which meets the noise standards referred to in subparagraph (C) (i) of this paragraph;~~

~~(C) replacing the aircraft—~~

~~(i) if the replacement aircraft meets, at a minimum, the noise standards for new type certificated aircraft set forth in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration, on March 3, 1977 (F.R., vol. 42, No. 24, p. 12360 et seq.), the amount of the cost to be paid from the account authorized in paragraph (1) shall be 35 per centum of the cost of the replacement aircraft; and~~

~~(ii) if the replacement aircraft does not meet the noise standards described in clause (i) of this~~

~~subparagraph, but does meet those noise standards set forth in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as in effect on January 1, 1977, the amount of the cost to be paid shall be 20 per centum of the cost of such replacement aircraft.~~

~~(3) For the purpose of subparagraph (C) of paragraph (2) of this subsection the cost of a replacement aircraft shall be the actual cost reduced by the aggregate amount allowable under the Internal Revenue Code of 1954 for depreciation or amortization with respect to the aircraft being replaced, for periods before the date of acquisition of the replacement aircraft.~~

~~(4) Surcharges shall be deposited in such account until it contains an amount sufficient to pay, with respect to each noncomplying aircraft operated by such operator, the allowable retrofit or replacement cost authorized to be paid for such aircraft under this subsection.~~

~~(5) Funds collected by an operator having no noncomplying aircraft and funds collected by an operator pursuant to subsection (a) of this section in excess of the maximum amount to be deposited in a separate account pursuant to paragraph (4) of this subsection shall be paid, in accordance with regulations prescribed by the Secretary of the~~

~~Treasury not less often than quarterly to the Secretary of the Treasury, who shall deposit such funds in the Airport and Airway Trust Fund established by section 208 of the Airport and Airway Revenue Act of 1970.~~

~~(6) The Secretary, acting through the Administrator of the Federal Aviation Administration, shall, by regulation, determine those costs of retrofitting, replacing the engines, and replacing the aircraft which are allowable for the purpose of determining the amount to be paid from the accounts authorized in paragraph (1) of this subsection.~~

~~(c) Notwithstanding any other provision of law, no funds from the account established by an operator under subsection (b)(1) of this section may be used for the purchase of any replacement aircraft (including spare parts) unless more than 50 per centum of the total purchase price of such replacement aircraft (including spare parts) is attributable to unmanufactured articles, materials, and supplies as have been mined or produced in the United States and such manufactured articles, materials, and supplies as have been manufactured in the United States substantially all from articles, materials, or supplies mined, produced, or manufactured, as the case may be, in the United States. Whenever the Secretary determines it to be in the national interest, the Secretary may waive the application of this subsection, in~~

~~whole or in part, with respect to the purchase of any replacement aircraft (including spare parts).~~

~~(d) (1) The total number of passenger seats on all replacement aircraft for which payment is made under subsection (b) of this section by any operator shall not exceed by more than 7 per centum the total number of passenger seats on all noncomplying aircraft of such operator which are replaced by such replacement aircraft.~~

~~(2) The total cargo capacity for property of all replacement aircraft for which payment is made under subsection (b) of this section by any operator shall not exceed by more than 7 per centum the total cargo capacity of all noncomplying aircraft of such operator which are replaced by such replacement aircraft.~~

~~(e) (1) Subsection (a) of this section shall cease to be in effect on and after the last day of the tenth year which begins after the date of enactment of this Act.~~

~~(2) Any operator imposing any surcharge under paragraph (1) or (3) of subsection (a) of this section shall not impose such surcharge after the last day of the fifth year which begins after the date of enactment of this Act unless such operator has notified the Secretary not later than thirty days before the last day of such fifth year that such operator will continue to impose such surcharge for such additional~~

~~period as he sets forth in such notice, but in no case shall such additional period extend beyond the last day of the tenth year which begins after the date of enactment of this Act.~~

~~(f) None of the funds collected by any operator pursuant to subsection (a) of this section shall be included in the gross income of such operator for purposes of the Internal Revenue Code of 1954.~~

~~SEC. 304. (a) (1) Any operator who purchases any replacement aircraft any part of the cost of which is paid from the account established by such operator under subsection (b) (1) of section 303 shall not sell such aircraft during the fifteen-year period which begins on the date of the acquisition of such aircraft unless prior to such sale such operator has repaid to the Secretary of the Treasury that part of the cost paid from such account. Any amount so repaid shall be deposited in the Airport and Airway Trust Fund.~~

~~(2) Any operator who purchases any replacement aircraft any part of the cost of which is paid from the account established by such operator under subsection (b) (1) of section 303 shall only lease such aircraft to an air carrier (as such term in defined in section 101 (3) of the Federal Aviation Act of 1958) during the fifteen-year period which begins on the date of the acquisition of such aircraft.~~

~~(b) (1) Any operator who purchases any replacement~~

~~engines any part of the cost of which is paid from the account established by such operator under subsection (b) (1) of section 303 shall not sell the aircraft in which such replacement engines are installed during the five-year period which begins on the date of the acquisition of such replacement engines unless prior to such sale, such operator has repaid to the Secretary of the Treasury that part of the cost paid from such account. Any amount so repaid shall be deposited in the Airport and Airway Trust Fund.~~

~~(2) Any operator who purchases any replacement engines any part of the cost of which is paid from the account established by such operator under subsection (b) (1) of section 303 shall only lease the aircraft in which such replacement engines are installed to an air carrier (as such term is defined in section 101 (3) of the Federal Aviation Act of 1958) during the five-year period which begins on the date of the acquisition of such replacement engines.~~

~~SEC. 305. After January 1, 1985, no operator of a civil subsonic turbojet powered aircraft (1) which (A) has a maximum certificated takeoff weight of seventy-five thousand pounds or more, and (B) is registered in a foreign country, and (2) which does not comply with the noise standards prescribed for new subsonic aircraft in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such~~

regulations were in effect on January 1, 1977, shall operate such aircraft in the United States.

SEC. 306. Notwithstanding any other provision of law, the Secretary is authorized to allow any noncomplying aircraft to be operated beyond the date by which such aircraft is to be in compliance with noise standards applicable to it in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on January 1, 1977, by waiving the application of such regulations to such aircraft for such period beyond such date of compliance as he determines reasonable to permit compliance. No such waiver shall be granted except upon application of the operator of the noncomplying aircraft and a finding by the Secretary of good cause for failure of such operator to comply with such regulations as applicable to such noncomplying aircraft.

TITLE IV

SEC. 401. Nothing in any title of this Act shall be construed to indicate an intent on the part of Congress to occupy the field relating to noise in which the provisions of such titles operate to the exclusion of the laws of any State, Commonwealth, territory, possession, or the District

~~of Columbia on the same subject matter or to relieve any person of any obligation imposed by the law of any State, Commonwealth, territory, possession, or the District of Columbia.~~

That this Act may be cited as the "Airport and Aircraft Noise Reduction Act".

TITLE I

SEC. 101. For purposes of this title—

(1) the term "airport" means any air carrier airport whose projects for airport development are eligible for terminal development costs under section 20(b) of the Airport and Airway Development Act of 1970 (49 U.S.C. 1720);

(2) the term "airport operator" means any person holding a valid certificate issued pursuant to section 612 of the Federal Aviation Act of 1958 to operate an airport;

(3) the term "Secretary" means the Secretary of Transportation.

SEC. 102. Not later than the last day of the twelfth month which begins after the date of enactment of this Act, the Secretary, after consultation with the Administrator of the Environmental Protection Agency and such other Fed-

eral, State, and interstate agencies as he deems appropriate, shall by regulation—

(1) establish a single system of measuring noise to be uniformly applied in measuring the noise at airports and the areas surrounding such airports;

(2) establish a single system for determining the impact of noise upon individuals which results from the operations of an airport and which includes, but is not limited to, noise intensity, duration, frequency, and time of occurrence;

(3) identify land uses which are normally compatible with various impacts of noise on individuals.

SEC. 103. (a)(1) After the effective date of the regulations promulgated in accordance with section 102 of this title, any airport operator of an airport may submit to the Secretary a noise impact map which sets forth, in accordance with the regulations promulgated pursuant to section 102, the noncompatible uses in each area of the map, as of the date of submission of such map, a description of the projected aircraft operations at such airport during 1985, and the ways, if any, in which such operations will affect such map.

(2) If, after the submission to the Secretary of a noise impact map under paragraph (1), any change in the operation of an airport would create any new noncompatible use

in any area surrounding such airport, the operator of such airport shall submit a revised noise impact map showing such new noncompatible use.

(b)(1) Section 11 of the Airport and Airway Development Act of 1970 (49 U.S.C. 1711) is amended by renumbering paragraphs (6) through (21), and all references thereto, as paragraphs (7) through (22), respectively, and by adding immediately after paragraph (5) the following new paragraph:

"(6) 'Airport noise compatibility planning' means the development for planning purposes of information necessary to prepare and submit (A) the noise impact map and related information permitted by section 103 of the Airport and Aircraft Noise Reduction Act, including any cost associated with obtaining such information, and (B) a noise compatibility program for approval by the Secretary pursuant to section 104 of such Act.".

(2)(A) Section 13(a) of the Airport and Airway Development Act of 1970 (49 U.S.C. 1713) is amended by—

(i) inserting "(1)" immediately before the first sentence thereof; and

(ii) adding at the end thereof the following new paragraph:

"(2) In order to promote the development of an effective noise compatibility program, the Secretary may make

grants of funds to sponsors of air carrier airports whose projects for airport development are eligible for terminal development costs under section 20(b) of this title for noise compatibility planning.".

(B) Section 13(b) of such Act is amended to read as follows:

"(b) AMOUNT AND LIMITATION OF GRANTS.—(1) The award of grants under subsection (a)(1) of this section is subject to the following limitations:

"(A) The total funds obligated for grants under subsection (a)(1) of this section may not exceed $150,000,000, and the amount obligated in any one fiscal year may not exceed $15,000,000.

"(B) The United States share of any airport master planning grant or airport noise compatibility planning grant under this section shall be that per centum for which a project for airport development at that airport would be eligible under section 17 of this Act. In the case of any airport system planning grant under this section, the United States share shall be 75 per centum.

"(C) No more than 10 per centum of the funds made available under this paragraph in any fiscal year may be allocated for projects within a single State, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific

Islands, or Guam. Grants for projects encompassing an area located in two or more States shall be charged to each State in the proportion which the number of square miles the project encompasses in each State bears to the square miles encompassed by the entire project.

"(2) For the purpose of carrying out subsection (a) (2) of this section, there is authorized to be appropriated, for fiscal years ending on or after September 30, 1979, out of the Airport and Airway Trust Fund, not to exceed $15,000,000.".

SEC. 104. (a) Any airport operator who has submitted a noise impact map and the related information permitted by section 103(a)(1) may, after consultation with the officials of any unit of local government in the area surrounding such airport, the Federal officials having local responsibility for such airport, any air carrier using such airport, and any regional planning authority, submit a noise compatibility program to the Secretary for his approval. Such program shall set forth the measures which such operator proposes for the reduction of existing noncompatible uses and the prevention of the introduction of additional noncompatible uses within the area covered by the noise impact map submitted by such operator. Such measures may include, but are not limited to—

(1) the implementation of any preferential runway system;

(2) the implementation of any restriction on the use of such airport by any type or class of aircraft;

(3) the construction of barriers and acoustical shielding, including the soundproofing of public buildings;

(4) the use of flight procedures to control the operation of aircraft to reduce the impact of noise in the area surrounding the airport;

(5) acquisition of land and interests therein.

(b) The Secretary shall approve or disapprove any program submitted to him pursuant to subsection (a) within one hundred and eighty days after it is received by him. The Secretary shall approve such program (1) if the measures to be undertaken in carrying out such program (A) provide for the continuation of safe flight operation, (B) do not create an undue burden on interstate or foreign commerce, and (C) are reasonably consistent with obtaining the goal of reducing existing noncompatible uses and preventing the introduction of additional noncompatible uses, and (2) if the program provides for its revision made necessary by any revised noise impact map submitted under section 103(a) (2) of this title. Failure of the Secretary to approve or disapprove such program within such time period shall be deemed to be an approval of such program, except any part of such program

which relates to flight procedures referred to in subsection (a)(4) of this section.

(c) The Secretary is authorized to make grants under this Act for any project to carry out a noise compatibility program approved under subsection (b) of this section. Grants under this Act may be made to operators of airports submitting noise compatibility programs and to units of local government in the area surrounding such airports if the Secretary determines such units have the capability to carry out projects for which grant applications are made in accordance with such noise compatibility programs. The Federal share of any project for which a grant is made under this subsection shall be 80 per centum of the cost of the project. All of the provisions of the Airport and Airway Development Act of 1970 applicable to grants made under that Act (except section 17 and those provisions relating to apportionment) shall be applicable to any grant made under this Act, unless the Secretary determines that any provision of such Act of 1970 is inconsistent with, or unnecessary to carry out, the purposes of this Act.

(d) There is authorized to be appropriated, out of the Airport and Airway Trust Fund, not to exceed $150,000,000 for the fiscal year ending September 30, 1979, and not to exceed $250,000,000 for the fiscal year ending Septem-

ber 30, 1980, to be expended, at the discretion of the Secretary, for making grants under subsection (c) of this section.

SEC. 105. The Secretary, acting through the Administrator of the Federal Aviation Administration, after consultation with the officials of any unit of local government in the area surrounding such airport, shall prepare and publish a noise impact map and a noise compatibility program for the airport established by the Act of June 29, 1940 (54 Stat. 686), and the airport the construction of which was authorized by the Act of September 7, 1950 (64 Stat. 770). Such map and program shall be prepared and published in accordance with the requirements of this Act no later than one year after the effective date of the regulations promulgated in accordance with section 102 of this Act.

SEC. 106. Any noise impact map submitted to, or prepared by, the Secretary under this title and the list of land uses identified by the Secretary under this title as those which are normally compatible with various impacts of noise on individuals shall not be received in evidence in any trial, hearing, or other proceeding in or before any court in the United States.

SEC. 107. No person who acquires property or an interest therein after the date of enactment of this Act in an area

surrounding an airport shall be entitled to recover damages with respect to the noise attributable to such airport unless, in addition to any other elements for recovery of damages, such person can show—

(1) a significant change in the type or frequency of aircraft operations at the airport; or

(2) a significant change in the airport layout; or

(3) a significant change in flight patterns; or

(4) a significant increase in nighttime operations,

occurred after the date of the acquisition of such property or interest therein.

SEC. 108. The Secretary shall study (1) airport noise compatibility planning carried out with grants made under section 13 of the Airport and Airway Development Act of 1970, and (2) airport noise compatibility programs carried out with grants made under this title, to determine to what extent such planning and programs are achieving the goals of reducing existing noncompatible uses of land around airports and preventing the introduction of new noncompatible uses around airports. Not later than January 1, 1981, the Secretary shall submit to Congress a report setting forth the determinations made pursuant to such study together with legislative recommendations, if any, which the Secretary determines necessary.

TITLE II

SEC. 201. (a) Paragraph (3) of subsection (a) of section 14 of the Airport and Airway Development Act of 1970 (49 U.S.C. 1714) is amended by striking out "$495,000,000 for fiscal year 1979, and $525,000,000 for fiscal year 1980." and inserting in lieu thereof "$720,000,000 for fiscal year 1979, and $793,000,000 for fiscal year 1980.".

(b) Paragraph (4) of subsection (a) of section 14 of the Airport and Airway Development Act of 1970 is amended by striking out "$80,000,000 for fiscal year 1979, and $85,000,000 for fiscal year 1980." and inserting in lieu thereof "$115,000,000 for fiscal year 1979, and $127,000,000 for fiscal year 1980.".

SEC. 202. Paragraph (2)(A) of subsection (a) of section 17 of the Airport and Airway Development Act of 1970 (49 U.S.C 1717) is amended by striking out "1977 and 1978, and shall be 80 per centum of the allowable project costs in the case of grants from funds for fiscal years 1979 and 1980," and inserting in lieu thereof "1977 through 1980".

SEC. 203. Part II of the Airport and Airway Development Act of 1970 (49 U.S.C. 1711 et seq.) is amended by adding at the end thereof the following new section:

"SEC. 31. Notwithstanding any other provision of this title, no airport development project involving the construc-

tion or extension of any runway may be approved by the Secretary at any general aviation airport located astride a line separating two counties within a single State if, before the submission of such project to the Secretary, such project has not been approved by the governing body of any village incorporated under the laws of that State which is located entirely within five miles of the nearest boundary of such airport.".

TITLE III

SEC. 301. For purposes of this title—

(1) the term "noncomplying aircraft" means any civil subsonic turbojet powered aircraft (A) which (i) has a maximum certificated takeoff weight of seventy-five thousand pounds or more, (ii) is registered in the United States, (iii) has a standard airworthiness certificate issued pursuant to section 603(c) of the Federal Aviation Act of 1958 (49 U.S.C. 1423), and (iv) as determined by the Civil Aeronautics Board, is in service on January 24, 1977, and (B) which does not comply with the noise standards prescribed for new subsonic aircraft in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on January 1, 1977;

(2) the term "retrofit" means the alteration of the

engine or the engine nacelles of an aircraft with sound absorbent materials for the purpose of noise reduction; and

(3) the term "Secretary" means the Secretary of Transportation.

SEC. 302. (a) Not later than sixty days after the date of enactment of this title, the Secretary shall publish a list in the Federal Register setting forth the name of each operator of each noncomplying aircraft as of January 24, 1977, and the registration number of such aircraft.

(b)(1) Except as provided in paragraph (2) of this subsection, not later than thirty days after the date the Secretary publishes the list required by subsection (a) of this section, each operator named in such list shall submit to the Secretary in writing a statement which sets forth, with respect to each noncomplying aircraft operated by such operator which appears on such list—

(A) that such aircraft will comply with (i) the noise standards set forth for new subsonic aircraft in regulations prescribed by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36) as such regulations were in effect on January 1, 1977, and (ii) any additional requirements relating to noise, set forth in regulations issued by the Secretary; and

(B) the means by which such operator will comply with such regulations which shall be by—

(i) retrofitting such noncomplying aircraft (including retrofitting spare engines where necessary);

(ii) replacing the engines in such noncomplying aircraft; or

(iii) replacing such noncomplying aircraft with another aircraft.

(2) Paragraph (1) of this subsection shall not apply to any operator of a noncomplying aircraft set forth in the list published pursuant to subsection (a) of this section if such aircraft is not used for the carriage of persons or property for compensation or hire.

SEC. 303. (a) Notwithstanding any other provision of law, not later than the thirtieth day after the last day of the thirty-day period described in section 302(b)(1) of this title—

(1) any operator named in the list published under section 302(a) of this title who is the operator of an aircraft which is used for the carriage of persons for compensation or hire shall, in the case of the transportation of any person subject to the tax imposed by section 4261(a) of the Internal Revenue Code of 1954, impose a surcharge on any lawful rate, fare, or charge for the carriage of such persons equal to 2 per centum

of such rate, fare, or charge (excluding all Federal and States taxes);

(2) any operator of an aircraft which is used for the carriage of persons for compensation or hire shall, in the case of the transportation of any person subject to the tax imposed by section 4261(c) of the Internal Revenue Code of 1954, impose a surcharge on any lawful rate, fare, or charge (A) which is less than $100 for the carriage of such person of $2 in addition to such rate, fare, or charge, and (B) which is $100 or more for the carriage of such person of $10 in addition to such rate, fare, or charge;

(3) any operator named in the list published under section 302(a) of this title who is the operator of an aircraft which is used for the carriage of property for compensation or hire shall, in the case of the transportation of property subject to the tax imposed by section 4271(a) of the Internal Revenue Code of 1954, impose a surcharge on any lawful rate, fare, or charge for the carriage of such property equal to 2 per centum of such rate, fare, or charge (excluding all Federal and State taxes); and

(4) any operator of an aircraft which is used for the carriage of property for compensation or hire shall, in the case of the transportation of property by air which

transportation begins in the United States and is not subject to the tax imposed by section 4271(a) of the Internal Revenue Code of 1954, impose a surcharge on any lawful rate, fare, or charge for the carriage of such property equal to 5 per centum of such rate, fare, or charge (excluding all Federal and State taxes).

(b)(1) Except as provided in paragraph (8), any operator collecting a surcharge pursuant to subsection (a) of this section shall deposit all such surcharges in a separate account which shall be established by such operator. Except as provided in paragraph (5) of this subsection, amounts deposited in such account shall be expended only to pay the retrofit or replacement cost, in accordance with paragraph (2) of this subsection, for each noncomplying aircraft which is on the list published in the Federal Register in accordance with section 302(a) of this title.

(2) In any case where the method for compliance with noise standards for a noncomplying aircraft is—

(A) retrofitting, the amount of the cost to be paid from the account authorized in paragragh (1) shall be 50 per centum of the cost of such retrofitting, unless such aircraft has less than four engines in which case the cost to be paid shall be 90 per centum of the cost of such retrofitting;

(B) replacing the engines, the amount of the cost

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to be paid from the account authorized in paragraph (1) shall be 75 per centum of the cost of such replacement, but such amount shall not exceed an amount equal to 40 per centum of the cost of replacing that aircraft with a comparable aircraft which meets the noise standards referred to in subparagraph (C)(i) of this paragraph;

(C) replacing the aircraft—

(i) except as provided in paragraph (7) of this subsection, if the replacement aircraft meets, at a minimum, the noise standards for new type certificated aircraft set forth in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration, on March 3, 1977 (F.R., vol. 42, No. 24, p. 12360 et seq.), the amount of the cost to be paid from the account authorized in paragraph (1) shall be 40 per centum of the cost of the replacement aircraft; and

(ii) except as provided in paragraph (7) of this subsection, if the replacement aircraft does not meet the noise standards described in clause (i) of this subparagraph, but does meet those noise standards set forth in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as in

effect on January 1, 1977, the amount of the cost to be paid shall be 25 per centum of the cost of such replacement aircraft.

(3) For the purpose of subparagraph (C) of paragraph (2) of this subsection, the cost of a replacement aircraft shall be the actual cost reduced by the excess (if any) of—

(A) the aggregate amount allowed under the Internal Revenue Code of 1954 for depreciation or amortization with respect to the aircraft being replaced, for periods before the date of acquisition of the replacement aircraft; over

(B) the amount which is treated as ordinary income on any disposition of the aircraft being replaced under section 1245(a) of such Code without regard to whether such disposition occurred before, on, or after the date of the acquisition of such replacement aircraft.

(4) Surcharges shall be deposited in an account established under paragraph (1) of this subsection until it contains an amount sufficient to pay, with respect to each noncomplying aircraft operated by such operator, the allowable retrofit or replacement cost authorized to be paid for such aircraft under this subsection.

(5) Except as provided in paragraph (8), funds collected by an operator having no noncomplying aircraft and funds collected by an operator pursuant to subsection (a)

of this section in excess of the maximum amount to be deposited in a separate account pursuant to paragraph (4) of this subsection shall be paid, in accordance with regulations prescribed by the Secretary of the Treasury, not less often than quarterly to the Secretary of the Treasury, who shall deposit such funds in the Airport and Airway Trust Fund established by section 208 of the Airport and Airway Revenue Act of 1970.

(6) The Secretary, acting through the Administrator of the Federal Aviation Administration, shall determine those costs of retrofitting, replacing the engines, and replacing the aircraft which are allowable for the purpose of determining the amount to be paid from the accounts authorized in paragraph (1) of this subsection.

(7) In any case where an operator ceases to operate a noncomplying aircraft having less than four engines and possession of such aircraft is acquired by another operator issued a certificate under section 401 of the Federal Aviation Act of 1958, the new operator shall be entitled to pay from the account established by such new operator pursuant to paragraph (1) 90 per centum of the cost of so retrofitting such aircraft and the former operator shall have the amount to be paid from the account established by such former operator pursuant to paragraph (1) for replacing such aircraft

reduced by an amount equal to 90 per centum of the cost to the new operator of retrofitting the aircraft.

(8) Any foreign air carrier having in force a permit issued under section 402 of the Federal Aviation Act of 1958 collecting a surcharge pursuant to subsection (a) of this section shall, not less often than quarterly, pay such surcharges to the Secretary who shall deposit such funds in an account to the credit of such foreign air carrier. If the chief operating officer of such foreign air carrier certifies to the Secretary (A) that each aircraft of such carrier engaged in operations within the United States (as such term is defined in section 101(38) of the Federal Aviation Act of 1958) complies with the noise standards which would apply to such type of aircraft if it were registered in the United States which are set forth in either the regulations of the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on January 1, 1977, or the regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration, on March 3, 1977 (F.R., Vol. 42, No. 24, p. 12360 et seq.), and (B) the total amount expended by such foreign air carrier after January 24, 1977, to comply with such noise standards, then the Secretary shall refund to such foreign air carrier from the funds in the account credited to such foreign air carrier an amount equal to the

amount so certified. Funds in such account in excess of the amount required to be refunded under this paragraph shall be paid to the Secretary of the Treasury who shall deposit such funds in the Airport and Airway Trust Fund established by section 208 of the Airport and Airway Revenue Act of 1970.

(c)(1) The total number of passenger seats on all replacement aircraft for which payment is made under subsection (b) of this section by any operator shall not exceed by more than 7 per centum the total number of passenger seats on all noncomplying aircraft of such operator which are replaced by such replacement aircraft.

(2) The total cargo capacity for property of all replacement aircraft for which payment is made under subsection (b) of this section by any operator shall not exceed by more than 7 per centum the total cargo capacity of all noncomplying aircraft of such operator which are replaced by such replacement aircraft.

(d)(1) Subsection (a) of this section shall cease to be in effect on and after the last day of the tenth year which begins after the date of enactment of this Act.

(2) Any operator imposing any surcharge under paragraph (1) or (3) of subsection (a) of this section shall not impose such surcharge after the last day of the fifth year which begins after the date of enactment of this Act unless

such operator has notified the Secretary not later than thirty days before the last day of such fifth year that such operator will continue to impose such surcharge for such additional period as he sets forth in such notice, but in no case shall such additional period extend beyond the last day of the tenth year which begins after the date of enactment of this Act.

(e) None of the funds collected by any operator pursuant to subsection (a) of this section shall be included in the gross income of such operator for purposes of the Internal Revenue Code of 1954.

SEC. 304. (a) Any operator who purchases any replacement aircraft any part of the cost of which is paid from the account established by such operator under subsection (b)(1) of section 303 shall not sell such aircraft during the five-year period which begins on the date of the acquisition of such aircraft unless at the time of such sale such operator repays to the Secretary of the Treasury a percentage of the cost paid from such account determined by dividing the number of years remaining in the five-year period at the time of sale of such aircraft by five years.

(b) Any operator who purchases any replacement aircraft any part of the cost of which is paid from the account established by such operator under subsection (b)(1) of section 303 shall only lease such aircraft to an air carrier

(as such term is defined in section 101(3) of the Federal Aviation Act of 1958) during the five-year period which begins on the date of the acquisition of such aircraft.

(c) Sums repaid to the Secretary of the Treasury under this section shall be deposited in the Airport and Airway Trust Fund established by section 208 of the Airport and Airway Revenue Act of 1970.

SEC. 305. After January 1, 1985, no operator of a civil subsonic turbojet powered aircraft (1) which (A) has a maximum certificated takeoff weight of seventy-five thousand pounds or more, and (B) is registered in a foreign country, and (2) which does not comply with the noise standards prescribed for new subsonic aircraft in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on January 1, 1977, shall operate such aircraft in the United States.

SEC. 306. Notwithstanding any other provision of law, the Secretary is authorized to allow any noncomplying aircraft to be operated beyond the date by which such aircraft is to be in compliance with noise standards applicable to it in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on Jan-

uary 1, 1977, by waiving the application of such regulations to such aircraft for such period beyond such date of compliance as he determines reasonable to permit compliance. No such waiver shall be granted except upon application of the operator of the noncomplying aircraft and a finding by the Secretary that such operator has made a good faith effort to comply with such regulations and that there is good cause for failure of such operator to comply with such regulations as applicable to such noncomplying aircraft. For the purpose of this section, the term "good cause" shall include the following:

(1) Any case where the supplier is unable to furnish or make available to such operator in a timely manner the necessary engine retrofit kits, replacement engines, or replacement aircraft.

(2) Any case where the operator is unable to obtain financing at reasonable rates to retrofit, reengine, or replace the noncomplying aircraft.

(3) Any case where the operator's inability to operate such noncomplying aircraft will result in the end of scheduled service to the public.

(4) Any other circumstances the Secretary deems appropriate.

TITLE IV

SEC. 401. Subsection (d) of section 14 of the Airport and Airway Development Act of 1970 (49 U.S.C. 1714) is amended to read as follows:

"(d) RESEARCH, DEVELOPMENT, AND DEMONSTRATIONS.—The Secretary is authorized to carry out under section 312(c) of the Federal Aviation Act of 1958 such demonstration projects as he determines necessary in connection with research and development activities under such section 312(c). For research, development, and demonstration projects and activities under such section 312(c), there is authorized to be appropriated from the Trust Fund the amount of $109,350,000 for the fiscal year 1976, including the interim period beginning July 1, 1976, and ending September 30, 1976, $85,400,000 for the fiscal year 1977, and not less than $50,000,000 for fiscal year 1978, to remain available until expended. The initial $50,000,000 of any sums appropriated to the Trust Fund pursuant to subsection (d) of section 208 of the Airport and Airway Revenue Act of 1970 shall be allocated to such research, development, and demonstration activities.".

The CHAIRMAN. The first witness is the distinguished Congressman from California, and chairman of the House Aviation Subcommittee, the Honorable Glenn M. Anderson. And we are delighted to have you here with us today, sir.

STATEMENT OF HON. GLENN M. ANDERSON, U.S. REPRESENTATIVE FROM CALIFORNIA

Mr. ANDERSON. Thank you, Mr. Chairman and members of the subcommittee.

I want to thank you for giving me the opportunity to appear before you this morning to present my views, and to bring you up to date on activities in the House concerning a very important subject, aircraft noise. I am particularly honored to be the lead off witness for your hearings on such important legislation.

Perhaps a good way to begin is with a thought-provoking quote from a report I read recently:

> The immediate problem is to find a way to protect present airports and the people residing near them by applying some means of control of ground use in approach zones. Local authorities should prevent further use of land for public and residential building near the ends of existing runways. If this is not done, new contingents of home owners will be added to the ranks of those who are now protesting against noise and hazard. In time public pressure may threaten the continued existence of the airport and large investments of public and private funds will be jeopardized.

This report, incidentally, was not, but certainly could have been written in 1978. You may be surprised to know that those words of warning were contained in the Doolittle report, the 1952 report of President Truman's Airport Commission entitled "The Airport and Its Neighbors." Although we have done a creditable job in protecting against hazards, precious little has been done to protect airports from encroachment by housing and other land uses incompatible with normal airport operations. In other words, the 1952 report, issued well before the jet age, went largely unheeded, and today aircraft noise is the major constraint to the growth of this Nation's air transportation system.

Nearly 7 million Americans and nearly 1 million acres of valuable land are impacted by aircraft noise levels deemed normally unacceptable for new residential construction loan guarantees by the Department of Housing and Urban Development. Actually, the number affected is higher than that, but that is the area where the Department of HUD says, "No; we won't make any loans to you."

Last year the President's Council on Wage and Price Stability estimated that aircraft noise was costing property owners near airports some $3.25 billion annually in decreased property value. I might just repeat that. The President's Council on Wage and Price Stability estimated that aircraft noise costs property owners near airports some $3.25 billion annually in decreased property value. This certainly has an erosive effect on local tax bases around the country.

Our Nation's airports are spending millions of dollars to acquire noise impacted land. According to a November 1977 survey of its membership, the Airport Operators Council International reports that $229 million has been spent on land acquisition over the last 7 years by U.S. airports. In addition, airports currently have pending against them lawsuits with potential liability which can be meas-

ured in the hundreds of millions of dollars. Citizen opposition to aircraft noise has delayed and in many cases prevented needed airport development and expansion and the installation of facilities to improve safety, airport capacity, and efficient utilization of air space.

Over the past 2 years the House Subcommittee on Aviation, which I chair, held 27 days of hearings in Washington and in the field on current and proposed Federal policy on the abatement of aircraft noise. Some 2,000-plus pages of printed transcript were amassed during the hearing process. From these hearings it is abundantly clear that comprehensive legislation is required to deal with this problem effectively, and legislation is needed now—in 1978. New housing developments and other land uses incompatible with normal airport operations are springing up near our airports as we meet today. Furthermore, the clock is running on compliance with FAA noise standards under which nearly three-fourths of the entire air-carrier fleet will have to be replaced or modified with a schedule beginning in 1981 and ending January 1, 1985.

That means that roughly 1,600 of our 2,200 air-carrier fleet has to be replaced or modified, 25 percent by 1981, and this is 1978 already. Another 25 percent by 1983 and the balance by 1985.

The Federal effort to date has focused on reduction of noise at the source, the aircraft. Based on legislation passed in 1968 and 1972, FAA has, in my view, gone a long way toward carrying out the expressed congressional mandate to quiet noise at the source.

However, source control, we are finding, has technological limits, and no amount of quieting existing aircraft will totally solve the problem. Although making aircraft quieter will shrink the areas of greatest impact significantly, whether through retrofitting or replacing noisy aircraft or a combination of both, incentives must be provided to airport operators and surrounding communities to get on with the long-neglected need to make land surrounding airports more compatible with airport operations. To continue placing sole emphasis on source noise control, to continue talking just about making aircraft quieter, without making significant progress on the land use side, will have the effect, in my opinion, of unwisely raising the public's expectations for noise relief.

Although we must continue efforts at source noise control unabated, let's face it—normal airport operations involve noise because aircraft do and will continue to make noise—we must start with the assumption that some unacceptable noise will continue in areas immediately adjacent to airports and work from there.

The efforts of the House Public Works and Transportation and Ways and Means Committees have resulted in the preparation of comprehensive legislation which will expedite the introduction of quieter aircraft into the fleet and will provide incentives to airport operators and the communities they serve to get on with the much too long delayed need to make the land surrounding our airports more compatible with airport operations.

In a nutshell, the House bills accomplish the following:

Title I establishes a new voluntary program to assist airports and surrounding communities to develop and carry out programs to reduce existing noncompatible land uses and to prevent future noncompatible land uses near airports.

Title II increases existing authorized funding levels for the airport development program by $570 million for fiscal years 1979 and 1980 and extends for 2 more years the 90-percent Federal share of grants to our smaller airports.

Title III, as changed in the bill reported by the Ways and Means Committee, establishes an excise tax passed through to the users of the air transportation system to assist air carriers facing the required obsolescence of nearly three-fourths of the currently active jet fleet by January 1, 1985.

Under the voluntary provisions of title I, planning grants will be available to airports for developing noise impact maps showing present and projected cumulative noise impacts in areas surrounding the airport, as well as present and projected land uses within the impacted areas.

Another part of the planning process will be the development of noise compatibility programs which will consist of those actions which the airport proprietor and surrounding communities will voluntarily take, for example, zoning, land purchase, soundproofing, and airport operations, to lessen the adverse effects of aircraft noise and to prohibit the introduction of noncompatible land uses in the impacted areas.

Programs developed from this planning process are submitted to the Secretary of Transportation for approval if the proprietor wants to receive funding to implement the program.

The Secretary may approve a program if the measures set forth in the program provide for safe flight, do not create an undue burden on interstate or foreign commerce and are consistent with the goal of reducing existing noncompatible land uses and preventing the introduction of additional noncompatible uses.

Title I, in my opinion, is an essential ingredient of the House effort. As I stated earlier, source noise control alone is insufficient to solve the noise problem. Title I provides an incentive from the Federal Government for local communities to solve essentially local problems, but these incentives do not in any way take from local government the traditional role of making land-use decisions.

A unique feature of title I is that money is made available to carry out the programs which have been approved by the Secretary of Transportation. These 80-percent Federal share grants will be available not only to airport operators but to communities surrounding airports which have been identified for these grants in title I, including $165 million for fiscal year 1979 and $250 million for fiscal year 1980.

Title II increases the current authorized funding level for airport development grants for fiscal year 1979 by $260 million; for fiscal year 1980 the current authorized level is raised by $310 million.

Significant indicators of national airport system need have identified problem areas requiring review of the funding adequacy of the ADAP program in advance of the anticipated congressional consideration in 1980 of the future of the airport and airway trust fund.

For example, the revised national airport system plan calls for some $10.6 billion in development over the next decade, with three-fourths of that forecast to be needed in the next 5 years.

Also a number of sponsors of smaller airports have communicated their view that current funding levels do not provide sufficient funds distributed at the discretion of the Secretary. Most, if not all, of the new money contained in title II will go into the Secretary's discretionary fund.

Title III, which is a financing mechanism to assist air carriers to meet congressionally mandated noise rules adopted by FAA, is based on several assumptions, including the following:

1. We can no longer delay providing meaningful relief on the noise issue.

2. We cannot count on the regulatory process to provide sufficient returns so that air carriers can meet these deadlines on their own.

3. A Federal program is required to assure that existing aircraft noise standards are met by 1985.

4. The industry and the users of the air transportation system, and not the general taxpayer, should bear the cost of meeting the noise standards.

5. Incentives should be sufficient to make it attractive for carriers to replace noisy aircraft with new technology aircraft which are less noisy and more energy-efficient but not to encourage the purchase of excess capacity.

6. Industry should be able to meet the noise standards in an efficient and economical manner with Government involvement in management decisions kept to a minimum.

The bill reported by the Ways and Means Committee, H.R. 11986, which will replace most of the Public Works Committee's title III, is consistent with these principles.

This bill will reduce the present 8-percent passenger and 5-percent freight taxes by 2 percentage points, and also suspend the present $3 international departure tax, for a 5-year period from October 1, 1978, through September 30, 1983.

In place of these reduced or suspended taxes, there will be 2-percent passenger and freight taxes using the same tax base as present law. As a result, the total tax for domestic passenger and freight shippers will remain unchanged.

In addition, there will be imposed international passenger departure taxes of $2 where the air fare is less than $100 and $10 where the fare is $100 or more.

There will also be a 5-percent tax on charges for international air freight which departs the United States.

The new taxes will be imposed upon the commercial air carriers, but passed through to passengers and shippers. These new taxes will also be in effect for a 5-year period until October 1, 1983.

Those domestic air carriers who operate large subsonic jet aircraft which fail to comply with FAA noise regulations may obtain refunds or credits against the excise taxes they have paid.

They will be entitled to refunds or credits for certain percentages of costs they have incurred after January 24, 1977, and before January 1, 1985, to bring their noncomplying aircraft into compliance with FAA noise regulations by one of three methods: (1) Adding sound absorbing materials to the engines, or "retrofitting"; (2) replacing the engines; or (3) replacing the entire noncomplying aircraft.

These percentages are 50 to 90 percent for retrofitting, depending on the number of an aircraft's engines, 75 percent for replacement engines, and either 40 percent or 25 percent for a replacement aircraft, depending upon the noise level of the replacement aircraft.

These refunds or credits will be treated as taxable income when received by the air carriers.

Rules are also provided to generally prevent the claiming of multiple credits for the same noncomplying aircraft and to require recapture of credits or refunds where a replacement aircraft is sold or leased within 5 years of being placed in service.

Foreign air carriers will be entitled to obtain lump-sum funds of their payments of these taxes for the entire costs incurred to bring into compliance their aircraft which operate in the United States. These carriers must first certify that their U.S. operating fleet does, and will in the future, comply with the noise standards.

Up to this point I have been referring to this legislation as "noise" legislation, but it is a great deal more than that. The bill is good energy legislation, because the new technology aircraft which will be generated by this bill will be up to 30 percent more fuel-efficient than today's aircraft. This is significant in view of national energy goals.

This legislation is employment legislation, because it will generate many thousands of job opportunities in the aerospace and related industries.

This bill is balance-of-payments legislation. One of the top items of export of the United States has long been our aerospace technology and equipment, but our airframe and engine manufacturers have not developed a new transport aircraft for a decade. Their historical preeminence in this field is under present challenge. The legislation will lead to the development of a new generation of aircraft and will undoubtedly spur our aerospace industry and assist them in competing better for foreign markets.

To conclude, Mr. Chairman, this is very important legislation, and it is essential that a comprehensive noise bill is passed by the Congress this session.

Such legislation is important to the Nation from the standpoint of the environment, energy conservation, community tax bases, balance of payments, and jobs.

We can accomplish a great deal without raising the cost of transportation, without increasing the burden on the taxpayer, without jeopardizing the airport and airway development program, and without adversely affecting the safety of our airways.

I applaud your accepting this challenge, Mr. Chairman, and scheduling these hearings.

I look forward to working with you and your colleagues on this legislation in the weeks to come.

The CHAIRMAN. Thank you very much, Congressman Anderson, for a very fine statement.

In the course of your hearings, did you consider any approach along the lines of a guaranteed loan program, like the one contained in the Senate bill S. 3064?

Mr. ANDERSON. Yes, we discussed both the guaranteed loans and the individual appropriation approach.

Either of these could work, but we felt that a big loan program to go through the appropriations procedure would be very, very difficult and was probably almost politically impossible.

I could see where if you were asking $50 million or $100 million or $200 million for some company that is making a lot of money, it would become a political issue, each one in time. We feel it would be much better to do it on the excise tax basis we have in our bill.

The CHAIRMAN. I would certainly agree with your statement on the difficulties the approach would encounter in the appropriation process.

But on the theory of guaranteed loans I, of course, look back at our experience in that field so far. Under the guaranteed loan program that we have had in effect since 1957, there has not been a single loss or default so far. The experience of the program has been quite good. And in our proposal, we would use a portion of the trust fund to be set aside as a guarantor, and would assume that we would not have any losses under the program.

Mr. ANDERSON. I remember one loan guarantee program which became very hot, and that was the Lockheed loan. It was a rather secure loan to start with. I remember it became a difficult political issue. It carried, it passed, we got our money back. The Government made money on the deal. Yet everyone considered it almost a giveway. They were calling it a rip-off.

I can just see that same kind of thing, if you are going to make the same kind of a loan guarantee, or either way, to American Airlines or Pan Am or somebody else, they would say, "Here's another big chunk."

I was afraid of that from the political angle. Also it's been pointed out that many air carriers are short of capital and loan guarantees will not create capital, as such.

The CHAIRMAN. Of course, we didn't run into that kind of opposition with respect to the aircraft loan guarantee, and it would seem to me that in this regard there would not be much distinction between a guarantee program and one which contemplates a user's or excise tax.

Mr. ANDERSON. I am sure either of the approaches could work. We discussed them all, but we thought the excise tax was a little easier, more gradual and there wouldn't be the individual finger pointing as to when each time a loan or grant application would come up for an individual company.

The CHAIRMAN. Thank you very much. We certainly appreciate the benefit of your testimony. We will be exploring the matter very thoroughly in our hearings today and tomorrow and in the 2 days of hearings scheduled in June.

We hope to have 1 more day in the field to have an actual flyover of the aircraft, because I am still very disturbed about the fact that the noise reduction achieved through retrofit is not going to be perceivable by the average persons close to or around the airport.

I hate to see the Government and the carriers get involved in a program of spending tremendous amounts of money to retrofit aircraft and then find that the people who are the targets of aircraft noise just simply can't tell the difference.

I think we ought to do everything we can to encourage the carriers to actually replace the aircraft rather than go through retrofit because with the replacement, significant noise reduction can be achieved. And, as you pointed out in your testimony, carriers will receive the benefits of fuel conservation, as well, which obviously they wouldn't get under retrofit.

As a matter of fact, carriers pay a fuel consumption penalty with retrofit, due to the added weight.

Mr. ANDERSON. In our bill we provide for all three, either retrofit, re-engine, or replacement.

But we try and give more emphasis on replacement, particularly of the new generation airplane. We give our biggest amount of money to those that will acquire a new generation of airplanes that will be more fuel-efficient and quieter. But the only problem with not having something for retrofit is that some of the air carriers, even with our bill, will not be able to either replace or re-engine. They don't have that much money, and they will probably have to go the cheaper way.

I have been to probably 20 or 30 of these flyover tests, and I agree very much with what you have said. It is very difficult for me to distinguish much difference between a retrofitted plane and a nonretrofitted plane. There is a little difference, and there are certain screeches that are taken out. But I know that the people in my area that live under the approach of Los Angeles, when they hear one of these retrofitted planes come over, they may be able to distinguish a little bit of quiet, a little quieter, but not very much.

I prefer to see either a new engine or a new generation airplane.

By the same token, we have to have something in there for those air carriers that can't buy the new equipment, but still have to meet the FAA requirements. So that is why we have left the retrofitting in there, and I think I agree with your thrust.

The CHAIRMAN. The basic reason for my proposal is to encourage replacement so that if the carriers come in with their contracts for purchase that had been signed prior to 1985, then we would extend the period given them for complying with FAR 36.

And, of course, the extension of compliance dates is only for two- and three-engine aircraft, which are the ones that I think it doesn't make much sense to try and retrofit.

Again, thank you very much for being here with us. We appreciate it.

Mr. ANDERSON. Thank you.

The CHAIRMAN. Our next witness is the Honorable Langhorne M. Bond, Administrator, Federal Aviation Adminstration.

STATEMENT OF HON. LANGHORNE M. BOND, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION; ACCOMPANIED BY MORTIMER DOWNEY, ASSISTANT SECRETARY OF BUDGET AND PROGRAMS, DEPARTMENT OF TRANSPORTATION; CLARK H. ONSTAD, CHIEF COUNSEL, FEDERAL AVIATION ADMINISTRATION; AND CHARLES R. FOSTER, DIRECTOR, OFFICE OF ENVIRONMENTAL QUALITY

Mr. BOND. Thank you.

The CHAIRMAN. If you will identify your assistants for the record, you may proceed as you see fit.

Mr. BOND. Senator, as an operating line administrator of the Department of Transportation, I am glad to see you characterize an Assistant Secretary as my assistant.

The CHAIRMAN. I thought he was assisting you in presenting the Administration's view.

Mr. BOND. That is the proper role, I believe.

The man under discussion——

The CHAIRMAN. We are happy to have Mr. Downey here.

Mr. BOND. One of the chaps who has not appeared before the committee is Chuck Foster. He is a former Air Force pilot who has long worked in the field of noise suppression.

I guess if there is anybody in the Department of Transportation who is a noise expert and has lived with the problem, it is Chuck.

Our Chief Counsel of the FAA, Clark Onstad, is on my left.

So, Mr. Chairman and members of the committee, it is a great pleasure to be here today to present the Administration's views on the need for legislation to help reduce aircraft noise in the United States.

The problem of excessive aircraft noise plagues literally millions of people near airports and presents a formidable challenge to airport operators nationwide.

Aircraft noise is not a new problem, having been with us principally since the arrival of the jet age. It is, however, a problem which has become more apparent with the passage of time due to increased aviation activity, new and expanded airports and, in some cases, increased residential development around airports.

Aircraft noise is a problem which demands the attention and mutual cooperation of the executive branch, the Congress, and the aviation community to solve.

The Department of Transportation has long recognized the need to reduce aircraft noise and has worked diligently to do just that.

The Congress, also, has been aware of the need to deal with the problem and, as long ago as 1968, directed us to undertake a program designed to afford present and future relief to the public from unnecessary aircraft noise and sonic boom.

In December 1976, we again took major regulatory action to provide relief to our Nation's citizens by requiring that approximately three-quarters of the current air carrier fleet, be modified; that is, retrofitted or replaced by 1985.

This regulatory action provides for noise level restrictions on the prime noise offenders at our air carrier airports.

Heretofore, these aircraft were excluded from Federal regulations that had initially imposed noise standards—FAR part 36—on only new design aircraft in 1968, and later upon those aircraft produced after 1975.

I want to point out that this regulation was promulgated after several years of comprehensive review of alternative ways of providing noise relief—soundproofing buildings, land acquisition, operational procedures, and the like.

Basically, the regulation calls for compliance with FAR part 36 noise standards by all subsonic turbojet airplanes exceeding 75,000 pounds maximum weight, in accordance with the following schedule:

Four-engine—JT3D—narrow body airplanes, such as the 707's and DC-8's: 25 percent by 1981, 50 percent by 1983, and 100 percent by 1985.

Early 747's and two- and three-engined (JT8D) narrow body airplanes—such as the DC-9, Boeing 737, and B727—50 percent of the fleet by 1981, and the whole fleet—100 percent—by 1983.

Our regulation does not dictate a specific method of compliance. The airlines are free to choose—depending on their financial condition, the age and type of their equipment, and other factors—a self-tailored combination of replacing aircraft, replacing aircraft engines, or retrofitting engines with sound-absorbing material.

There are, however, significantly different costs and benefits associated with each of these possible compliance approaches.

For example, if a straight retrofit solution is applied, the following benefits will accrue: 700,000 people will be removed from noise exposure forecast—NEF—30 impact areas by 1995.

As a citizen in the NEF 30 in the Washington area, I would be among those removed from the impact area.

On the other hand, if the airline industry were to respond to our regulation by retrofitting all JT8D's and replacing all JT3D's with quieter, new technology aircraft, at a higher capital investment cost, 2,200,000 people will be removed from NEF 30 impact areas by 1990—over three times as many as under the straight retrofit solution.

Moreover, under the replacement scenario, we calculate that there would be a savings of 5 billion gallons of fuel through 1995 instead of an added fuel cost of 300 million gallons from the straight retrofit solution.

In general, replacement with new technology aircraft will provide important public benefits in terms of air pollution control, energy efficiency, employment, and improved export markets.

Unfortunately, some carriers in the industry, primarily those with large numbers of the older and generally noisier four-engine aircraft, may not be able to finance the necessary capital expenditures, particularly for replacement, through ordinary means.

Progress in regulatory reform will help to improve the financial attractiveness of the overall airline industry and give it the type of flexibility, both in terms of entry and pricing, needed to achieve the requisite rate of return.

For now, however, we believe a special supplementary financing mechanism is desirable to assist the airlines by providing the proper incentives for achieving full and timely compliance with the new regulation—with an emphasis on the achievement of even lower noise levels and other substantial benefits through replacement with new technology aircraft.

In view of this, we believe that the Congress should enact a financing proposal within the following guidelines:

Little or no increase in the cost of air transportation to the traveling public.

No risk to the financial integrity of the airport and airway trust fund.

Incentives for replacement of noisy aircraft with aircraft employing new technology in both noise reduction and energy efficiency.

Minimum Federal involvement in the airline industry's financial affairs and aircraft fleet management decision.

Avoidance of cross-subsidization among the airlines, both domestic and international.

Let me turn now to those bills related to retrofit/replacement which are both before the subcommittee, and before the Congress in general.

One such bill is S. 747, introduced by Senator Javits on February 21, 1977. That proposal provided for a special 2-percent surchange on air travel by people and property for a maximum of 10 years to be used to fund up to one-third of the cost of replacement aircraft and the full cost of aircraft modification—the total latter program cost was not to exceed $300 million.

This proposal explicitly excluded foreign air carriers from participation, which we find objectionable. Further, the bill would have resulted in cross-subsidization within the industry, a concept we do not support.

The bill which so far has received the most attention has been H.R. 8729, developed by the House Subcommittee on Aviation.

Titles I and II of that bill addressed additional funding for airport noise control planning and ADAP increases. Title III prescribed a program for retrofit/replacement of noisy aircraft.

As for the noise and land planning contemplated by title I of H.R. 8729, we are concerned that the Federal role is too substantial.

We object to the requirement which places the burden of "approval" or "disapproval" of such plans on the Secretary.

This provision inserts the Federal Government squarely into the domain of local decisionmaking. Local authorities are responsible for noise liability and should remain so.

We are strongly opposed to the increased funding levels contained in both titles I and II. At a time when we should be exercising fiscal constraint, to arbitrarily boost spending levels could work against the Administration's efforts to fight inflation.

We believe it is premature for the Congress to act in this regard when we have underway a comprehensive review of the Airport and Airway Development Act.

The Administration's recommendations for new legislation, including funding levels, will be presented to the Congress next year for its consideration.

With regard to title III, I should note it contains aspects of foreign carrier discrimination. They must turn in their reports to the Secretary on a quarterly basis and are not eligible for payment of their compliance costs until they are in full compliance with the noise standards.

Further, it would not sufficiently encourage the purchase by airline management of new technology aircraft, hopefully American made.

The bill would provide up to a 40-percent subsidy for new technology aircraft replacements versus a 25-percent subsidy for current technology aircraft replacement, an insufficient spread.

This title was, however, modified in certain significant respects by the House Ways and Means Committee by virtue of H.R. 11986, which changed the program from one with a maximum 10-year life

to one with a 5-year life, thus generating less funding than we would prefer.

Additionally, revenues or credits generated by the bill were made taxable.

The bill retains the inadequate incentive for replacement with new technology aircraft and different treatment of foreign carriers concerns us with H.R. 8729.

As for title II funding levels, I note that the presently authorized ADAP levels are adequate to fund necessary development and key locations within the Nation's airport system without neglecting the important needs of the smaller airports.

Within current levels sponsors with approvable projects for all types of airports are getting Federal funds within reasonable time limits.

Some system needs, however, such as the critical need for reliever airport development, could not be met under any funding conditions because of other constraints such as environmental problems and lack of community approval.

Additional funding, therefore, if made available, would fund more projects but would go beyond the priority fundable needs of the airport system and involve the grant program in areas of lower priority, questionable development.

Although the FAA had a backlog of unfulfilled requests of $995 million as of March 31, 1978, this backlog is not as extensive and impressive as it may first appear.

The remaining capability to fund requests in 1978 is $187 million—$540 million authorization less existing obligations and allocations of $353 million.

This $187 million will be programed and obligated during the remaining months of 1978. At the end of 1978, the FAA will have a backlog of requests of $995 million less $187 million plus new requests received in the remaining part of this year.

In addition to requests for high-priority development that should be commenced at an early date, the $995 million in requests now on hand consists of requests that seek assurance of Federal aid for development planned over a period of 5 years of more, requests for projects that have environmental problems and local opposition, and lower priority work items.

A recent survey of the regions indicates that of the $995 million backlog in requests, only about $673 million—air carrier, $529 million and general aviation, $144 million—is for high-priority development that is free of restraints and could be processed to grants within a reasonable time—9 to 15 months.

The high-priority projects lend themselves in some cases to staged development or multiyear financing and thus reduce by an appreciable amount the need for financing sought in a particular year.

Multiyear grants provide for project approval at air carrier airports with financing in increments through 1980 by using entitlements and, in some cases, discretionary funds for the current year and commitments of entitlements for future years.

More than $300 million has been used for projects of this nature since 1976 when multiyear grants were authorized, and a potential for greater use is evident.

With regard to title III of that bill, I should—I have an addition in my testimony here, Senator.

Turning now to S. 3064, I note that——

The CHAIRMAN. We may have some confusion here. I think there are a couple of different copies of your testimony, one maybe drafted by the FAA and one maybe drafted by the White House. Is that the reason for the difficulty?

Mr. BOND. No; that is not right, it is all the same, Senator.

The CHAIRMAN. What are the discrepancies, why do we have two different copies?

Mr. BOND. We had a change in the early draft of this testimony which I, by mistake, picked up, which omitted the inflation—greater emphasis on the inflationary impact of titles I and II, and I wanted especially to put that in, so you would have a chance to consider that.

The CHAIRMAN. I see.

Mr. BOND. All right.

Turning now to S. 3064, I note that titles I and II are substantially the same as titles I and II of H.R. 8729. We, therefore, have the same objections to these titles as I stated previously in connection with H.R. 8729.

Title III of S. 3064 is significantly different from that of H.R. 11986, however, and causes us great concern. First, the $20 billion loan guarantee program contemplated by the bill appears to be based on the premise that retrofit of two- and three-engine jets provides inadequate noise reduction.

This is reflected in a rollback of the 1981 and 1983 compliance dates for JT8D-powered aircraft to 1990, if, by January 1, 1985—2 years after all JT8D aircraft are required to be in compliance in accordance with our regulation—the operators have entered into contracts for replacement of those aircraft.

We strongly disagree with this approach since we do not accept the validity of the basic premise underlying the rollback. That is, we firmly believe that two- and three-engine retrofit is both meaningful and desirable. Let me briefly sketch the substantial factual basis for this conclusion.

First, let me point out that the level of noise reduction to be achieved from retrofit is perceptible even on a single event basis.

A modified JT8D airplane is significantly quieter than an unmodified JT8D airplane, especially on approach. For example, noise measurements taken during routine airline operations at airports in Los Angeles and New York City showed that 727-200 aircraft with SAM retrofit treatment averaged about 7 decibels—dB's—lower on approach about 1 mile from touchdown than did 727-200 aircraft without retrofit.

Dr. Paul Borsky, a leading psychoacoustician from Columbia University, has noted that a change of 3 dB's is perceptible to people and relates to a demonstrable change in their attitude toward such noise. According to Dr. Borsky, a 5- to 6-dB difference in noise level proves highly significant in both laboratory studies simulating real conditions and surveys made of JFK neighbors.

Consequently, the single event noise from retrofit of two- and three-engine jets should be perceptible to people around airports.

But this is not nearly as significant as the impact of retrofit on cumulative noise exposure.

A second conclusion from our research is that the dominant factor in a community's response to aircraft noise is the cumulative impact of such noise. In general, scientific research has shown that if noise events are infrequent—for example, once or twice a day—the peak noise level of the individual events will probably determine individual reactions to that noise.

This same scientific research shows that if the noise events are relatively continuous or repetitive, however, the total noise "dose" or cumulative noise exposure becomes the most important factor in people's reactions to aircraft noise.

Noise exposure forecast (NEF) provides a measure of the total aircraft-generated noise energy received at locations near an airport during a typical 24-hour period. The NEF value at a given point near an airport is calculated by summing the noise energy received at that point from all of the aircraft operating into and out of that airport during a day, with an added penalty for nighttime noise—flights after 10 p.m. Points of equal NEF value are then joined to form contours of equal noise exposure.

The NEF procedure has been developed over the last 15 years for land use planning around airports as the number of jet aircraft has increased and their noise has become more of an annoyance. It is particularly meaningful in measuring the overall impact that residents around busy airports might experience, and research into human reaction to aircraft noise indicates that cumulative noise exposure is the most useful measure of public reaction to aircraft noise.

In fact, six of the leading psychoacousticians in the United States, in a conference call with my predecessor, Dr. John McLucas, confirmed to him that cumulative noise exposure is the dominant factor in a community's reaction to noise.

The third point I would make to the subcommittee, based upon our research, is that the impact of retrofitting two- and three-engine jets on reduction of cumulative noise exposure will be substantial.

I have chosen to focus on two- and three-engine jets because of their predominance in domestic air carrier operations.

These aircraft account for nearly 70 percent of the American air carrier fleet that does not meet part 36 noise standards. Due to the prevalence of the two- and three-engine aircraft in our domestic air transportation system, and their short/medium range, they account for about 84 percent of all aircarrier operations nationwide.

Because of the pervasiveness of these aircraft throughout our country, they have a substantial cumulative noise impact upon our communities. By way of illustration, if we were to have ignored them in our regulation, 76 percent of the aircarrier airports in the country would not receive any noise benefit, and about 85 percent would not receive any significant benefits.

To expand on that latter point, it is interesting to note that 11 States have no airports with four-engine aircraft operations, and 24 States have only one airport with four-engine aircraft operations.

Conversely, every aircarrier airport in every State has JT-8D—two- and three-engine—aircraft operations to some extent. These

are statistics we cannot ignore when we assess the impact of retrofitting these aircraft.

Mr. Chairman, the information available to us indicates that single event noise reduction from retrofitting JT-8D engines is perceptible to the normal person and that cumulative noise reductions from retrofit of these two- and three-engine aircraft will be significant. That is why we included two- and three-engine aircraft in our compliance regulation.

Because of the benefits to the American public, which we have concluded are substantial, from retrofitting JT-8D engined aircraft, we strongly oppose delaying the effective date of our compliance regulation. To do so would be to subject, for 7 additional years, millions of noise-impacted Americans to aircraft noise at levels higher than they need be.

I expect, also, that many of these noise-impacted people would feel that the Federal Government failed to follow through on a commitment to noise reduction it had previously undertaken.

Another reason for our opposition to extending the compliance date—although I assure you I believe the public health and welfare of millions of Americans is reason enough to object—is that, upon extension of compliance dates, I strongly suspect that airport proprietors may feel compelled to "go it alone."

With court judgments against these proprietors mounting on almost a daily basis, they are greatly concerned about noise impact. We believe that, while airport proprietors do have certain local preogatives which we respect, and do not wish to preempt on the Federal level, there, nevertheless, can be penalties and burdens imposed upon our national air transportation system from a proliferation of diverse local actions to abate noise. I believe this is clearly a possible impact of deferred compliance dates, and that it is a problem which the subcommittee should carefully consider.

We strongly believe that to postpone aircarrier action by 7 years works against the best interests of the industry and the Nation's aviation noise-impacted citizens. We urge the subcommittee to act otherwise.

With regard to the loan guarantee approach central to S. 3064, we believe that it is simply an insufficient mechanism to provide the financial resources or incentive needed by the carriers.

We believe that the need for Federal financial assistance of this magnitude will only slightly lower the interest rate to borrowers. Each carrier has a different financial position, and those with the most pressing needs for fleet changes may very well be in the worst posture to accept further debt financing as contemplated by this bill. The carriers, I am sure, will have extensive views concerning the concept of a loan guarantee.

Mr. Chairman, we are encouraged by the interest and concern of this subcommittee, and have noted the remarks you made when introducing S. 3064. Therefore, we appreciate that this bill is offered as only one alternative which will be weighed and debated against the considerations and approaches of other proposals. We stand ready to assist you in your analysis in any way possible, and trust that our concerns will be carefully considered by the subcommittee in its deliberations.

You have no doubt noted that my testimony to this point has not touched upon the complex problem of noise reduction for international operations. Because this subject is so complex, we have chosen not to deal with it here, and have been advised that we may submit a separate statement on this subject for the subcommittee at a later date.[1]

That completes my prepared statement, Mr. Chairman. We are available to respond to any questions you may have.

The CHAIRMAN. In your testimony, you seem to imply that if the date is extended, that everything, the entire period for compliance, would go to the later date, and that replacements with quieter aircraft would not be made in the interim period.

This is certainly not the intent of the proposed extension, because we would assume that carriers would begin replacing as fast as they were able to do so.

In other words, they are not signing a contract for delivery of all of these aircraft they are going to buy or replace at a certain fixed time at the end of the extension period.

So I think that the impact is going to be much less than you had implied that it might be.

I am very disappointed in the Administration's statement. A loan guarantee program might not be the right approach, but the Administration has certainly said nothing in this statement to provide the committee with the information we need to make that determination one way or the other.

You brush off in a paragraph the loan guarantee approach, because you believe it is insufficient.

And earlier in your statement you are not at all concerned with whether or not the ADAP levels are sufficient to meet the airport requests, but only with their inflationary impact. Now, you ignore a program which is an alternative to other proposals which will add almost $2 billion to our Federal expenditures and ask the airline industry to comment for you. S. 3064 would create only a contingent liability. It would avoid the expenditures of $1 billion of the trust fund surplus, and it would keep all moneys in the private sector.

What is the Administration's opinion of the fiscal impact on the Federal budget of S. 3064 versus H.R. 8729?

Mr. DOWNEY. I think one of the areas that does concern us is not so much the fiscal impact on the Federal budget, but the fiscal impact on the economy of a growing tendency toward loan guarantees.

There are currently about $300 billion in Federal loan guarantees in various areas throughout the economy.

In some recent years, almost 40 percent of all the credit raised in the U.S. economy was either direct Federal borrowing or borrowing through guaranteed programs.

This has caused the President to suggest, he has not put together the program yet, but some specific way in which we could focus on credit controls and the extent to which the free market in credit, which is sort of a basic economic engine of this economy, could be looked at.

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[1] See p. 107.

The CHAIRMAN. Well, you are not suggesting that the Administration is going to move away from loan guaranty programs, that you are going to withdraw all of the loan guarantees that you have in this county, such as Federal Housing Adminstration, Veterans Administration, and many, many others.

I could go on and on.

Are you suggesting that the Administration is going to change their entire policy of guaranteed loans?

Mr. DOWNEY. No, sir, but I think we would be looking very closely at new ones, especially if they change in nature from the housing market guarantees which were a case where you have a very large marketplace of small borrowers, to what has been the trend in the loan guarantees, of very large guarantees to a rather small market.

In some cases, $1 billion or more guarantees on a single—on the finance of a single corporation.

That is a matter of concern.

The CHAIRMAN. Would the inflationary impact of a guaranteed loan program on the economy be greater than that of a fund, created by a user's fee, where the money is going to be spent for the same purpose and the same amount?

Mr. DOWNEY. We think possibly it would. Under the House bill two actions are taken, one is a reduction of the tax, and the other is the imposition of the new excise tax related to noise.

Therefore, there will be no increase to the consumer. And no impact there.

The CHAIRMAN. Under the loan guaranty program, there would be no increase to the consumer.

Mr. DOWNEY. Potentially, there has been inflationary impact, particularly with a $20 billion level which could substantially encourage the purchase of excess capacity.

In effect, if you got more expansion early on of the aircraft fleet, as a result of that, that would be an inflationary direction.

The CHAIRMAN. But the estimate of financial need of the carriers is about three times that amount in the same time frame.

So they will have to go their own sources of private financing, in addition, to meet this need.

This program is only going to account for a one-third solution to the problem.

Mr. DOWNEY. Depends how fast it comes on. Their $60 to $70 billion is, I believe, a 25-year estimate of the total replacement of the existing fleet.

I don't know how fast they would move with this $20 billion, or if they would be encouraged to come in for second and third increments of this financing.

We are also concerned, Senator, with the size of this guarantee program and the effect it might have on further direct Government involvement in the financing and in the business decisions of the carriers.

This program is 100 times larger than the existing aircraft loan guarantee program.

That one we do believe has operated well, and we really have not become involved.

We are concerned that a program of this size and this visibility would attract conditions, there might be efforts to try and override the business judgments of the airline industry and really much greater involvement on our part that we prefer not to have.

That is, again, one of our preferences for the tax approach which really keeps our hands off and keeps it in the private sector.

The CHAIRMAN. Well now, Mr. Administrator, you stated that the airlines deserve special assistance because it would promote meeting the environmental standards more efficiently, and because there are some financially weak carriers, who are faced with substantial noise compliance problems.

Would the Administration apply these same criteria to the paper industry or public utilities or industries which presently burn high sulfur coal or to the copper industry which in my own State of Nevada is now trying to deal with environmental standards?

I ask either you or Mr. Downey.

Mr. BOND. I think each industry has to be taken on its own merits and judged by the unique circumstances that apply to each. My feeling has always been pretty strongly that the air carrier industry is a tightly competitive industry within itself and among its members.

It does not have the natural monopolistic tendencies of some of the public utilities to which it has been compared.

And I think that it is, therefore, deserving for that reason alone of the kind of treatment we propose here.

The CHAIRMAN. Well, let's not use the public utilities then, as you said they should not be used for purposes of comparison. But let us compare it with the paper industry or some of these industries that burn high-sulfur coal, or the copper industry.

In Nevada we have a sulfur smelter. We have had to shut down the copper industry and put an entire town out of business, practically speaking, because they cannot meet the environmental standards.

And, again, this is a very competitive industry. It is competitive not only in this country, but competitive with people abroad, who we are helping to finance to produce the copper and bring into the United States to sell at prices below what we can produce it at.

Now, do you think they are entitled to the same kind of help that the airline industry is entitled to here?

Mr. DOWNEY. In some cases, yes, Mr. Chairman, and in some cases——

The CHAIRMAN. Where would we file that application?

Mr. DOWNEY. Usually with the Internal Revenue Service. What in many cases has been provided, is accelerated depreciation and other benefits through the tax system which has proven generally to be our best way of dealing with private enterprise when they are attempting to achieve such goals.

We do, in effect, provide that kind of treatment through the tax system, and we think the proposal of using the tax system through the airline industry, given the specific nature of that industry, is a close analogy to what's been done in some other pollution-control situations.

The CHAIRMAN. Considering the profitability of the airlines since this issue was first addressed and the prospects for fare flexibility

and inclusion of prospective costs under regulatory administration, have you reexamined the need for any aircraft noise financing legislation?

Mr. BOND. We think it is still required. It is delightful that the industry is making more money these days, but history makes it pretty clear that it is not necessarily going to be sustained forever.

I believe that the long-term underlying assumptions about the difficulty that the air carrier industry has in raising financing is probably still valid today.

I expect Mr. Ignatius will later express the same opinion, but I have been through so many ups and downs that I think that our assumptions are still valid.

The CHAIRMAN. I am a little confused at your position on H.R. 8729. It has three titles, and you object to two of them and one of them you indicate you might like. I am not exactly sure that that is what you said, but does the Administration support H.R. 8729, on balance, or not?

Mr. BOND. Well, I would say we support one-third of the balance of it, Senator. We are troubled by the first two titles and especially by the spending aspects of them. The other portions of it, though, are pretty good. Congressman Anderson has done a very conscientious job. As for the modifications contained in the Corman bill, we generally support those as well.

The CHAIRMAN. At various points in your statement you say, and I quote, "We are concerned that the Federal role is too substantial in reference to title I." Later you say, if retrofit is implemented as scheduled, people will be aware of concern on the part of the Federal Government. Finally, you say:

> While airport proprietors do have certain local prerogatives which we respect and do not wish to preempt on the Federal level, there nevertheless can be penalties and burdens imposed upon our national air transportation system.

Now, if I may reverse the order of your statement, you seem to be saying we have an issue which could seriously affect interstate commerce about which the Administration wishes to show concern, but let's leave the local government liable in the courts.

I don't think you can have it both ways. Is aircraft noise control a problem which can seriously impact interstate commerce and therefore should be a Federal responsibility, or is it an issue which should be left to the local governments for both liability and responsibility?

Mr. BOND. Well, it's a pretty big question. It deserves to be broken down into portions. The question of control of noise at the source is one that the Federal Government has worked on and has control over. Overall noise liability, especially regarding reasonable and nondiscriminatory operational considerations, planning, and so on, that is a local responsibility. It has been more or less recognized by judicial means to be a local matter. But the question of where unreasonable interference with interstate and foreign commerce arises from local control is one that I cannot define in this hearing, Senator, because it hasn't been tested in court yet.

Somehow there certainly must be some overlap, but that is a gray area. I think, though, that the theme of our testimony, we have tried to put it together in this statement, is that the gradual implementation of source noise control has been established.

People, including airport operators, have for the most part accepted it. And they seem to be following a trend of deferring local action on the assumption that the Federal Government and air carriers are jointly going to control noise at the source.

Therefore, we think this is a way to minimize the disruption of commerce simply by keeping on the track that has already been established. We are afraid that problems will arise if that is disturbed.

The CHAIRMAN. Why do you oppose local solutions to the noise problem? How do we know that the business which New York or Los Angeles or Boston turns away would not be gladly accepted by another nearby or not so nearby city? In fact, in fairness to satellite communities, shouldn't the true cost, the social cost as well as direct costs be charged by the primary airport involved rather than asking the system as a whole to pay the social cost for the major airports which are both noise impacted and economically advantaged by their level of service?

Let me give you an example now. I have two small communities in Nevada. They don't have direct flights so they are not worried about the cumulative effect that you're talking about. And they have a single incident, single or double or triple or whatever it happens to be. But there has not been even one complaint of noise in and around those airports, and we are operating right now the two-engine airplanes at those airports.

Why should they have to pay part of this burden to solve the noise problems of the communities which are impacted?

Mr. BOND. Well, the question—you began your statement by saying we oppose local solutions. I don't think that is correct or at least I didn't mean to imply that. I would like you to consider that we have developed recently what we call an integrated noise model which we are sending out to local communities along with a very substantial kit of options that is available to local communties on how they, airport proprietors, can control noise.

We encourage local airports to apply just those reasonable operational restraints to minimize noise. The most recent tool, one which we think is very useful, is our new integrated noise model which Chuck's office has developed, that ranks aircraft hierarchically on the basis of noise, from noisiest to quiet without regard to whether it's turboprop or prop or jet aircraft. Using that tool the community can draw the line on the order wherever it wants to. In the case of the two airports, where we in the Federal Government are proprietor, we have done just that. We have established after 10:30 at night a fairly strict noise control operating rule.

Now, we think that is an example of what a local airport proprietor can and should do. The equity argument——

The CHAIRMAN. Of course we could go a step further and shut the airport down completely, you know. That would solve their noise problem.

Mr. BOND. I think that is correct. That could happen. Some airports seem to have done so. I might add, as a matter of regret. But there are a number of smaller reliever airports primarily in metropolitan areas that seem to be very strongly threatened by closure.

The CHAIRMAN. By the way, what happened to your two-stage aircraft approach system that you were working on a few years ago?

Mr. BOND. That was abandoned. The multisegment approach. There were operating considerations and enough safety objections were raised.

The CHAIRMAN. So it has been abandoned now, it is no longer under consideration?

Mr. BOND. Yes, sir. The stabilized power setting and approach angles are in now——

The CHAIRMAN. I haven't heard much about the Concorde lately. What has happened to the Concorde at Dulles and Kennedy?

Mr. BOND. I hope, Senator, that you're not complaining about that.

The CHAIRMAN. No, I am not. I am curious. I wonder if people have learned to live with it or have found out that it wasn't as big a problem as they thought it would be.

Mr. BOND. From my part, I'm delighted we have heard much less about Concorde lately, having heard a great deal about it previously. I think the Government's predictions have proved to be correct. That is, that the time of day of the flights was not offensive, midday for the most part. And the noise level, especially at New York, is about the same as the older four-engine jets. Generally the community acceptance or tolerance of Concorde flights has been pretty good. I always like to emphasize, I know you're aware of this, that there are only nine Concordes in service in the entire world. And that is a very small number, considering the outcry.

The CHAIRMAN. So you're saying in any event that it wasn't as bad as poeple thought it was going to be?

Mr. BOND. I didn't ever think it was going to be that bad, but others——

The CHAIRMAN. But the people who were perceiving the noise, who were affected in and around the airports, thought it was going to be bad, didn't they?

Mr. BOND. That was the allegation by certain people.

The CHAIRMAN. They thought by stopping it that this condition would markedly improve, improve beyond question, and that they would be able to live around the airport. It seems to me that those people make a pretty good case for what I am suggesting on the extension of the two- and three-engine aircraft, for the extension would give us a period of time to make some really perceptible improvements. As I indicated, my suggestion does not abolish the retrofit requirement on these aircraft, but it provides an option to replace FAR 36 aircraft with stage 3 aircraft which really would be a marked improvement.

I'm wondering if FAA has examined that idea in the same way you examined the options in your testimony, to see if the impact of a replacement extension option might in the long run provide more noise relief over the long run even accepting all your other criteria.

Mr. BOND. Well, first we touched on the question of two- and three-holers as oppose to Concordes. There are only nine Concordes and there are more than 1,100 of the other aricraft operating around the air space system. I believe their enormous prevalence, 84 percent of the operations of the United States being of that

category, reenforces our belief that the cumulative noise exposure that people absorb, the total dose, is really the largest social problem that we have.

One of the reasons we didn't think Concorde would be a problem and I think it's proven to be the case, is that there aren't very many of them.

The CHAIRMAN. You hadn't finished, had you?

Mr. BOND. I had not, but I tell you, I forgot the last half of the question. Would you mind repeating it?

The CHAIRMAN. Well, my point was that I was trying to find out if you had really examined the question of whether the impact of a replacement extension option might provide more noise relief over the long run, even if we accepted all of your other criteria, because the carriers could go to the stage 3 airplanes.

Mr. BOND. All right. I can't provide you, right now, with some sort of a statistical projection of those options, Senator, but I think it would be conjectural at best. Perhaps we could ask Mr. Ignatius to judge on that when he comes forward.

Our proposal, however, provides a very wide range of options with what we perceive to be more stringent persuasions on the part of air carriers. On balance, I do think it is a pretty balanced package.

The CHAIRMAN. You indicated that the carriers were talking in terms of 1,100 airplanes, and that the cumulative effect is very great. Yet in your statement you pointed out that 24 States have only one airport with four-engine aircraft operation, and 11 States have no airports with four-engine aircraft operations. Is that where the two- and three-engine aircraft are operating?

Mr. BOND. Exactly .

The CHAIRMAN. But the complaints about noise that you are getting are not distributed evenly among all of those locations. The complaints you receive are coming from the big centers, Los Angeles, Chicago, Kennedy, La Guardia, places like that which have the concentrations, yet you want to spread that burden on everybody, rather than leave it up to the local authorities.

Mr. BOND. I would like to cite the case of a State which falls within the 24 that we cited here, and that is the State of Illinois with which I am very familiar, as is Senator Stevenson.

There is really only one major airport in Illinois, and it is O'Hare, the largest airport in the world. There certainly are a lot of people who are disturbed by all types of aircraft, including four-engine aircraft in that State.

To say that there is only one airport in Illinois, and to have to carry the burden of it, is to overlook the pain and suffering that many citizens of the State of Illinois have.

The CHAIRMAN. I am wondering how many complaints you have had from Peoria. I received some complaints from there, and they were complaining because they couldn't get service. It wasn't a question of them having too much noise. I think Peoria would be delighted to have more service from two- and three-engine aircraft right away, even if the aircraft were not retrofitted. I would defer to my colleague on that; but this is the point I was trying to get your attention with a few years ago.

Senator STEVENSON. Next time, I would like to invite you to O'Hare, we could have another hearing. Your point is well-taken, as far as it goes.

Mr. BOND. I testified at Peoria, also, at the hearing I think Senator Stevenson conducted on the subject of service to Peoria. They do want more service, and they didn't have much complaint about what sort of airplanes were used. But I also had the privilege of going to O'Hare with Congressman Dickler.

Believe me, it is an acute, immediate problem to those folks out there. I suggest, Senator, that if you would like to have public comment on retrofit, you ought to talk to the people under the flightpaths of airports such as O'Hare.

It was driven home to me, time and again, the great concern people have about noise, and their insistence that everything the Government can possibly do to suppress noise should be done. I really think it is a legitimate complaint.

The CHAIRMAN. I wasn't trying to minimize the problem at those airports. I conducted hearings in Los Angeles a few years ago, and I am quite familiar with what the problems are, but I don't agree with you as to the perceptibility of the improvements that you are talking about.

And this is where we differ in our approach on it. Now, you state that the retrofitted aircraft is significantly quieter on a single event basis, and you provide some facts to back you up.

Mr. BOND. Yes, sir.

The CHAIRMAN. On the other hand, for years this committee has heard from witnesses who provide differing EPNB figures, which they claim cannot be perceived.

The FAA itself provided different figures in its Aviation Noise Abatement Policy paper in 1976. You rest your case solely on approach, ignoring the small or nonexistent differences on takeoff and sideline noise measurements.

The numbers provided in your testimony are not even near the numbers achieved by the 1976 Dulles retrofit test, monitored by FAA. And there is still considerable controversy about whether or not retrofit of two- and three-engine aircraft provides significant relief on a single event basis.

Now, don't you think a demonstration would be the best way to convince this committee that you are correct?

Mr. BOND. Well, we would be happy to be not only participants in, but organizers of the demonstration, Senator. We have already worked on this with members of your staff, but I hope we can have time and patience enough to get it set up in a way where the real differences will be perceived.

It is not an easy thing, and the question of the weather and the wind direction are important. Also, the hearing acuity between younger and older people varies, as it does between men and women, and it really ought to be a fair and scientific test which considers all these factors.

The CHAIRMAN. But all of those variables are going to take place during normal operation, whether you retrofit, or whether you don't. Those variables of cloud cover, wind, and so on, will be present so that they will impact on whatever type of a structure

you have, whether it is a retrofitted aircraft, whether it is a new engine aircraft, or whether it is a stage 3 aircraft.

Mr. BOND. Senator, we really do feel very confident in our predictions of noise reduction. We have done hundreds and hundreds of flights, and each one sometimes varies. But taken as a statistical analysis of the totality of them all, the results are quite clear, we think, and will stand up to critical examination.

But it has to be a large sample basis. Let us not forget that it is ordinary citizens out there who are the largest and best sample of all. They are subject to overflights everyday.

The CHAIRMAN. Assuming, for the sake of argument, that a retrofit provides a measurable decrease in noise, which is not perceivable on a single event basis, I take it from your testimony that you would still support retrofit, due to the cumulative effect; is that right?

Mr. BOND. I think—I don't accept the notion that it is not perceptible on a single event basis. Our evidence is to the contrary, that it is clearly perceptible on a single event basis. But that could be wiped out by wind direction or some other variability or change in flight technique, which makes it hard to measure at one point.

The CHAIRMAN. I understand from your testimony then that the only place where the difference was perceptible was on approach, that it was not perceptible on takeoff or sideline.

Mr. BOND. You said, "single event," did you not?

The CHAIRMAN. Yes.

Mr. BOND. I mean by that, one flyover. If the conditions are right, you can tell the difference. The threshhold perception is around two or three decibels, and we are predicting five, six, and seven decibel improvement.

The CHAIRMAN. What was that you said; if the conditions are right, you cannot tell the difference. did I hear you correctly?

Mr. BOND. If the conditions are right, you can tell the difference.

The CHAIRMAN. You stated that my extension proposal would extend compliance by 7 years. I understand that the manufacturers claim, now, that the 1981 deadline cannot be met. What are FAA's intentions in 1983 and even 1985, if sufficient retrofit kits are not available.

Mr. BOND. When we published our rule, it was on the prediction that they would be available. If they are not, as a matter of fact, available, we will have to review the circumstances. But I can suggest to the committee that so long as the matter is kept up in the air, and no one is required to make final decisions on it, it is going to be a very self-fulfilling prophecy.

The CHAIRMAN. Well, you weren't really answering the question.

Mr. BOND. The answer, sir, is that if they are not available, we will have to go back and take a look at the rule. I am a bit surprised to hear that because I didn't understand that that was the case, that there wouldn't be enough kits to go around.

The CHAIRMAN. We will find out in the course of these hearings, but that is what I have been told.

Mr. BOND. We will certainly look into it, Senator. The technology is not new, in any case.

The CHAIRMAN. Senator Stevenson.

Senator STEVENSON. Thank you, Mr. Chairman. I apologize for being late. And, actually, I didn't have a chance to hear your full statement, Mr. Bond. As I understand it, you oppose all of the financing mechanisms for compliance with the regulations, that is to say, the Javits proposal, the proposal by Senator Cannon, but you support title III of the House bill?

Mr. BOND. I don't think the term, "opposition," is as felicitous as I would have chosen. We have an alternative method of financing, which I think is the best way.

Senator STEVENSON. I have tried hurriedly to read your statement, and I guess I didn't read it thoroughly enough. What is your alternative financing mechanism?

Mr. BOND. Well, the financing mechanism contained in Congressman Anderson's bill is the one that comes closest.

Senator STEVENSON. That is the House bill, title III, right?

Mr. BOND. Right.

Senator STEVENSON. What will that accomplish, some combination of retrofit and replacement?

Mr. BOND. Yes, Senator, it will. It will give the air carriers under our rules here an option. They can either retrofit some of their fleet or replace with modern aircraft.

That packaging will essentially be a decision up to the carriers themselves, and they can choose from a variety of assistance programs.

Senator STEVENSON. Right. and how much do you expect it to cost?

Mr. BOND. Well, the total cost of the two- and three-holer retrofit program for the DC-9's, 737's, and 727's is around $300 million.

Senator STEVENSON. They would all be retrofitted?

Mr. BOND. That is just the hush kit, that is around $300 million.

The question of the older aircraft, 707's and DC-8's, which are much noisier and have older engines, is harder to predict. we expect they will be retired from the fleet and just replaced with more modern technology.

So our proposal and Congressman Anderson's would make it available for those purposes also.

Senator STEVENSON. How much more will that add, that cost? $300 million for retrofit?

Mr. BOND. Yes.

Senator STEVENSON. How much for replacing?

Mr. FOSTER. If they decided that they were in fact to retrofit these four-engine aircraft instead of getting rid of them, that would run about $600 million.

The total retrofit bill, if the decision were made to do nothing but retrofit to meet the rule, would run nearly $1 billion.

Senator STEVENSON. But you are anticipating a mix?

Mr. FOSTER. Right. We would prefer a mix. How much that would run is going to depend upon the number of aircraft that are replaced versus those retrofitted.

It can run anywhere we estimate between roughly $4 billion——

Senator STEVENSON. $4 billion for what?

Mr. FOSTER. That would be the total amount provided under the Anderson bill.

Senator STEVENSON. It could run as high as $4 billion for the mix?

Mr. FOSTER. Yes, sir, that would be the total amount provided. The replacement authorization is based upon the seats of noncomplying aircraft, so it is not a matter of airplane per airplane; it is a matter of the seats they have.

Replacement would allow, then, replacement aircraft up to 107 percent of the seats of the aircraft replaced.

Senator STEVENSON. Title III does not anticipate a surcharge, or does it?

Mr. FOSTER. Beg pardon?

Mr. BOND. Title III anticipates that the present 8 percent——

Senator STEVENSON. How much?

Mr. BOND. The present tax is 8 percent. We would reduce it by 2 percent and take that 2 percent and place it in a special fund for replacement.

Senator STEVENSON. So the surcharge would remain the same?

Mr. BOND. That's right. There would be no additional burden to travelers or cargo shippers as a result of this.

Senator STEVENSON. But the cost of compliance could run as high as $4 billion?

Mr. FOSTER. That could be the total amount raised through the surcharge.

Senator STEVENSON. No, all right. That was going to be the next question.

Let's take the worst case. Of that total cost, how much could get financed out of ADAP or out of this 2 percent?

Mr. FOSTER. It would be the order of about $1½ billion or $2 billion that would be available from a 5-year program. Again, that depends——

Senator STEVENSON. I am assuming the outer limit, the $4 billion.

I guess one of the questions Senator Cannon was getting at earlier is, what the effect of that is on ADAP and on airports.

Before you answer that question, you have to have some idea of what the cost of compliance is going to be, don't you?

Mr. BOND. Yes.

Senator STEVENSON. It could run the whole range from $300 million for retrofit to as high as $4 billion for a mix?

Mr. BOND. The question of total compliance, fleet reequipment, is quite separate from how much money would be available as funds to pay for it.

We can predict very closely how much is available in funds. They can draw on it to the extent it is there, to the extent their individual carrier entitlements provide for it. After that, they can't exceed it and have to pay for it.

But with regard to ADAP, we have done some, we think, very good studies on what the impact on balance will be over the years including the 2-percent layoff.

It is quite clear in our minds that there will remain a positive balance in the fund, and quite substantial at that level.

Senator STEVENSON. I don't want to get into that now.

Do we have those studies or can we get access to those?

Mr. BOND. Yes, indeed.

Mr. FOSTER. We can provide the data.

Senator STEVENSON. Wouldn't that be good for our record, Mr. Chairman?

The CHAIRMAN. Certainly.

[The following information was subsequently received for the record:]

If no changes are made in the present ADAP law, it is estimated that the uncommitted balance in the Trust Fund at the end of 1983 will be $5.5 billion. If H.R. 11986 is enacted, lowering the 8 percent surcharge to 6 percent of passenger fares (along with other charge adjustments) for 5 years, the uncommitted balance at the end of 1983 is predicted to be $1.3 billion.

Senator STEVENSON. Now, let me shift to operating procedures. I think it was a year or two ago when this subcommittee held hearings on noise, the FAA acknowledged that a great deal could be done to reduce noise levels by modifying operating procedures.

What can be done? What is being done to change operating procedures in order to reduce noise levels at airports?

Mr. BOND. Well, I met last summer with some Members of the House and Senate on this subject. And we moved, I think, fairly promptly to try and implement just that proposal.

We have what we call our quiet departure procedures which are now on the street, published as a draft advisory circular. They are out for comment to the community now.

When will the comment be back?

Mr. FOSTER. About 30 more days.

Mr. BOND. So they have been drafted and coordinated with the Airline Pilots Association, with the air carriers, and are now being circulated for proposed changes.

Senator STEVENSON. This would basically get them to lower levels and then level them off?

Mr. BOND. It is a technique of the early thrust cut followed by cleaning up of lift devices followed by acceleration of speed until we are past populated areas and then resumption of flight power. It is a technique arrived at in the Northwest procedures.

Senator STEVENSON. What else? Approaches?

Mr. FOSTER. Yes; on approach we have actually implemented two programs. One called the local flow control. This deals with the airplane from the cruise altitude down into the airport.

The objective here is to have the aircraft spend any holding time above 20,000 feet, and by the time it gets down to 10,000 feet, it will be sequenced into the airport with radar vectoring. So there will be minimum time spent below 10,000 feet.

Second, we have published a modified regulation, part 91, to require reduced flaps on approaches so that once they get the local flow control, and get into the final approach pattern, they would use a minimum certificated flap consistent with safety. Obviously the captain, if he feels necessary, could use full flaps.

We feel we are addressing the noise problem all the way from cruise altitude to touchdown.

On takeoff, we have an advisory circular out for review and we will be promulgating this as a final document within the next several months.

It will provide for options on takeoffs. For example, at those airports where you don't have a noise problem, taking off over water, go ahead and use full power climb.

Where there is noise impact, we have proposed what we call quiet thrust departure up to 4,000 feet.

Senator STEVENSON. Is there more that can be done to change operating procedures to reduce noise levels?

What is the response to these proposed regulations?

Mr. FOSTER. First, more that can be done, we think the other kinds of things that can be done are being done such as flying the aircraft over nonpopulated areas, early turn, preferential runways.

Senator STEVENSON. Do you feel that is being done?

Mr. FOSTER. Yes, sir.

Mr. BOND. Senator, the progress that is being made in the area seems to come bit by bit.

Senator STEVENSON. It sure does; if it comes at all.

Mr. BOND. Well, I think it does come at all. The proposal for retrofit of our two- and three-hole aircraft is another substantial bit. When added to the sum of the things that have been done by ourselves and air carriers, I think it adds up to a substantial level of improvement. But each piece comes hard.

Senator STEVENSON. These pieces haven't even come yet. Are they going to get here?

Mr. BOND. What do you mean?

Senator STEVENSON. Well, the approach and departure procedures which you mentioned are proposed.

Mr. BOND. Some of them are here now and some are in the mill.

For example, the standard quiet departure procedures are out on the street as an advisory circular. Some airlines operate fairly close to that now, specifically Northwest.

We would make them universal.

Senator STEVENSON. Right. Are others resisting this implementation, like the pilots?

Mr. BOND. No; they are not, because we have cooperated with them.

The CHAIRMAN. I didn't understand that Northwest had any noise problems at all.

Senator STEVENSON. They are the quietest people in town now.

The CHAIRMAN. Is that why you said they are meeting the standards?

Mr. BOND. I will try it again. I didn't hear you——

Senator STEVENSON. They are on strike.

Mr. BOND. I noticed that, yes. Yes; they have no complaints at all.

In regard to the hold 'em high profile descent techniques, that implementation has taken some time. I have spent a good deal of my time in the centers and approach control facilities of the FAA and on the flight deck of air carriers with their crews. It is a little bit unfamiliar to the folks at first, and it has taken some time to phase it in. Opinion varies as to its effectiveness and also as to how easy it is to get into.

But I am confident as we work with them it will become more and more easy to implement.

Senator STEVENSON. Why are you reluctant to go into land use planning? You are familiar with Midway. If service picks up at Midway and more jets go in there, we are going to have another horrendous problem. The homes in that area go right up to the runway.

Mr. BOND. They do indeed.

Senator STEVENSON. Why shy off of land-use planning? If there had been some foresight in planning in the case of O'Hare all these people wouldn't be suffering. They didn't move in. It was the generation of jet aircraft that moved in on them.

Mr. BOND. I guess the question has two aspects. One, we are for better land-use management. We have been for that for a long time.

Second, I have serious—and other officials have had serious reservations over the years about the Federal Government's getting into what is essentially a local responsibility. I really do have that reservation, and it is based on my work in non-Federal Government in Illinois and elsewhere.

I believe it really is best done at the local levels. Anytime an authority for review or approval, or whatever, is taken from a local authority to the Federal level, people have a tendency to say it is their responsibility. I think that is bad. I think the responsibility for environmental protection and planning and land use should remain at the local level.

Senator STEVENSON. You don't think noise is an environmental affliction?

Mr. BOND. Is it an environmental affliction? I think, indeed, it is.

Senator STEVENSON. Why don't we accept responsibility for it then, if land-use planning like retrofitting is one way of reducing that affliction?

Mr. BOND. We accept separate responsibilities for part of it, that is at the source and through the kind of operating procedures that the FAA has responsibility for. But the question of land-use planning is one that is much larger than just this issue.

It's been debated by the Congress, and so far I believe not accepted in many other contexts as well as in aviation.

They are basically constitutional reservations, Senator.

Senator STEVENSON. Well, I disagree with that. There aren't any constitutional problems. At least this branch of the Congress has passed land-use laws. The Federal Government is very largely responsible for the development and regulation of these airports, responsible for the regulation of the entire air line industry.

It is in very large part responsible for the suffering of these people. When it comes to using all the means at our disposal, including land-use planning the Government shies off; it doesn't accept the responsibility for helping them. I think many local officials would be delighted to get some help, if not overtly, at least privately.

Mr. BOND. I don't think it is right to say we don't help. Our ADAP funds are available for purchase of homes that are in the impacted areas, for example. Los Angeles Airport, to give you an instance, to date has spent almost $170 million in essentially removing people who are in terribly noisy impacted areas. Part of that is federally financed. SEATAC of Seattle is another one.

Senator STEVENSON. That is what we end up doing. It is easier to spend money to alleviate the problem after it is created than to prevent it from arising in the first instance.

Mr. BOND. That is why we feel so strongly about reduction of noise at the source.

Senator STEVENSON. There are more ways of skinning the cat. Let me get to Peoria, and I will wind up.

The Chairman was very good to come to Peoria to assess first-hand the terrible inadequacy of air service in Illinois. He is quite right. The people in Peoria would love to have more service and wouldn't mind suffering a little noise to get it. So would the people of Rockford, which may be a better example. Rockford is an hour away, about an hour from O'Hare. It is a community as large as Peoria and it has a large underutilized airport. The runways are large enough to accommodate 747's.

Why don't we make greater use of satellite airports to take some of the pressures off of an O'Hare, for example?

Couldn't there be some way of channeling freight or some of the long-haul services through airports such as Rockford instead of pushing everything, even military units which are stationed at O'Hare, and the general aviation at O'Hare. Why don't we just try to move some of the aircraft out of a congested airport like O'Hare for the sake of better air service, as well as the people who are suffering around it and take advantage of an airport that is sitting empty in some corner field only an hour away?

Mr. BOND. Well, I am not sure I am right, but I am consistent. I have always supported greater service to Midway and Rockford, both in my incarnation in Illinois and my job here.

The Department of Transportation has come in as an intervenor in the *Midway* case.

Senator STEVENSON. I know.

Mr. BOND. But I think the greatest hope the country can have for this problem is Senator Cannon's regulatory reform bill which will break some of the shackles of the Civil Aeronautics Board, or, at least its older incarnation from the air carriers and also guarantee substitute and better service through the third level operators.

Senator STEVENSON. I hope you will give that proposition some more thought and next time have some more answers.

Mr. BOND. Perhaps you might want to either talk to Chairman Kahn—The FAA stands ready for them to take air carrier service, and so is the airport.

Senator STEVENSON. Regulatory reform, if it works according to all of the expectations of its supporters is probably going to generate more traffic for O'Hare. It will be a great hub, serving regional airports, small airports, including Rockford.

I am suggesting that a satellite airport should be a hub itself for some of that traffic.

Mr. BOND. I certainly agree 100 percent.

Concentration of excess traffic at major hub airports is just a terrible problem.

Senator STEVENSON. Well, we can all agree that it is a terrible problem, Mr. Chairman, but I don't think we can do better than that.

Thank you, sir.

The CHAIRMAN. Senator Stevens.

Senator STEVENS. I am sorry to have come in late. I have looked over your statement. What would you have used the 2 percent for that you are going to graciously give to this retrofit and re-engining program?

Mr. BOND. What would we have used it for?

Senator STEVENS. Yes. Is that the money you wouldn't spend that we told you to spend?

Mr. BOND. It will continue to go into the trust fund.

Senator STEVENS. I thought we made you an offer you couldn't refuse in that ADAP bill, that if you didn't spend the money we asked you to spend, you couldn't spend the other money that you wanted to spend.

Didn't that ratio come out of the conference?

Mr. DOWNEY. Yes, sir, we are spending all the money that we are authorized to spend under the ADAP program, and there still is a surplus of funds, which is why we could give up the 2 percent.

Senator STEVENS. Why don't we spend some more money for facilities. I remember one plane we lost, because we didn't have a DME. Why don't we get some more aviation facilities, air safety facilities, in some of these areas that need them, rather than start reducing the amount that is going into the ADAP program and using this for retrofitting and for re-engining?

Mr. BOND. I think they are separable issues, Senator. We are moving as fast as we can to spend all of our authorizations, ADAP, as well. We will continue to do so.

Senator STEVENS. Why don't we go back to the head tax idea? I originally opposed it. If Chicago wants to face the problem of noise pollution, let them put a head tax on the people that use Chicago. I have been in the Senate 9 years, almost 10 now, and I have never had anyone in my State complain about noise pollution from aircraft.

I have had more people complain about the fact that we don't have enough air service.

As a matter of fact, with Northwest on strike right now, I can hardly get there from here. I completed my 169th trip home the other night and came back, and I had to go out by the way of Portland, and it took me 13 hours to come back, instead of 9.

Now why don't we get to other aviation problems in terms of this money, rather than retrofit?

Mr. BOND. I think we are trying to get to all the problems.

Senator STEVENS. I thought you said that noise and environmental control was a local program. If it is a local problem, why don't you solve it in the places where they have the objections?

Mr. BOND. That is what we are trying to do. Our proposal here will provide great relief in that sort——

Senator STEVENS. Let me focus on my State, which I think I know a little better than the national area.

I note in terms of Alaska Airlines that it has nine noncompliant models in its fleet. Am I to understand that you would guarantee them that you would pay 50 percent of the cost of retrofit?

Mr. BOND. It depends on the aircraft.

Senator STEVENS. They are 727's. How much are you going to pay?

Mr. BOND. We proposed 100 percent. Congressman Anderson's bill is 90 percent assistance level for simple retrofit.

Senator STEVENS. Is that dependent upon the money being there?

Mr. BOND. Always.

Senator STEVENS. Do you want us to pass a bill requiring them to comply by 1983?

Mr. BOND. No; We have already got that rule in.

Senator STEVENS. You already have the rule, and they have to comply by 1983 without regard to where the money comes from?

Mr. BOND. Essentially, that's correct. They will have to meet our regulations by 1983.

Senator STEVENS. Where are you getting the major complaints about noise pollution?

Mr. BOND. Where do we get the major complaints?

Senator STEVENS. I informed the chairman about the fact that the Concorde operated in Fairbanks and Anchorage almost 6 months. We had no complaints about it. Then we got all these complaints down here about landing at New York and Dulles, and suddenly people didn't want the Concorde to come to Alaska. I told them that it had been there for 6 months already and we haven't heard any more about it. I just wonder where the complaints are coming from that require this retrofit. Why can't we wait for the next generation of aircraft and thereby stimulate the production of the next generation of aircraft?

Mr. BOND. We think we can do both. We think we can quiet the present generation of aircraft through the retrofit policy and also through the bills that are before you here. We would also encourage the development of quieter new generation aircraft as well.

Senator STEVENS. What's this going to cost the Nation? What is it going to cost to retrofit these old airplanes and replace these old engines?

Mr. BOND. Retrofit of the JT8D engines, the two and three medium range aircraft, is around $300 million. Those are essentially hush kit costs. Those are pinned down pretty well.

Senator STEVENS. Do you need those if you have approved special departure procedures to reduce noise?

Mr. BOND. We need everything that we can do. We need departure procedures, we need routing, we need hold-'em-high procedures, we need source noise control. Every single tool that the Federal and State and local governments and air carriers can apply to suppress noise should be applied.

Senator STEVENS. Of the procedures that you have outlined, do they have any impact on safety? I am a pilot. I assume we all are. It never makes me feel quite so safe when I hear those jet engines reduce thrust as soon as we get off the ground just because someone on the ground doesn't like the noise. I like that noise when I take off. I want to make sure it gets all the way up there before they reduce the thrust.

Mr. BOND. We are quite confident that there's no negative impact on safety caused by the flight procedures we impose.

Senator STEVENS. You're sure there is no impact on safety with respect to departure procedures?

Mr. BOND. We are very confident of that.

Senator STEVENS. Have you had any complaints about departure procedures?

Mr. BOND. No; not so far as I know. Well, wait a minute. Are you talking about our—I'm not sure what you're addressing.

Senator STEVENS. I'm addressing the departure procedures that are followed by the major airlines as you take off. They reduce power just when they are right off the ground in order to reduce noise. You operate that way until you apparently get out away from the airport. Then suddenly the power goes back on. I always wondered about what the noise does to the farmer 40 miles away. What does noise do to his cows as opposed to the noise absorbed by the people living around the airport.

Have there been any complaints about departure procedures from the point of safety from pilots or anybody else?

Mr. BOND. We feel comfortable in saying still that there is no safety problem.

Senator STEVENS. That is not my question. I asked if you had any complaints.

Mr. BOND. Let me ask Chuck Foster to answer.

Mr. FOSTER. I know of none.

Senator STEVENS. None from the pilots at all about safety?

Mr. FOSTER. No. Not from the procedures being used.

Senator STEVENS. How about fuel consumption. Are current departure procedures more wasteful as far as fuel is concerned? Have you ever analyzed them?

Mr. FOSTER. Yes, sir, we have, Senator, and some of these procedures do require more fuel because the routing of where you fly. For example, out of Washington National, the fact that you're going to New York City, you don't take off and fly direct toward New York City, you go up the Potomac River to the northwest. That takes more time, burns more fuel. We are doing that as a noise abatement procedure.

Out at LA, going east, they fly out from the coast and climb to altitude before they come back over the coast. Those procedures do take more fuel.

Senator STEVENS. Has it ever been analyzed from the point of view of noise control or do they just spread the noise around to others than those who complain around the airport?

Mr. FOSTER. In LA, we found when we changed the procedure, we took the noise from one group and gave to another group.

Senator STEVENS. You never know what you are going to find when you start draining the swamp.

Mr. FOSTER. That's right.

Mr. BOND. Departures out of LA are generally all to the west out over the ocean. Present procedures, which take them further out over the ocean and back over the coast at about 10,000 feet, have a clear noise benefit. That is where the noise now is placed. The same is generally true of departures out of DCA here at National. The noise is placed over the river.

Senator STEVENS. But from the point of view of fuel, there is a clear penalty.

Mr. BOND. I don't know of any health and safety program that has no cost all all associated with it, Senator.

Senator STEVENS. I'm a little worried about this. You have regulations that in effect say that these small carriers have to comply by 1983. As I read your statement, at least half that compliance must be by 1981.

Mr. BOND. Yes, sir, that is in place now.

Senator STEVENS. And there is no tax incentive for that. There is not, as I understand it, an investment tax credit to make that kind of a replacement or retrofit?

Mr. BOND. I don't know. I don't know.

Senator STEVENS. Well, you know I hate to say so, but it sounds to me like having told the FAA that it couldn't invade this fund, as it wanted to do, without making the expenditures we requested before, now we have found another way to dip into the fund. You are also proposing to charge the passengers the extra 2 percent, so you're going to reduce in effect the amount that is available from the fund in order to accomplish some assistance for retrofit. I'm sure the industry needs the assistance. I have some serious questions about the source of the financing.

Why did you happen to pick this way? As a matter of fact, it seems to me I attended a hearing some 2 years ago where the FAA said that this is not our business. The FAA said that we are not going to get involved in this, and industry is going to have to do it. Is my memory wrong about that? Weren't you there, Senator?

Senator STEVENSON. I was there. Yes; there was a hearing if you would yield, but I don't remember that. No; on the contrary, FAA was committed to getting into it. We discussed retrofit versus replacement, and we discussed operating procedure.

Senator STEVENS. I remember the point about financing. Is this the first time the FAA has taken the position in favor of assisting in the financing of the retrofit program?

Mr. BOND. You mean this hearing? No, no.

Senator STEVENS. I mean this hearing.

Mr. BOND. Yes; this is the first proposal for implementing financial aspects. This series of bills that began last summer marks the first time this approach had been brought forward, with Congressman Anderson's hearings being the first one.

Senator STEVENS. The total amount you're taking out of the fund if this bill passes would be how much?

Mr. FOSTER. The total amount of money could be up to as much—we will give specific figures, but depending upon the options exercised as far as how much is retrofit versus how much goes into replacement, if compliance were achieved just by retrofitting and no replacement of aircraft, it would be less than $1 billion. So the figure would go from that up to something of the order of as much as $3.5 billion, depending upon how many air carriers make a decision to replace their aircraft rather than to retrofit.

Senator STEVENS. That will come out of the ADAP trust fund. You're not giving me the total cost, are you? I'm talking about the amount that would come out of the 2 percent.

Mr. FOSTER. This would be money that would not go into the trust fund. Instead of 8 percent now, you would have only 6 percent going into the fund. In essence, that 2 percent would be the amount of money set aside for noise abatement.

Senator STEVENS. In the $1 billion to $4.5 billion range?

Mr. FOSTER. $1 to $3.5 billion.

Senator STEVENS. How much do you have in there now that is in excess of your needs?

Mr. DOWNEY. There is an uncommitted balance in the trust fund of about $2 billion right now. That is over and above authorized program levels. That would be among other things the source of the $1 billion set aside in Senator Cannon——.

Senator STEVENS. Thank you very much, Mr. Chairman. Thank you, gentlemen.

The CHAIRMAN. Regarding title I of the bill, why doesn't the Administration see the cost benefit in providing funds to keep noise problems from spreading to more communities?

You are suggesting, on the one hand, that communities could do a lot to help, yet you oppose title I that would furnish some money for that purpose.

Mr. BOND. We are not opposed to financial assistance on a voluntary basis for planning for noise abatement.

Our problem is with puttng money into land acquisition that is in addition to the money already available in ADAP and enlarging the Federal Government's role into one of approval. I fear greatly that this is the thin end of the very large wedge that will bring the Federal Government once again into homeowners' local decisions. Local government decisions.

The CHAIRMAN. Would you approve the funding levels if we didn't give you the responsiblity of approving the plans at the local level?

Mr. BOND. Let me try that one slowly.

The CHAIRMAN. Would you approve the funding level if we didn't give you the authority to or require you to approve the plans at the local level?

Mr. BOND. For planning or land acquistion?

The CHAIRMAN. For planning and land acquistion both.

Mr. BOND. Well, we are worried about the land acquisition money; we think it is unnecessary, and it is already available through ADAP, and the best way we know of at this point is to meet it by source control from the Federal point of view.

The CHAIRMAN. By your own analysis, there is a backlog of high priority ADAP requests of $673 million with an almost $2 billion surplus in the trust fund supplied by the users to take care of those types of requests. Why should this committee refuse to authorize funds for only half of those priority requests?

Mr. BOND. I think that is a good question, Senator.

I think there is a good answer to it. I think the answer is that that amount of backlog money is in fact less than or about the approximate equal of 1 year's ADAP program. That is to say, on average, a completed request would have to wait a total of 1 year. I believe our program has plenty of money in it, and that it is able promptly to meet legitimate funding requests for airport development. The notion that we have to provide people who have legitimate applications with money on less than 1 year's notice is one that I personally have trouble with.

I don't know our program needs to be that fat. I think that it ought to operate in a slightly lean condition, which is the way all

Government programs ought to operate. I cannot tell you, Senator, how many very good folks have come in to talk to me about ADAP requests out of discretionary funds. When we tell them that "It looks like a good program. Can you wait 6 months or until the beginning of the next fiscal year? We will very likely be able to fund you then," the answer I get back is, "No; I cannot wait 6 months. We have got to have it in 90 days."

I think that kind of easy availability of money is not in the public interest and that we can——

The CHAIRMAN. Why?

Mr. BOND. Because I think we should work on an efficiency basis and try and sort out the projects that are the highest priority and not fund those that are the lowest priority.

The CHAIRMAN. But you have already said that you have a backlog of what you define as a high priority requests amounting to $673 million. That was in your testimony.

Mr. BOND. I am also saying, Senator, that the chances of very prompt funding of those requests are excellent. And we can fund them.

The CHAIRMAN. When people come in to us and complain, can we tell them that if they have a high priority program, that they can depend on getting funding next year?

Mr. BOND. Well, I am sure it depends on the individual grant, Senator, but there are very few high priority programs, really worthy grant applications, that do not get funded. And I think relatively quickly.

One of the dilemmas is, what is really a scheduling problem with us has been translated, Senator, into a fund availability problem. We try and make written commitments to applicants early in the fiscal year period so we lock up our money early. We have worked hard to get to that point in our program. Then an airport sponsor comes in the middle of the period and says, we need money now, and our answer quickly is it's all committed. Wait 6 or 8 months or until the next fiscal year, which won't be too far down the track and we probably can get to you.

There is a difference between having it available immediately and having it not available at all. Our dilemma is only one of immediate delivery of the financial commitment.

I think incidentally, Senator, just to conclude on this, that even if more money were poured into our ADAP program, that we would not eliminate the problem of not being able to fund a request right away. Because we would still try to answer and get all the commitments at the door early in a fiscal period, and we would still have a problem when people come in with legitimate requests, saying, we have to wait until the end of the fiscal year. The scheduling issue will never go away.

The CHAIRMAN. But if we have the money there for that purpose, with the $2 billion surplus now available and those high priority projects, I still don't see why you contend we should refuse to authorize funds for only half of those priority requests. This is paid out of the user's fee, and those fees are accumulating in the trust fund. I know some people would like to get their hands on the trust fund surplus which they will not be able to do other than for the purpose for which it was intended. This brings me to another point.

Does the Administration support the increase of the FAA O. & M. in title II, of $100 million a year?

Mr. BOND. Senator, I can commit the Administration firmly to the support of that position.

The CHAIRMAN. I am glad to find something that you like.

I am sorry Senator Stevens got away, but he raised an interesting point. He said that Alaska Airlines has 9 noncompliant airplanes; 727's, I see by the chart.

Wien has four noncompliant aircraft and there is no noise problems in Alaska. I guess Alaska Airlines flies into SEATAC, and their noise problem is rather minimal. In any event, it isn't something they can't handle with the proper planning. But under your rule, all 13 of these airplanes would have to be retrofitted or replaced, would they not?

Mr. BOND. Yes.

The CHAIRMAN. How much is the retrofit kit going to add to those airplanes, 727's and 737's?

Mr. BOND. About $250,000 apiece for 727's.

The CHAIRMAN. And how much weight?

Mr. BOND. About 500 pounds for three.

The CHAIRMAN. This will cost more fuel as well.

Mr. BOND. It will reduce the thrust a bit and add weight a bit.

The CHAIRMAN. My understanding, then, is that you are requiring those Alaskan air carriers to retrofit to meet a problem that doesn't exist where they operate the airplanes; and retrofit adds weight which means the airlines carry less gross weight and fewer passengers; and it decreases the carriers fuel efficiency; and it will cost them $250,000 per aircraft. Is that a fair summary?

Mr. BOND. Well, the numbers are correct, but I would dissent somewhat from the notion that there is no noise problem in Alaska.

The CHAIRMAN. Have you ever had a complaint from Alaska on aircraft noise?

Mr. BOND. Not only have we had a complaint, we are under a court injunction not to build a new runway at Anchorage airport.

The CHAIRMAN. But that was a completely different problem. At issue there was the construction of a runway at Anchorage. As I recall, the property involved was sold at a lower price because of the fact that an airport runway was being constructed. I am sorry Senator Stevens isn't here, but the main issue there was the property being sold at a lower price simply because the runway was going to go in. Some people went out and built fancy homes and then brought suit to stop the building of the runway. Is that what happened?

Mr. BOND. I know that the lawsuit's basis is an environmental basis. I am not too familiar with all the details of the background of it.

The CHAIRMAN. That kind of a case would have been one where land use planning would have been able to handle the problem very efficiently, wouldn't it?

I see one of your helpers nodding yes.

Mr. BOND. What was it?

The CHAIRMAN. I want to get that nod in the record, too.

Mr. BOND. Well, we encourage the folks to deal in land use problems. We will continue to do so.

We help with money for it, too.

The CHAIRMAN. But you heard Senator Stevens say he didn't get a solitary complaint on noise from Alaska including the flying of the Concorde when it was operating in and out of there for 6 months.

Mr. BOND. Well, I heard Senator Stevenson say that in Peoria, noise is not a concern. I know from my experience in Springfield also that there are many communities where noise is not a problem, but that there are many where it is an acute problem.

The CHAIRMAN. Thank you very much.

Mr. BOND. Thank you, Senator, we appreciate the opportunity to testify.

[The following information was referred to on p. 85:]

INTERNATIONAL ASPECTS OF S. 3279, PROPOSED "AIRCRAFT AND AIRPORT NOISE REDUCTION ACT OF 1978."

The Department of Transportation is concerned about some elements of the proposed legislation as it relates both to United States air carriers engaged in international operations and to foreign air carriers engaged in operations to and from the United States. Accordingly, we are enclosing recommended changes to certain provisions of Title III of the proposed legislation. the intent of these amendments is briefly set forth below.

The definition of "noncomplying" aircraft in section 301 of the bill refers to U.S. registered aircraft and aircraft holding standard U.S. airworthiness certificates. Thus, by definition, aircraft owned by foreign air carriers cannot be considered as "noncomplying" for purposes of the bill. This is of concern because section 303 provides for the Secretary to issue waivers for the operation of two- and three-engine aircraft if contracts are entered into for the purchase of new technology replacement aircraft. However, as the section applies only to "noncomplying" aircraft, it would be inapplicable to aircraft operated by foreign air carriers.

Section 304 authorizes the Secretary, for good cause, to permit aircraft to operate beyond the dates by which they are to be in compliance with Federal noise standards. As this authority relates only to "noncomplying" aircraft, it would not be applicable to foreign air carriers.

We believe that foreign air carriers should be treated comparably to domestic carriers in light of the fact that they will be made eventually subject to noise regulations as contemplated by section 311 of the bill. Accordingly, we propose an amendment to the definition of noncomplying aircraft contained in section 301 of the bill. The thrust of the amendment is to include aircraft operated by foreign air carriers within the definition of noncomplying aircraft. By amending the definition of noncomplying aircraft in this manner, the Secretary would have the authority to provide foreign air carriers the waivers of sections 303 and 304 on the same basis that domestic air carriers can receive them. Also, we are proposing an amendment to section 306(b) to assure that foreign air carriers who "voluntarily" comply with United States noise standards under section 306 of the legislation are eligible to receive the waiver treatment of sections 303 and 304.

We are also recommending that section 304 be amended to delete the phrase "and in accordance with a plan specified in section 91.305(c) of title 14, Code of Federal Regulations." This phrase does not seem necessary to accomplish the intended purpose of the section.

Section 308 authorizes retention by carriers of those noise abatement charges they have collected so long as these funds are used to bring their aircraft fleet into compliance with Federal noise abatement regulations. We are recommending an amendment to clarify that the section is intended to permit the use of funds collected from these noise abatement charges by those domestic and foreign operators who are voluntarily complying with our noise regulations; otherwise it could be argued that these operators would not be entitled to retain the noise abatement charges they collect since their use of these funds would not be to bring their aircraft fleets into "compliance" with Federal noise regulations.

Section 311 of the proposed legislation provides that, absent international agreement on noise standards by January 1, 1980, the Federal Aviation Administration is

to initate (and conclude within 120 days) a rulemaking to require international operators to meet Part 36 or annex 16 noise level standards within five years. The compliance by international operators would have to be on a phased basis similar to that established for domestic operations.

Our proposed changes to section 311 would delete the language requiring phased compliance. We believe it most appropriate to require compliance by a specified date. Further, we would change the time authorized for the rulemaking from 120 days to 180 days to assure that adequate time exists in light of requirements imposed upon us by the National Environmental Policy Act and the Administrative Procedures Act. As a technical amendment, we have clarified that the applicability of the section is to subsonic turbojet powered airplanes.

PROPOSED AMENDMENTS TO TITLE III OF S. 3279

[Note: Additions are printed in italic. Deleted portions are set off by asterisks.]

SEC. 301. For purposes of this title—

(1) the term "noncomplying aircraft" means any civil subsonic turbojet powered aircraft *(A) which (i) has* *with* a maximum cerificated takeoff weight of 75,000 pounds or more*, (ii)* *which (A)(i)* is registered in the United States*, (iii)* *and* has a standard airworthiness certificate issued pursuant to section 603(c) of the Federal Aviation Act of 1958 (49 U.S.C. 1423(c)), *and (iv)* *(ii)* as determined by the Civil Aeronautics Board, is in service on the effective date of this section, and *(B)* *(iii)* *which* does not comply with the noise standards prescribed for *new* subsonic *turbojet powered* aircraft in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR part 36), as such regulations were in effect on January 1, 1977 *;* *, or (B)(i) is registerd in a foreign country, (ii) as determined by the Civil Aeronautics Board, is in service in foreign air commerce on the effective date of this section, and (iii) does not comply with United States noise standards applicable to aircraft operated by foreign air carriers engaged in foreign air commerce.*

SEC. 303. (a) The Secretary shall provide a waiver for the operation of two- or three-engine noncomplying aircraft beyond January 1, 1985, if the operator has entered into a binding contract by January 1, 1983, for the purchase of a replacement aircraft which meets at a minimum, the noise standards for new type certificated aircraft set forth in regulations issued by the Secretary, acting through the Administrator of the Federal Aviation Administration, on March 2, 1978 (F.R., Vol. 43, No. 42, p. 8722 et seq.). *and in accordance with a plan specified in section 91.305(c) of title 14, Code of Federal Regulations.*

SEC. 306. (b) Any foreign air carrier which certifies to the Secretary that with respect to each of its aircraft engaged in operations within the United States it will voluntarily comply with the noise standards which would apply to such aircraft if they were registered in the United States and not engaged in foreign air commerce, as such standards are set forth in the regulations of the Secretary, acting through the Administrator of the Federal Aviation Administration (14 CFR parts 36 and 91), as such regulations were in effect on July 1, 1978. *The provisions of sections 303 and 304 of this title shall be applicable to a foreign air carrier who makes such a certification to the Secretary.*

SEC. 308. As long as the fleet of any operator, *including an operator who pursuant to section 306 has certified to the Secretary it will voluntarily comply with Federal noise abatement regulations,* is not fully in compliance with all applicable Federal noise abatement regulations, the noise abatement charges collected by that operator shall be retained and utilized by it only to bring its aircraft fleet into compliance with all applicable Federal noise abatement regulations.

SEC. 311. If, by January 1, 1980, the International Civil Aviation Organization (ICAO) does not reach an agreement on noise standards and an international schedule for compliance with ICAO Noise Standards (annex 16) or part 36 of title 14, Code of Federal Regulations, the Federal Aviation Administration shall commence a rulemaking to require *all* *subsonic turbojet powered* airplanes operated by international operators in the United States to meet the noise level standards of part 36 or annex 16 *by January 1, 1985.* *during the five year period thereafter at a phased rate of compliance similar to that established for domestic operations.* Such rulemaking shall be concluded within *120* *180* days. The ultimate requirement applied to United States international flag carriers shall not be any more stringent than those applied to foreign air carriers.

The CHAIRMAN. Mr. Paul Ignatius, president and chief executive officer of the Air Transport Association.

STATEMENT OF PAUL R. IGNATIUS, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AIR TRANSPORT ASSOCIATION OF AMERICA; ACCOMPANIED BY J. KENNETH KILCARR, SENIOR VICE PRESIDENT OF FINANCE, PAN AMERICAN WORLD AIRWAYS; DONALD J. LLOYD-JONES, SENIOR VICE PRESIDENT, OPERATIONS, AMERICAN AIRLINES; AND CLIFTON F. VON KANN, SENIOR VICE PRESIDENT, OPERATIONS AND AIRPORTS, AIR TRANSPORT ASSOCIATION

Mr. IGNATIUS. Mr. Chairman, may I proceed?

The CHAIRMAN. You may proceed.

Mr. IGNATIUS. I want to introduce first, if I may, the gentlemen here at the table with me. On my left is Mr. Ken Kilcarr, who is a senior vice president of finance of Pan American. On my right is Gen. Clifton von Kann, senior vice president, operations and airports, of the Air Transport Association; and on his right is Donald Lloyd-Jones, who is senior vice president, operations, for American Airlines.

Mr. Chairman, I have prepared a fairly comprehensive statement which I would request your permission to be made a part of the record in full, but I do not propose to read it all into the record, but rather to refer to it as I comment, and, then, we would want to take whatever questions you want to put to us.

The CHAIRMAN. Fine. Your statement will be made a part of the record, in full.

Mr. IGNATIUS. Thank you, Mr. Chairman. I thought it might be useful at the outset to address the key questions that you raised yesterday in your Aero Club speech, because you said that one of the things you hoped might be accomplished in these hearings was to get some facts on the record, and on the basis of that, reach some final conclusions, recognizing that the thoughts you have now, you described as tentative.

I welcome, very much, the approach that you have taken. So do the airlines, and we hope we can be responsive in the same spirit of inquiry that your remarks suggested.

Those three questions, as I recall them, were: First, what is the need for or wisdom of retrofit of two- and three-engine airplanes? Secondly, why are the airlines so special? Why are we talking about a special program? And thirdly, of the several alternatives that have been talked about, if one is going to have a special program, which one seems to be preferable?

Now, I would like to address each of those quickly. First, with regard to retrofit of two- and three-engine aircraft, I think the best thing for me to do is to read my testimony on behalf of the airlines, given before the House Public Works and Transportation Aviation Subcommittee on March 31, 1977. I said, quote:

> Retrofit is an inherently regressive step, which will do nothing to bring about the benefits of new technology. The airlines have always opposed the retrofit of the smaller two- and three-engine jets, because the reduction in noise would be so slight as to be imperceptible, and money spent for this purpose, which could exceed $400 million, would be wasted.

The CHAIRMAN. I am glad to see that somebody agrees with me on this.

Mr. IGNATIUS [continuing].

> That this is not speculation on our part, was—

And I am still quoting from this testimony—

was persuasively underscored in flight tests at Dulles Airport last year conducted at the request of the Secretary of Transportation by the airlines and the Federal Aviation Administration.

The tests showed that on roughly half the readings taken, the part 36 aircraft, that is, those meeting the Federal noise standards, made more noise than their untreated nonpart 36 counterparts, indicating strongly that wind, weather, weight and pilot techniques have more to do with small differences in noise emissions than placement of sound absorbing materials in the engine nacelles of the aircraft.

Despite this, the Federal regulation includes smaller two- and three-engine jets within its purview, in effect, requiring their retrofit.

The CHAIRMAN. You heard my last exchange with the Administrator. Do you agree with the substance of what I posed to him, that if you were going to require the retrofit by those airlines, you are adding a weight penalty, you are losing in fuel efficiency, and you are having, roughly, a cost of one-quarter of a million dollars per airplane?

Mr. IGNATIUS. That is correct. All of those things are true. And the fuel penalty, of course, stands in marked contrast to the fuel saving if you can replace the airplane.

From a penalty of, perhaps, 1 percent or so of fuel, and it could be more or less than that, you have the opportunity of a fuel savings of 25 or 30 percent.

So there is a very important derivative fuel-saving benefit in replacement versus retrofit, quite apart from the noise reduction.

Well, your second question is, why are the airlines so special and why are we even talking about something like this? I think there are several reasons that can be given here.

First, the problem that arose with the noise bill wasn't with regard to its prospective application. For a number of years, new airplanes have had to be made to comply with the noise rule.

It was when the FAA decided, 15 or 16 months ago, to make a prospective rule retroactive, that the problem began. Because some 1,600 or so of the 2,200 or so airplanes which were bought in good faith in compliance with the standards then in existence and certificated against those standards, were condemned by the rule.

Now, it is my understanding that——

The CHAIRMAN. Let me interrupt you there.

Mr. IGNATIUS. Yes, sir.

The CHAIRMAN. Is that same rule of time for compliance as that which exists for prospective applications that are made for compliance with respect to new aircraft purchases?

Mr. IGNATIUS. There is, of course—the rule was issued December 1976 and became effective on January 24, 1977. So it has been in effect for about 15 months, and the first milestone of a rule starting, roughly, in January of 1977, the first milestone was 1981, which is about a 3- or 4-year period, which permits some replacement.

You can get into an argument, I think, about whether new airplanes on which the keel hasn't yet been laid could be made in that time—let's say, a new Boeing model that they are starting—but you could do some replacement under it.

And, of course, the rule has several other milestones, 1983 and 1985. At any rate, this retroactive application, so far as we know, was quite a different approach. The EPA, for example, considered

the problem of noise of locomotives. And they considered making a noise rule applicable to locomotives, that is to say, those on the road, and decided not to do it.

So far as I know, our situation is quite different. If you take the automotive industry, the question has been raised, "Well, you know if there is some special program for the airlines, won't there have to be something for the automotive industry?"

Well, the clean air standards that have to be met must be met prospectively. That is what we have been doing for years. The automobiles now on the road don't have to meet the standards. Only automobiles now being manufactured have to meet the standards.

All right, continuing with this point, why are we different? I have raised several points that suggest some uniqueness here. I am now going to tell you that I don't think we are all that different in the approach that has been considered, first by President Ford, and then by President Carter; first by Secretary Coleman, then by Secretary Adams; and by two committees of the House, and by you and Senator Pearson, in your bill—as you were addressing another way of doing this.

The House bill initially provided for a surcharge, 2 percentage points, as a substitute for a commensurate reduction in the ticket tax.

That surcharge would be paid by passengers; you and me and the fellow next door, riding the airplane, would pay the surcharge. And if you ship, you paid a waybill surcharge in effect.

The general taxpayer wasn't paying anything. The user, the person using the airline as a passenger or shipper would pay.

All right. This money in the House version of the bill was estimated to bring in, over the life of the program, about $2.4 billion.

The entitlements under the House bill establish so much for retrofit, so much for re-engining, so much for replacement airplanes. These appeared to us to permit the airlines to use about $2.1 of that $2.4 billion in collections.

What wasn't used, the remaining 300 million would revert to the trust fund, or to the Treasury.

Now, when the Ways and Means Committee looked at the bill they said they were more comfortable with an excise tax than a surcharge, but their bill embodies all of the same approaches and entitlements as Chairman Anderson's bill, but the method of collecting the money is somewhat different, and the amount is somewhat different.

We estimate instead of $2.1 billion, it is about $1.9 billion.

The point I am making is that the passengers are going to pay a part of the cost of this program, and the remaining part of it will be paid for by the airlines.

We have estimated that through a combination of retrofit, replacement and re-engining, the program might run perhaps to $7.5 billion.

The exact amount would depend on what each airline chooses to do. But we have used this as a model over some period of time, and it has a certain amount of reasonableness to it.

If that is the right figure, or approximately the right figure, then about $2 billion of this would be paid by the passengers and the

shippers, and the remaining $5 million or $5.5 billion, would be paid through private financing by the airlines.

But ultimately all costs are borne by the users of a system, or the purchaser of a product. So that ultimately the passenger and the shipper would bear the cost of the total program whether it is that first identified portion, roughly $2 billion, from the surcharge or excise tax, or the ultimate $5 billion or so that the airlines would pay and, like any business, would pass on to its user.

I come now to your steelmill or your papermill.

The CHAIRMAN. Let me interrupt you here.

Mr. IGNATIUS. Yes, sir?

The CHAIRMAN. What is the difference, dollarwise, between the effect, if it is a surcharge rather than an excise tax?

Mr. IGNATIUS. The amount was about $2.1 billion under the surcharge approach and about $1.9 billion under the excise tax approach.

But the difference, Senator, was that initially under the House Public Works bill, the airlines would have paid the tax due on those receipts over the life of the asset through elimination of depreciation on that portion of the plane's cost that was paid from the surcharge. They would pay every penny of tax, otherwise due, but they would pay it over the life of the asset.

In the case of the Ways and Means Committee markup, the tax would be paid on the noise abatement credit at the outset and the amount of money available at the outset would be reduced.

All right. I come to your mill now. Papermill, steelmill. If you are a papermill, one of your problems is polluting water, so you have got to buy screening equipment to screen out the effluent from going in the water.

You have air pollution problems, too; and steelmills have that.

What do you do if you run one of those mills? If you have a rule that you have to meet, you buy the screening equipment or you buy the equipment to prevent the pollution of the air. And you charge off the cost of that. What you don't have, let's say, through accelerated amortization that has been provided by lane for this purpose. You charge off on the product you sell, the paper that you sell, or the steel that you sell.

All right. In our case we are doing the same thing, as I just told you. But, because of the nature of this industry, because of the characteristics of this industry and because special provisions have been made for air and water pollution abatement costs but none has yet been provided for noise abatement costs, everybody concluded who looked at this that you needed some kind of a mechanism to make it possible. And that is all we are talking about.

The House bill provides a mechanism so that the user of the system can pay the cost of complying with the noise rule.

So that, to summarize this point, we are different in the sense that this was retroactive; we are similar in the sense that, like any business that has to meet something like this, we are going to meet it through the people who use our services.

But we need a mechanism to make this possible and that is what the bills do.

All right. To come now to your third point. On balance, which is the best approach to follow? First, the Javits bill is similar in many

respects to the House bill. The Javits bill essentially is President Ford's recommendation for this program.

The airlines were delighted that President Ford made this recommendation and that Senator Javits introduced the legislation.

But we saw some problems in the administrative machinery and the way that the program operated under the Javits bill, which we think the extensive hearings in the House have had an opportunity to address, so that, while these two bills take a similar approach, we believe that the House bill has had the benefit of extensive testimony from manufacturers, Government, airlines, a lot of people, and we believe that it is a better approach of that type than is the Javits bill.

I come now to the more pertinent question in your mind, namely, a contrast between the approach you have taken here for exploration, changing the date as it would apply to two- and three-engine aircraft that would be replaced, and, second, substituting a guaranteed loan program for the excise tax program.

First, we have worked through several sets of hearings in the House. We have had I don't know how many meetings. So that there is a certain mind set, I believe, Mr. Chairman, in our minds and among our carriers because we have been working on this for a long time.

We have responded to all kinds of questions. We have given testimony. And we believe that the bill that has been reported out of Ways and Means and out of Public Works and Transportation will do the job.

We think there are one or two areas in it that need to be fixed up, particularly in the international area.

First you have got to do better by the foreign airlines. They are not treated equitably and, if they are not treated equitably, it is simply an invitation for foreign governments to retaliate against U.S. carriers.

We think that needs to be picked up.

Second, the collection period for international carriers is only 5 years now in the House bill. We think it ought to be 10 in order to let them do that job.

With regard to the pros and cons of the approach in the Cannon-Pearson bill, the guaranteed loan, versus the excise tax, the difference as we see it has to do with whether this additional debt, that would be made possible through a somewhat more attractive interest charge, would be in the best interests of the airlines.

Now, to answer the question in an objective or satisfactory way, I have got to say: compared to what?

Compared to the House bill, the difference, as we see these two programs, is that the House bill provides, as I say, around $2 billion through passengers paying these taxes, which would be money the airlines would have.

Under your bill they could borrow money at a more favorable rate. But that loan would become available only after the airline took title to the airplane that it bought.

At that point the loan would take effect.

Now, you know better than most that you buy airplanes with downpayments and progress payments. Prior to taking delivery or taking title, the combined sum of the downpayments and the

progress payments can amount to 25 or 30 percent of the purchase price.

If you are talking about a $20 million airplane, you are talking maybe $6 million.

Under the House approach with the excise tax, you would have money in hand to meet those initial costs which are critical in getting procurement programs started.

Under the guaranteed loan approach you would have a more attractive interest rate available after you took title. The amount of the relative attractiveness might be from a quarter to one-half of 1 percent, the bankers and financial people tell us, to as much as perhaps 1½ points.

This brings me to the second point. This industry has heavy debt today. It will have to incur additional debt, as you have pointed out in interrogation this morning and in your remarks yesterday.

We don't want to take on any more debt than we have to. We know we are going to have to take on more, but wherever we can avoid it, it is in our interest to try to do so.

So that, again, in contrast to the House bill, there would be additional debt required as a substitute for the equity that would be available through the collections. So that on balance, recognizing that there are advantages in the loan approach, we think there are some disadvantages also, and on balance we prefer the excise tax approach.

We urge you to do what I know you will do, to look at it carefully, and we hope after doing that that you will come to the same conclusion we have.

That pretty much summarizes my statement. I have tried to respond to your questions.

We will now take whatever questions you want to put to us here.

The CHAIRMAN. You have said that the capital requirement for the industry for the normal reequipment cycle will be $26 billion by 1985.

We have also heard figures as high as $70 billion for normal replacement of aircraft by 1990, quite apart from any capital requirements to meet FAR 36. Do you agree with the higher figures for 1990, the $70 billion?

Mr. IGNATIUS. Yes, I do. The first study on that was done under the auspices of my colleague, Dr. George James, who is here in the room. He did a study of the capital needs of the airlines from the time of the study which was around 1976 through 1990, and he came up with a figure of about $60 to $65 billion, in that range, Mr. Chairman.

The $26 billion figure is what he would estimate, and others have estimated, would be required between now and 1985.

So my answer is, yes, I agree with the general magnitude of those figures.

The CHAIRMAN. Assuming that the required amount by 1990 will be quite high and that a larger percentage of that need will be externally financed, wouldn't a loan guarantee program of just $20 billion result in little or no change in the carrier's debt-equity ratio by 1990?

Mr. IGNATIUS. I have got two experts here. Mr. Kilcarr is the chief financial officer of Pan Am, and Mr. Lloyd-Jones was the top

financial officer at American before he became chief operations officer. Maybe you would want to address that.

The CHAIRMAN. I think Mr. Kilcarr is having some experience in that field too.

Mr. IGNATIUS. Some fairly recent.

Mr. KILCARR. Senator, in that period of time it woud not change Pan American's debt-equity ratio very greatly. However, it would increase the absolute amount of our debt, if we were to do this program with external financing and no help through the House bill.

It would increase the debt load that we would carry to some $2 billion on an equity base of perhaps $600 to $800 million, assuming that we remain profitable during that period of time.

That requires an overwhelming debt service obligation on our part. It is not only the debt-equity ratio that gives us a problem, it is the absolute amount of the debt which the financial community will look at as well, and our ability to pay back that debt and pay back the interest on that debt at the same time.

It is the combination of those three factors that really, Senator, have us at Pan Am very, very frightened.

The CHAIRMAN. Wouldn't the reduced interest rate generated by the loan guarantee be approximately equivalent to what your up-front money benefit would be.

Mr. KILCARR. No, sir, our calculations would be that it would be, one, somewhat less, and, two, as Mr. Ignatius pointed out, that benefit is extended over a longer period of time, so that we do not get the benefit of the increased equity early in the game, when we need it.

Our problem is the debt load. The solution to it is a contribution towards equity to help us finance the aircraft which have been condemned by the Government.

Mr. LLOYD-JONES. Speaking for American Airlines, I won't go through the numbers, but they are comparable to the numbers Mr. Kilcarr cited and our calculations also indicate that the value of the excise tax approach in terms of providing up-front money and equity to American Airlines, as opposed to guaranteed debts, is substantially greater. So that we also feel that the excise tax approach is substantially preferable and will act further to trigger more quickly a new aircraft program, if, in fact, that stream of funds flowing in is available to commit to a new program with an aircraft manufacturer.

The CHAIRMAN. Rather than provide a 2 percent excise tax for the airlines which is some what special treatment, why not reduce the ticket tax to 6 percent and let you adjust your fares, as you noted that the paper industry must do, in the example that you were talking about?

Mr. IGNATIUS. Mr. Chairman, we have thought about that, because that seems to be the obvious and simple way to do it. But we have concluded that we don't think it would get the job done, and there are several reasons why.

First, there are a number of different types of airlines involved in this program: foreign airlines that don't come under CAB; supplementals; intrastate airlines; and, of course, the freight and cargo

carriers are no longer involved in having their rates set for the most part. They do it themselves.

The second point is that this industry operates on the basis that if carriers are competing head-to-head on a route, one always has to match the lowest fare.

It just always works that way. So we don't believe, given that factor, that this national program to reduce noise which has been imposed on the industry will get done.

Now the excise tax would segregate money for this purpose. And here we feel that it is fully compatible with the fare flexibility that is contained in your deregulation bill and in most of the approaches to deregulation.

That is to say, whatever the fare is, if a carrier chooses on its own to lower the fare 30 percent, the excise tax is an ad valorem tax, so it would be 2 percent of whatever that reduced fare was.

But it would be a dedicated fund and would be used only for noise reduction purposes.

On the fare raising approach, it is possible that some carriers would get a windfall that had nothing to do with noise reduction. so we thought, having gone through this and trying to think it through, and I believe the House Committee, which had extensive testimony on this, concluded that this was the workable way to do it.

The CHAIRMAN. FAA has told us that the cost of compliance would be $3.5 to $4 billion with the maximum replacement of aircraft, and you have estimated it at $7 billion.

How do you account for that discrepancy?

Mr. IGNATIUS. I can account for it easily. First, nobody can give you any assurance—we can't, nobody can—as to just what this program will cost. Because it has three options, retrofit, re-enginging, and replacement.

Until Mr. Lloyd-Jones decides at American and Mr. Kilcarr at Pan American and all the other airlines involved decide whether they are going to retrofit, re-engine, or replace, nobody is going to know what the price of the program is.

So what you do is estimate. What we did at ATA was to look at our fleet, collect some data from the airlines, set a staff to work and maybe an estimate based on certain assumptions that they will retrofit some, they will re-engine some, and they will replace some.

We checked with the airlines to make sure it wasn't wholly unreasonable, that it had some reasonable basis for it, and out of that concluded that a program of about $7.5 billion might represent a way in which the industry might choose to comply, using these three options.

I don't know how Mr. Foster did his. He may have used different factors for the cost of a new airplane—they are getting more expensive.

I used to think of a $25 million airplane. I see 747's are now running closer to $50 than $25 million It may be that there is some lag in his figures. More particularly, he may have assumed more retrofit and less replacement. But you can come up with about any figure, until you know exactly what they are going to do, Mr. Chairman.

The CHAIRMAN. It just depends on the particular model you are using.

Mr. IGNATIUS. Yes, sir, and we think our model is not an unrealistic one. I want to say that. There was some logic in developing it, and we checked it with the airlines.

The CHAIRMAN. At the end of your testimony, you show a chart, which purports to illustrate that the guarantee loan approach would cost the airlines more than the excise tax approach over the life of the program. The premise of the chart is that the carrier involved would be receiving all the funds to which it was theoretically entitled under the House approach. Isn't it true that with a 5-year surcharge program, virtually all carriers will be theoretically entitled to more than they can actually receive since the surcharge collected will be less than the entitlements?

Mr. IGNATIUS. It varies by carrier, but your main point is correct, Mr. Chairman. This chart does assume that the moneys could be used. We have detail on that by carrier based on estimated collections and estimated entitlements. Almost all, not all, but most of them, have entitlements that exceed what they could collect; but the bill limits their entitlements to only what they can collect.

The CHAIRMAN. So it would seem that the true differential between the two bills is somewhat overstated in that chart.

Mr. IGNATIUS. I don't think that the difference is overstated. And there is no attempt in drawing the chart to either understate or overstate the difference. What we took, the member of our staff who did this, took a hypothetical airline.

It happened to have these airplanes. Then he tried to run it out so that we could try to be responsive here on what would be the comparative cost.

We think, Mr. Chairman, that if you took the whole fleet and made this kind of analysis as opposed to this hypothetical airline here, you would come out roughly the same.

We have not made that comparison because there hasn't been time, but the specialist who did this work on our staff tells me that he thinks you would come out pretty much the same, if you went across the full fleet, as in this hypothetical instance.

The CHAIRMAN. Would your opposition to loan guarantees be substantially less if 100 percent of the loan were guaranteed?

Mr. IGNATIUS. I think that would improve, clearly, the value of the guarantee; it would help perhaps in the outset. But I think that I'd need to think that through. These gentlemen ought to comment here because they work with this every day.

Mightn't we still have the problem of the downpayment and the progress payment? The loan program that you envision, as I understand it, would be secured by the aircraft that was purchased, so that the loan program begins when the airline takes title, whereas the airline's costs begin when it places the order.

The House bill helps between that time, from placement of the order until receipt of the aircraft, and the loan approach you have talked about helps in paying for the cost of the aircraft over its life.

So that I think even if you changed it to 100 percent, and I would like to reserve for further comment in the record if I am wrong, it would seem to me, offhand that you would still have that problem. Do you agree, Don?

Mr. LLOYD-JONES. YES.

Again not having had time to fully think through your question, sir, the practical problem that American Airlines faces at this moment in time is, if we are to comply with the 50 percent retirement or compliance level by 1983, and even the 100 percent by 1985, we face equipment decisions of considerable magnitude, really in a matter of months from now in order to make those dates. Boeing is saying that if they receive an order in August or September the earliest deliveries they can make would be in the middle or latter part of 1982. That would give us just a few months before the 50 percent deadline comes into play. If the House bill were to be passed, we would then be certain of an amount of money that could be used, in fact, to fund the downpayment for such an order and some of the progress payments as well. It would put us in a clearer position in terms of doing our equipment planning and, in fact, launching that program.

The CHAIRMAN. In your statement virtually no mention is made of the lack of public benefits which result from retrofit of two- and three-engine aircraft other than your reading from your testimony before the House.

Has the ATA given up the fight in order to obtain the grants that would be available from the House approach?

Mr. IGNATIUS. Well, you know, when the new administration came in, they said they were going to review the decision of the prior administration with regard to this. That review was made, and the new Secretary of Transportation announced that he had reassessed it and concluded that the rule should stand.

We have been at this a long time, Mr. Chairman. And you made a point yesterday that you would like to kind of end the uncertainty and get on with the job. And to some extent that is involved here.

There is one aspect of this Federal role. This came up this morning, but it is terribly important, and I would like just to reemphasize it. You can't operate a national air transportation system with local airports making rules with regard to the airplanes that fly in. I am not talking about local land use planning and all that. That is a great thing, we should have been doing it for years; title I of this bill is a way to get on with it, and I am all for it. By the way, another thing title I of your bill does, as well as the House bill—it directs the Government to finally decide how to measure noise. Everbody's got a different way to measure it. And what title I says in this regard is agree how many inches there are in a foot; and if it is 12, get everybody to have a 12-inch ruler, and that is the way we are going to measure. That is what they are saying. Get a uniform way of measuring it.

All right.

What I want to say here is that if you have local rulemaking with regard to noise at the source, that is, the noise the airplane makes, you can't run a national system. The Federal rule then, in effect, has occupied that field. and that's been a very important thing in terms of all the airports around the country, so that if there were a change in this, in these dates, it would be important that that not be affected.

I won't say we have given up the fight, Mr. Chairman. I have read into the record comments made earlier, but you know we have got to know what the rules are. We don't know what to do.

These gentlemen are faced with decisions.

There is a rule that must be complied with. And we thought on balance that the House bill was a very good way to get on with this job. If it is going to be changed, and if the two- and three-engine airplanes were to be eliminated in some way, that would be fully consistent with what we have said with regard to that. We have never thought that was a worthwhile thing to do.

The CHAIRMAN. If we go the retrofit route, do you think that those dates can be met?

Mr. IGNATIUS. Well, we will have meet the rule, let's put it that way.

The CHAIRMAN. Well, that isn't what I said.

You could meet the rule by not flying the airplanes.

Do you think those dates can be met with the current fleet?

Mr. IGNATIUS. I have no knowledge of a first-hand authoritative source with regard to whether the manufacturers of the kits would have them in sufficient number to meet those dates as set forth in the rule.

I would guess that the uncertainties may be a problem, and I would guess, second, that we may well be into the lead time on some of these things.

But that is a guess and not a factual response.

The CHAIRMAN. In your statement, you didn't say much about the positive benefits of re-engining. Isn't that a desirable alternative for the DC–8's and 707's?

Mr. IGNATIUS. Mr. Chairman, I met with engine manufacturers in connection with this program on one or two occasions. And a very good case can be made with regard, first, to re-engining the DC–8. The airplane has a lot of uses. It has a rather unique use in the air freight field. As you know, Flying Tiger flies a number of these. Flying Tiger believes that there is no replacement airplane on the horizon that would meet the terms and circumstances that are met now by the DC–8. So that here, re-engining, or even retrofitting, might make a lot of sense.

On the 707, retrofit does a little bit of good for you. In fact, on approach, it does quite a lot of good. That is the one place in retrofit where the figures stand out; 707, on approach, is about 12 EPN dB quieter. On sideline and takeoff, it doesn't do much of anything.

Now, having said that, I would guess that the airlines still would not want to retrofit the 707's; with regard to re-engining them, the economic justification for re-engining, which is very expensive, I would think is less attractive for the 707 than it is for the DC–8; but this gentleman operates 100 of the 707's, and let him respond further.

Mr. LLOYD-JONES. Well, we operate 81, I think.

Mr. IGNATIUS. Rounding off.

Mr. LLOYD-JONES. Of that group of aircraft, 41 are the early delivery 707's delivered in—most of them, in the late fifties and very early sixties. There is no practical way to re-engine those

aircraft, because the wing structure in the aircraft is not sufficiently strong to take a new engine.

The other aircraft that I mentioned of the 300 series that are somewhat newer, they could be re-engined. The numbers you are talking about, however, are quite substantial. Re-engining with a Pratt 209 version of the JT 8 is probably somewhere in the neighborhood of $6 million per aircraft. If you went to a true modern technology engine such as the CFM 56, you are probably talking, again today's dollars, $11 to $12 million per unit.

So, there are very substantial dollars involved. You think long and hard before you invest that kind of money into an airplane that has 10 to 15 years on it.

The CHAIRMAN. If we adopt the loan guarantee approach, do you believe that the guaranties should be available for re-engining as well as for replacement?

Mr. IGNATIUS. I would think so, certainly, because if the decision is re-engining, it is a very expensive decision. It is not as expensive as full replacement, but it can run, as Mr. Lloyd-Jones said, into multimillion dollars per plane.

The CHAIRMAN. By the way, our charts show that American Airlines has 87 of the 707's—this is as of January 1, 1977. You sold some?

Mr. LLOYD-JONES. We have disposed of six so far this year; yes, sir.

The CHAIRMAN. Assuming for a moment that FAR 36 had no retroactive provisions, and instead, imposed only standards for newly manufactured aircraft, how many years would it take, under the anticipated normal replacement of aircraft, for the carriers to come into substantial compliance?

Mr. IGNATIUS. Well, it would be a good, long time. Several years ago, we provided, at FAA's request, a runout through 1990. And we have got other runouts through 1985. And we can make those available to you, for the record.

For example, the 1985 data that I have was prepared in November of 1976 on data, as I recall, that was developed in July of that year. So, this is a year or two old. But out of a fleet of, roughly, 2,100 airplanes, about 1,200 of them would not comply by 1985, and the remainder would. So, it was not quite 50–50.

Now, that has improved some. It is closer to a 50–50, but I think the main point I need to make here, Mr. Chairman, is that these earlier estimates were developed at a time when the airlines were pretty pessimistic.

We came off a year in 1975 where the industry lost $100 million. It lost $200 million in 1970. So that you didn't have a very bullish outlook. In the meantime, there has been some additional replacement, and I would guess that the forecasts would now be somewhat more optimistic than they were then. But they will still show, Mr. Chairman, a lot of noncomplying airplanes because of the two- and three-engine airplanes.

There are, roughly, 1,100 of those in the fleet, today, and replacement of all of those is not feasible from a financial standpoint; certainly not in the immediate future. So that I would guess, if you ran this out to 1985 and didn't retrofit, and part 36 remained, you

would still have a lot of noncomplying airplanes, and they would be particularly concentrated in the two- and three-engine category.

The CHAIRMAN. You heard the Administrator give his more pessimistic interpretation of my extension of time as about 7 years. Do you think there is some intermediate period in there in which an extension could be granted for those aircraft that would be beneficial toward updating the fleet rather than wasting a lot of money in retrofit?

Mr. IGNATIUS. I don't know what the magic number is. If 7 years was too long, you know, how about 6, how about 5? I think that the more important question is, is the concept sound? If the concept is sound, and the principle is accepted, then it doesn't seem to me to matter quite so much whether it is 7 years or 5 years.

It ought to be enough time to take account of the practical necessities, but, beyond that, I think that the conceptual aspect is more important. What you are suggesting, in this approach, is that you are really not going to get much benefit through retrofit, so why not permit a carrier to fly the airplane through 1990, if he commits in 1985 to replace it, because, if he does, you not only get real noise reduction, but you get these derivative benefits, fuel savings, jobs, U.S. sales leadership, all these other things. I think it is that concept that is important rather than whether it is 7 years, or 5 years, or 3 years.

Well, General von Kann reminds me again, the point I have already made, that we don't want to step out of the frying pan into the fire in regard to local rulemaking.

The CHAIRMAN. I understand.

Mr. IGNATIUS. This is terribly important if we are going to operate this system for the public. And the FAA rule has been effective in this regard, Mr. Chairman.

The CHAIRMAN. Now, the recent orders that have been placed by a number of the carriers in light of the present profitability situation is more on the optimistic side with respect to improvements in the overall noise picture in the future. Would you say that is a fair statement?

Mr. IGNATIUS. Yes, sir. Yes, sir.

The CHAIRMAN. All right.

Mr. IGNATIUS. Yes. You see we have always said, as an industry, that the noise problem, over time, will correct itself, because the new technology airplanes have produced both quieter airplanes in terms of the volume of sound, and a less annoying sound, because the octave is lower. That is, the high bypass engine produces a lower octave sound, so that it isn't as unpleasant to the ear, and in addition, the volume of the sound is reduced.

Now, we have said this is the way to do it; the problem corrects itself over time. It is a severe problem for people living under the landing path or in the immediate proximity to the airport, but most people aren't affected by it and benefit from the system.

But the Government said, this is going to take so long to do, if we leave it to normal replacement, that we have got to make this retroactive application.

Well, they were right that it was going to take quite a long time, particularly when our finances were so poor. But the solution,

since most of this impacted on the two- and three-engine aircraft, was one that we had real trouble about.

First, we didn't think the retrofit would do very much good, and, second, we had concern that you would raise expectations in the minds of people. You have suddenly got a Government program, we are going to have this retrofit program, and you could get a boomerang effect. You could get people thinking, "My gosh, I was expecting relief; I was told there was going to be this progress." And, in fact, it would not occur.

So, I think that is another thing that has to be kept in mind, with regard to the two- and three-engine retrofit. With regard to the new technology airplanes, I mean, you don't need a test, any one of us can stand at the end of the runway and hear these new airplanes.

They are quieter, and the octave is lower, the character of the noise is less offensive. And the technology of the industry is what we want to harness with regard to the future.

The CHAIRMAN. Well, thank you very much. We appreciate you being here, gentlemen.

[The statements follow:]

STATEMENT OF PAUL R. IGNATIUS, PRESIDENT, AIR TRANSPORT ASSOCIATION OF AMERICA

Mr. Chairman, my name is Paul R. Ignatius, President of the Air Transport Association (ATA), which represents virtually all of the certificated scheduled airlines of the United States. We appreciate the opportunity to express our views on a subject of vital importance to the airlines—both domestic and foreign. The legislation under consideration, when finalized, will make a significant contribution to the national objectives of quieter skies, major fuel savings, jobs in the aerospace industry, increased U.S. exports of aviation products, and maintenance of U.S. leadership in aviation technology.

Today I propose to testify on S. 3064, the Cannon/Pearson bill and S. 747, the Javits bill, and to review the legislation the House has prepared on aircraft noise reduction, which the airlines strongly supported in testimony before the Public Works and Transportation Committee and the Ways and Means Committee. I would like to review the general background leading to the House legislation and the main features of its legislative approach before commenting on the Senate bills.

BACKGROUND

In October 1976, President Ford decided to require that all domestic commercial aircraft meet the then existing Federal noise standards in not more than eight years.[1] The most significant aspect of the decision was its retroactive application to aircraft already in service, purchased in good faith and certificated by the government to conform to the applicable standards. The President at the same time directed the Secretary of Transportation to begin public hearings promptly to consider whether financing arrangements would be necessary to ensure that all U.S. air carriers could meet the noise standard on time.

The Secretary conducted a public hearing on December 1, 1976. Twenty-nine witnesses appeared and two statements were filed by interests not appearing. The witnesses included high level representatives from virtually every interested field of endeavor: The Congress, domestic and foreign airlines, aircraft manufacturers, airport operators, the financial community, consumer advocates and environmental groups, local governments, consultant firms and interested federal agencies. In every case, save one, the witnesses said that special financing arrangements would be necessary. Most witnesses who commented on funding sources favored a surcharge approach. This led the Administration to conclude that special financing arrangements would indeed be necessary and that a noise surcharge should be initiated to generate part of the funds needed to implement the program.

[1] Those standards, published in FAR Part 36, had already been applied to newly certificated aircraft and new purchases of earlier type certificated aircraft, but not to aircraft already in service.

At the same time, there was concern about increasing the cost of air transportation, and thereby adding to inflation. Since the surplus in the Aviation Trust Fund was about $1.5 billion at the time and rising steadily, the Administration recommended reductions of 2 percentage points in the domestic ticket and waybill taxes to compensate for the noise surcharges.[2]

Accordingly, in December 1976, DOT/FAA published a regulation (Subpart E to FAR Part 91) requiring that all domestic commercial jet aircraft meet FAR Part 36 noise standards by January 1, 1985, with intermediate targets in 1981 and 1983. Legislation was sent to the Congress to implement the necessary financing mechanism and accompanying user tax reduction. S. 747, the Javits bill, is the Ford Administration's legislative proposal.

FAR Part 91 and supporting legislative proposals encompassed a more innovative approach to noise reduction. Earlier proposals had been limited to use of sound absorbing materials (SAM) to retrofit the engines. Part 91 and the bills on financing of noise reduction, recognized that retrofit alone would provide only limited noise reduction benefits and that the program should seek to encourage replacement of the older, noisier four-engine aircraft. More importantly, the implementing legislative proposals—S. 747, the Javits bill and H.R. 8729, the Anderson bill—provided financial mechanisms to make replacement possible.

Replacement of non-complying aircraft was seen to have impressive benefits quite apart from noise reduction. New technology airplanes would save large amounts of fuel, create many jobs, and stimulate U.S. aerospace exports. It was estimated that a noise reduction program involving a combination of replacement and retrofit to meet the FAA standards would require capital outlays estimated to be $7.5 billion, in addition to airline industry equipment investments of $26 billion which would be needed by 1985 in any event. The Department of Transportation concluded that "an incremental capital requirement of this magnitude would appear to be clearly beyond the industry's ability to finance, given the other financing burdens it will face in the early 1980's."

ACTION BY CARTER ADMINISTRATION

With the change in Administrations, Secretary of Transportation Brock Adams reviewed the noise program and the legislative proposals supported by his predecessor, Secretary William T. Coleman, and by President Ford. After his review, Secretary Adams reaffirmed the FAA noise rule and supported legislative proposals for a necessary financing mechanism. Subsequently, President Carter, in his State of the Union Message, said on January 19, 1978: "The Administration will again seek passage of legislation to control aircraft noise."

President Carter's fiscal year 1979 Budget Message called for a 2 percentage point reduction in the domestic airline and waybill taxes as part of a program to assure full compliance with Federal aircraft noise abatement regulations. Thus, two consecutive Administrations—one Republican, the other Democratic—have endorsed the FAA rule and supported legislation to make it possible for the airlines to comply.

HOUSE ACTION

H.R. 8729, as reported by the Public Works and Transportation Committee, proposed a system of noise surcharges that would generate about $2 billion which the airlines would be required to apply against noise reduction capital requirements. It was anticipated that these funds would be used mainly for down payments and progress payments to manufacturers to help finance new aircraft procurement. This would still leave the airlines with about $5.5 billion to be raised through private financing for noise reduction in addition to the $26 billion capital needs already mentioned.

The Ways and Means Committee reported H.R. 11986 on April 24, 1978. This bill modified Title III of H.R. 8729 by establishing a system of excise taxes, rather than surcharges, and a structure of tax credits and refunds which would have about the same financial results as the earlier version of Title III.

For U.S. carriers, the financing mechanism contemplated by H.R. 11986 would operate like this:

The following tax reductions would be implemented for a 5 year period: 2 percentage points on domestic tickets; 2 percentage points on domestic waybills; and suspension of the international departure tax.

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[2] For some time, the airlines had been recommending reductions of 3 percentage points in the ticket tax, 2 percentage points in the waybill tax, and $1 in the international departure tax. For further discussion on this subject see pp. 9 through 15.

An excise tax of 2 percent would be imposed upon domestic passenger and cargo revenue, 5 percent on international cargo revenue, and $2 or $10 (depending on amount of ticket) on international passenger revenues. These taxes would be in effect for 5 years.

The excise taxes would be passed through to passengers and shippers.

The carriers would derive tax credits or refunds based on the cost of required noise reduction actions, times the following percentages:

	Percent
4 engine retrofit	50
2 to 3 engine retrofit	90
Replacement engines	[3]75
Replacement aircraft (new noise standards for future certification—"Part 36—Stage 3")	40
Replacement aircraft (present—"Part 36—Stage 2")	25

[3] Limited to 40 percent of the cost of replacing the aircraft with a comparable "Stage 3" aircraft, that is, an aircraft meeting FAA's new noise standards for future certification.

Entitlement for replacement aircraft would be limited to 107 percent of the passenger or cargo capacity of the replaced aircraft.

Only those noise reduction expenditure made after January 24, 1977 (effective date of FAR Part 91) would be taken into account.

Taxes not needed for credits or refunds would be deposited in the Airport and Airway Trust Fund.

While no funding mechanism can ever be perfect or completely equitable to all carriers, the above arrangement has many virtues:

It generates a substantial contribution to the initial cash requirements needed to fund aircraft procurement.

The funds for implementing the financing mechanism come from the users of the system, not the general taxpayer.

The funds collected are dedicated to noise reduction.

Cross subsidies among the carriers are avoided, since no carrier's credits can exceed the excise taxes it collects.

There would be a minimum of federal interference with airline management equipment decisions.

The cost of air transportation is not increased.

It addresses the foreign flag carrier problem (although further adjustment is needed to avoid discrimination against these carriers).

In short, the House mechanism will work. Therefore, the airlines support it.

TAX REDUCTION AND THE TRUST FUND

While reduction of present user taxes has become an important part of the financing mechanism, it is an issue which predated the noise reduction rule and stands on its own feet—regardless of noise reduction requirements. Since the effect of tax reduction on the Trust Fund has raised a number of questions, I would like to take a few minutes to review this important subject.

For nearly three years—and long before the noise reduction rule—the airlines have been urging a reduction in the domestic ticket and waybill taxes and in the international departure tax. This was due to the growing surplus in the Airport and Airway Trust Fund. From its inception in fiscal year 1971 until the present, the operation of the Trust Fund has brought about substantial imbalances in income and appropriations, with a resulting surplus at end fiscal year 1978 of nearly $2.0 billion. If the present program remains where it is and if present user taxes are left where they are, the excess is expected to be $7.4 billion at end fiscal year 1985, as indicated in Table I below:

TABLE I—TRUST FUND STATUS: 8 PERCENT TICKET TAX; 5 PERCENT WAYBILL TAX; $3 INTERNATIONAL TAX

[In millions of dollars]

	Fiscal year—								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Trust fund income	1,190.9	1,287.2	1,412.2	1,527.4	1,640.3	1,754.2	1,865.4	1,975.8	2,076.7
Prior year surplus	1,364.6	1,651.5	1,975.5	2,384.1	2,868.3	3,487.5	4,249.8	5,158.1	6,218.2
Total	2,555.5	2,938.7	3,387.7	3,911.5	4,508.3	5,241.7	6,115.2	7,133.9	8,294.9
Less: Annual appropriation	1,084.0	1,165.0	1,225.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0
Balance	1,471.5	1,773.7	2,162.7	2,626.5	3,223.3	3,956.7	4,830.2	5,848.9	7,009.9
Plus earned interest	[1] 180.0	201.8	221.4	241.8	264.2	293.1	327.9	369.3	416.8
Surplus	1,651.5	1,975.5	2,384.1	2,868.3	3,487.5	4,249.8	5,158.1	6,218.2	7,426.7
Appropriations:									
ADAP	545.0	540.0	575.0	610.0	610.0	610.0	610.0	610.0	610.0
F. & E.	200.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
R. & D	74.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
Maintenance	250.0	275.0	300.0	325.0	325.0	325.0	325.0	325.0	325.0
Planning	15.0	15.0	15.0	15.0	15.0	15.0 .0	15.0	15.0	15.0
Total	1,084.0	1,165.0	1,225.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0

[1] Actual interest.

Notes.—1. Interest computed at 6 percent on computed cash balances. 2. Appropriations are those contained in present law. Fiscal year 1980 level extended through fiscal year 1985. 3. M&O appropriation held at $325 million beyond fiscal year 1980. 4. Annual appropriations assumed expended 40 percent 1st year, 30 percent 2d year and 10 percent next 3 years.

If the user tax reductions recommended by President Carter are enacted, and the program is not othewise changed, the Trust Fund surplus by 1985 would amount to a very substantial $4 billion, as indicated in Table II below:

TABLE II—TRUST FUND STATUS: 6 PERCENT TICKET TAX; 3 PERCENT WAYBILL TAX; $3 INTERNATIONAL TAX

[In millions of dollars]

	Fiscal year—								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Trust fund income	1,190.9	1,287.2	1,089.0	1,177.8	1,263.9	1,352.2	1,437.4	1,522.0	1,598.8
Prior year surplus	1,364.6	1,651.5	2,011.5	2,079.2	2,175.4	2,358.2	2,634.6	3,005.7	3,475.7
Total	2,555.5	2,938.7	3,100.5	3,257.0	3,439.3	3,710.4	4,072.0	4,527.7	5,074.5
Less: Annual appropriation	1,084.0	1,130.0	1,225.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0
Balance	1,471.5	1,808.7	1,875.5	1,972.0	2,154.3	2,425.4	2,787.0	3,242.7	3,789.5
Plus earned interest	180.0	202.8	203.7	203.4	203.9	209.2	218.7	233.0	251.8
Surplus	1,651.5	2,011.5	2,079.2	2,175.4	2,358.2	2,634.6	3,005.7	3,475.7	4,041.3
Appropriations:									
ADAP	545.0	540.0	575.0	610.0	610.0	610.0	610.0	610.0	610.0
F. & E.	200.0	215.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
R. & D	74.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
M. & O	250.0	275.0	300.0	325.0	325.0	325.0	325.0	325.0	325.0
Planning	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total	1,084.0	1,130.0	1,225.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0

Notes.—1. Fiscal year 1977 income is actual from Treasury Report. Fiscal year 1978–85 are FAA Dec. 12, 1977 estimates adjusted for tax decreases beginning fiscal year 1979. 2. Interest computed at 6 percent on computed cash balances. Appropriations assumed expended 40 percent 1st year, 30 percent 2d year and 10 percent for next 3 years. 3. Appropriations held at current levels fiscal year 1981–85.

However, Titles I and II of H.R. 8729 (also embodied in S. 3064) would make further demands on the Trust Fund. Title I would authorize an additional $15 million in fiscal year 1979 Trust Fund appropriations for noise compatible land use planning, and an additional $150 million in fiscal year 1979 for local noise compati-

ble land use programs. In fiscal year 1980, the appropriations for these programs would be increased up to $250 million. Title II would authorize an increase in Airport Development Aid Program (ADAP) appropriations from $495 million to $720 million for airports served by air carriers, and from $80 million to $115 million for general aviation airports in fiscal year 1979. For fiscal year 1980, these increases would be from $525 million to $793 million for air carrier airports and from $80 million to $127 million for general aviation airports. Without these increases, investment in airports would more than double from fiscal year 1971 to fiscal year 1980 ($295 million to $625 million). With these increases, the investment would quadruple over the same period from $295 million to $1.185 billion).

It is noted that S. 3064 also increases the Trust Fund contribution to FAA M&O by $100 million per year in fiscal year 1979 and fiscal year 1980. Since this matter will be discussed before the responsible committees of the Congress in coming hearings on extending and revising the Airport and Airway Development Act, we recommend that this item be reserved for those hearings and that it be dropped from consideration in connection with this noise legislation.

Table III below shows the effect on the Trust Fund of the recommended tax reduction with the authorization levels contained in H.R. 8729. The substantially higher levels for fiscal year 1979 and fiscal year 1980 are included. Thereafter, currently authorized levels are used, since H.R. 8729 does not address funding beyond fiscal year 1980. On this basis, the surplus in the Trust Fund at end fiscal year 1985 would be $2.75 billion.

TABLE III—TRUST FUND STATUS: 6 PERCENT TICKET TAX; 3 PERCENT WAYBILL TAX; $3 INTERNATIONAL TAX

[In millions of dollars]

	Fiscal year—								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Trust fund income	1,190.9	1,287.2	1,089.0	1,177.8	1,263.9	1,352.2	1,437.4	1,522.0	1,598.8
Prior year surplus	1,364.6	1,651.5	2,011.4	1,643.7	1,148.4	1,287.0	1,513.3	1,828.4	2,239.0
Total	2,555.5	2,938.7	3,100.4	2,821.5	2,412.3	2,639.2	2,950.7	3,350.4	3,837.8
Less: Annual appropriation	1,084.0	1,130.0	1,650.0	1,845.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0
Balance	1,471.5	1,808.7	1,450.4	976.5	1,127.3	1,354.2	1,665.7	2,065.4	2,552,8
Plus earned interest	180.0	202.7	193.3	171.9	159.7	159.1	162.7	173.6	192.4
Surplus	1,651.5	2,011.4	1,643.7	1,148.4	1,287.0	1,513.3	1,828.4	2,239.0	2,745.2
Appropriations:									
ADAP	545.0	540.0	835.0	920.0	610.0	610.0	610.0	160.0	160.0
F. & E.	200.0	215.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
R. & D	74.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
M. & O	250.0	275.0	300.0	325.0	325.0	325.0	325.0	325.0	325.0
Planning	15.0	15.0	30.0	15.0	15.0	15.0	15.0	15.0	15.0
Noise		150.0	250.0						
Total	1,084.0	1,130.0	1,650.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0	1,285.0

Notes.—1. Appropriation levels include H.R. 8729 in fiscal year 1979–80. Current levels maintained in fiscal year 1981–85. 2. Interest computed at 6 percent on computed annual cash balances. Appropriations assumed expended 40 percent 1st year, 30 percent 2d year and 10 percent each of next 3 years. 3. Income estimates are based on FAA projection of Dec. 12, 1977 adjusted for tax reductions beginning fiscal year 1979.

As we have noted, the authorization for the Airport and Airway Program extends only through fiscal year 1980, and the responsible committees of the Congress intend to schedule hearings with respect to the matter. It is possible that after the Congressional review, funding levels higher than those currently authorized may be thought necessary. For example, in January 1978, the hearings of Chairman Gibbons' Oversight Subcommittee of the Ways and Means Committee indicated deficiencies in the level of FAA Facilities and Equipment (F&E) expenditures. An annual level of perhaps $275–$300 million, compared to the present authorized level of $250 million could certainly be justified. Moreover, the upward trend of ADAP funding established by the Amendments of 1976 may well have to continue.

Taking these factors into account, Table IV below illustrates how the substantially higher levels for fiscal year 1979 and fiscal year 1980, contained in H.R. 8729, together with rising levels of ADAP and F&E funding, could be accomplished at the

same time that taxes were reduced—by the 2 percentage point ticket and waybill tax reduction recommended by President Carter plus the $1 international departure tax reduction. As shown below, there would still be a surplus of $1.7 billion in the Trust Fund by end fiscal year 1985.

TABLE IV—TRUST FUND STATUS (H.R. 8729): 6 PERCENT TICKET TAX; 3 PERCENT WAYBILL TAX; $2. INTERNATIONAL TAX

[In millions of dollars]

	Fiscal year—								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Trust fund income	1,190.9	1,287.2	1,067.7	1,155.6	1,240.6	1,327.3	1,410.8	1,494.1	1,569.4
Prior year surplus	1,364.6	1,651.5	2,016.5	1,600.8	1,054.2	1,096.3	1,178.5	1,300.1	1,466.0
Total	2,555.5	2,938.7	3,084.2	2,756.4	2,294.8	2,423.6	2,589.3	2,794.2	3,035.4
Less: Annual appropriation	1,084.0	1,125.0	1,675.0	1,870.0	1,350.0	1,390.0	1,430.0	1,470.0	1,510.0
Balance	1,471.5	1,813.7	1,409.2	886.4	944.8	1,033.6	1,159.3	1,324.2	1,525.4
Plus earned interest	180.0	202.8	191.6	167.8	151.5	144.9	140.8	141.8	148.3
Surplus	1,651.5	2,016.5	1,600.8	1,054.2	1,096.3	1,178.5	1,300.1	1,466.0	1,673.7
Appropriations:									
ADAP	545.0	540.0	835.0	920.0	645.0	680.0	715.0	750.0	785.0
F. & E.	200.0	215.0	275.0	275.0	280.0	285.0	290.0	295.0	300.0
R. & D	74.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
M. & O	250.0	275.0	300.0	325.0	325.0	325.0	325.0	325.0	325.0
Planning	15.0	10.0	30.0	15.0	15.0	15.0	15.0	15.0	15.0
Noise			150.0	250.0					
Total	1,084.0	1,125.0	1,675.0	1,870.0	1,350.0	1,390.0	1,430.0	1,470.0	1,510.0

Notes.—1. Appropriation levels include H.R. 8729 in fiscal year 1979–80. ADAP increased 35 million per fiscal year 1981–85. F. & E. increased to $275 million in fiscal year 1979–80 an increased $5 million annually through fiscal year 1985. 2. Interest computed at 6 percent on computed cash balances. Expenditure of annual appropriations assumed to occur 40 percent 1st year, 30 percent 2d year, 10 percent next 3 years. 3. Income estimates are based on FAA projections dated Dec. 12, 1977 adjusted for tax reductions beginning fiscal year 1979.

Since the present user taxes are higher than they need to be to support an adequate airport and airway program, they should be reduced in fairness to millions of airline passengers and shippers. Such reductions would be in keeping with the desire of the Administration and the Congress to reduce the cost of living for individuals and the cost of doing business for industry. We urge this Committee to support the reductions in the present user taxes, as recommended by both Presidents Ford and Carter and embodied in legislative proposals already reported favorably by two Committees of the house.

S. 747—THE JAVITS BILL

Let me now shift to consideration of the Senate bills, starting with S. 747, the Javits bill because it is closer to the House approach. S. 747 was introduced in January 1977, based on a proposal submitted by the Ford Administration during its last days, as noted earlier in this statement. Its main features:

Mandates ticket and waybill tax reductions of 2 percentage points, with reversion to pre-1970 levels for all user taxes after June 30, 1980.

Directs and empowers CAB to establish a 2 percent noise reduction surcharge on domestic tickets and waybills for up to 10 years.

Empowers CAB to establish a method of distributing revenues to carriers for purchase of replacement aircraft, including appointment of a Trustee.

Establishes the following limitations on distribution of funds: Not more than one-third of the cost of complying replacement aircraft, less sale value of aircraft being replaced; and Funds not to be disbursed for aggregate capacity of new aircraft in excess of aggregate capacity of aircraft replaced.

Includes intrastate as well as interstate air carriers.

Authorizes Secretary of Transportation to make up to $300 million in grants from the Aviation Trust Fund for retrofit of 2–3 engine aircraft, retrofit of about 50 B–747's, and retrofit of about 75 stretched DC–8's.

Unused revenues to be placed in the Aviation Trust Fund. While the airlines welcomed the legislative initiative of the Ford Administration and its introduction by Senator Javits as S. 747, there were a number of specific features of the bill that

caused difficulty. The replacement aircraft fund and the use of the Aviation Trust Fund for retrofit grants involved cross-subsidies, which most of the airlines strongly opposed. The mechanisms in the bill also entail major participation in airline equipment decisions by the government, another feature the airlines opposed. Finally, the problem of noise generated by foreign flag carriers was not addressed.

The lengthy hearings in the House addressed many of these concerns, and as a result of the hearings changes were adopted in the House legislative proposals that produced a workable program with the following three exceptions:

H.R. 8729 comtemplated a five year collection period for domestic carriers and ten years for international carriers. This was because several of the U.S. international carriers would not collect sufficient revenues in five years to provide adequate assistance toward meeting their noise reduction costs. When the Ways and Means Committee modified Title III, the collection period was changed to 5 years for all carriers. This change would have the effect of reducing international carrier surcharge or excise tax collections from about $840 million to about $365 million. As a result more dependence would have to be placed on retrofitting current aircraft—the least cost/effective approach.

The House bill properly seeks to encourage replacement, rather than retrofit, of the older, noisier four engine fleet. For all-cargo carriers with stretch DC–8's, however, this presents a problem because there is no new technology aircraft on the drawing boards which could replace this very useful and efficient airplane, and no suitable replacement aircraft is expected before 1990.

The House bill recognizes that the noise of foreign airline aircraft at our gateway airports cannot be ignored and establishes financial machinery to include these aircraft in the program. However, the machinery is imperfect in that it provides month to month credits and refunds for domestic but not foreign carriers; it could also have the effect of forcing the foreign carriers to make sizable additional contributions to the U.S. Airport and Airway Trust Find, which is dedicated almost entirely to domestic facilities. We are concerned that unless these inequities are removed, our own flag carriers will surely be subjected to retaliatory measures overseas.

We are hopeful that in the course of the legislative process it will be possible to resolve these problems. However, we wish to emphasize that the House approach is workable and is strongly supported not only by the airlines, but also by aircraft manufacturers and unions representing their employee groups.

Let me now turn to S. 3064.

S. 3064—THE CANNON/PEARSON BILL

1. Basic approach

S. 3064 is based upon a different approach than that of the Javits bill or the House legislative proposals. It differs principally in two ways:

First, the intent is to eliminate the necessity of retrofitting virtually all of the 2 to 3 engine aircraft by moving the compliance deadline to 1990 for airlines which commit prior to January 1, 1985 to replace these aircraft.

Second, S. 3064 would provide a government-guaranteed loan program of up to $20 billion as a substitute for the ticket tax reduction and the compensating noise excise tax addition of the House approach. S. 3064 would leave the present 8 percent domestic ticket tax and associated user taxes where they are, and earmark $1 billion of the Airport and Airway Trust Fund to "guarantee" the proposed $20 billion loan program. The large Trust Fund surplus would continue to grow.

These main features of the bill have important implications which are addressed individually in the next two sections.

2. Aircraft noise retrofit

The airlines have traditionally opposed the retrofit of non-complying 2 to 3 engine aircraft, no matter how its cost is financed, because it would not produce any meaningful relief. The FAA, the Department of Transportation, the Environmental Protection Agency, the airport operators and many community groups strongly disagree. More important, the FAA rule, under which retrofit was the only feasible option for bringing most of the 2 to 3 engine fleet into compliance, has been reaffirmed by the Secretary of Transportation, Brock Adams. Faced with this mandate, the airlines reluctantly accepted the retrofit approach as the only feasible option for most of the 2 to 3 engine fleet and supported the House legislation because it provided a financial mechanism for carrying it out.

Retrofit of 4-engine aircraft is a somewhat different matter. First, there is a handful of B–747 aircraft (less than 50) that actually benefit in some ways from the retrofit, so that bringing them into compliance with the noise standards through

this approach is something the airlines support. Then there are a few (about 20) stretch DC–8's, mentioned earlier that just cannot be replaced in time available because new technology aircraft of the right capabilities will not be available.

With regard to the 4-engine B–707's, and standard DC–8's, retrofit is of some noise reduction value—most particularly for the B–707 on approach—but this value is far overshadowed by the overwhelming advantages of replacement.

3. The loan guarantee program

A loan guarantee program along the lines contemplated by S. 3064 offers certain immediate advantages to a number of airlines:

First, it could reduce interest rates from about one-fourth to one and one-half percentage points, based on information we have received from members of the financial community.

Second, it might help some airlines to obtain a loan when they might otherwise have difficulty doing so.

Third, a large loan program of this kind might make replacement of many 2 to 3 engine aircraft a more viable option.

But there appear to be many disadvantages to the loan guarantee approach for dealing with the noise reduction problem:

First, the airlines are already burdened by heavy indebtedness. Thus, even if loans were available at somewhat more favorable interest rates, the airlines would be reluctant to incur more debt than absolutely necessary.

Substitution of guaranteed loans for the excise tax approach in the House bills would deny the airlines approximately $2 billion of initial money necessary to make down payments and progress payments on aircraft orders. This amount would have to be made up buy additional loans, adding to an already heavy debt burden.

The guaranteed loan approach would cost the airlines more than the excise tax approach over the life of the program as illustrated by the example in Exhibit 1 to this statement. Moreover, the first year cash costs would be higher

Slippage of the compliance date to 1990 may be unacceptable to airport operators, environmental and community groups, the FAA, the DOT, and the EPA. Thus, the entire legislative effort for coping with the FAA noise rules could be placed in jeopardy.

The extension of the compliance date to 1990 and the availability of a $20 billion guaranteed loan program would make it extremely difficult to differentiate between aircraft acquired to meet the demands of the noise rule as opposed to aircraft acquired for normal replacement. The legislative effort to date has been questioned by some of its critics for this reason, but it has been possible to give reasonably good assurance on this point because the House approach has been tied to the compliance dates of the noise rule, and the credits provided in the legislation have been explicitly related to noise reduction actions.

On balance, looking at the advantages and disadvantages of the guaranteed loan proposal, the airlines have concluded that a program along the lines of that contemplated by the House is the better approach. We very much apperciate your effort to come forward with alternative approaches, and your willingness to explore all options, and hope you will conclude that the excise tax approach is the preferable course of action.

This completes my statement. I will be happy to answer your questions.

EXHIBIT I.—ILLUSTRATIVE COMPARISON OF COSTS OF COMPLIANCE WITH NOISE RULE

[In millions of dollars]

	House bill		
	Retrofit B727–100	Replace B727–100	S. 3064
Assumed compliance actions:			
Replace 10 B707's with 7 wide-bodied aircraft	238	238	238
Retrofit 25 B727–100's	9		
Or alternately—			
Replace 25 B727–100's with 21 B727–200's		315	315
Retrofit 4 B747's	2	2	2
Total cost	249	555	555
House bill credits	78	121	
Net cost	171	434	555
Financing costs:			
$171 at 10 percent for 16 yr	179		
$434 at 10 percent for 16 yr		454	
90 percent of $555 at 9 percent for 16 yr			461
Total carrier cost	350	888	1,016
1st yr cash cost:			
Internal financing			[1] 56
Payment of principal and interest	22	55	60
Total 1st yr cash cost	22	55	116

[1] Minimum down payment required since S. 3064 limits loan guarantee to 90 percent of acquisition costs.

STATEMENT OF J. KENNETH KILCARR, SENIOR VICE PRESIDENT OF FINANCE, PAN AMERICAN AIRWAYS, ON BEHALF OF JAMES H. MALOON, EXECUTIVE VICE PRESIDENT-FINANCE AND DEVELOPMENT

Mr. Chairman and members of the committee, my name is J. Kenneth Kilcarr and I sponsor the testimony of Mr. James H. Maloon, Executive Vice President-Finance and Development of Pan American World Airways.

We in Pan Am appreciate the opportunity to appear before the Committee to discuss methods of financing replacements of airplanes to be condemned by the noise regulation adopted some time ago. The effect of that regulation was to give airlines notice that a vast number of aircraft now in the U.S. transport fleet, costing billions of dollars, cannot be operated after January 1, 1985. While opportunities are provided to retrofit or re-engine some of these aircraft, Pan Am has never regarded these alternatives as economically feasible. We, therefore, have had to comtemplate the disposition of a large portion of our fleet and the replacement of that capacity with aircraft which meet the newly required noise standards. The House bills which are now pending on the floor of the House and the Senate bill just introduced by the Chairman, provide for financial help to the carriers. The house committees recommended a system of taxes on airline customers the proceeds of which would provide down payments for new aircraft. The Senate bill would authorize guaranteed loans.

We support the House bills with an amendment for the reasons that follow.

As of January 24, 1977, which is the cut-off period prescribed in the House bill, we still had 57 active 707's and 13 727's. We will move as rapidly as we can to dispose of these airplanes, not only to avoid utilization of noisy aircraft, but to take advantage of a resale market which can only deteriorate with time as more and more "noisy" aircraft are dumped on the market. But that will eliminate from our fleet some seven thousand seats and over 500 tons of cargo capacity. Obviously, this capacity must be replaced. Based upon our present plans, between January 24, 1977 and 1985, we will have to acquire 35 wide-bodied replacement airplanes, which will cost at least one billion six hundred million dollars. some of these aircraft are on firm orders and some are on option, and some have not yet been ordered. It has not been feasible, in view of the financial problems, to make firm arrangements for the rest. In some fachion, we must finance all these purchases. We now have long-term debt outstanding of almost $800 million and our annual interest expense is $59 million. These figures exclude long-term obligations of $335,424,000 under capitalized leases on which the interest element was $33 million in 1977. the equipment

that we have managed to buy in the past few years has been financed at interest rates of between 10½ percent and 11½ percent. If it were necessary and possible to finance this equipment program wholly through the use of debt, we would enter the mid-1980's with a long-term debt of almost $2 billion on an equity base of about $600–$800 million. These facts outline the problem that Pan Am faces in disposing of its condemned aircraft and still meeting public requirements in the superior fashion necessary for the Company to meet the increasing level of U.S.-flag and foreign competition which our Government is now seeking to encourage.

It is for these reasons that Pan Am strongly supports the House bills. They provide the method by which we can acquire some of the equity which is essential to support the large amounts of debt which we must incur. These bills also permit us to acquire this equity not from the general taxpayers or the U.S. government, but from the users of our service. If we can acquire the equity in this fashion, we are confident that we can secure the remaining financing required.

In order to accomplish this result, we need a ten-year program of taxation and credit. While the Public Works Committee of the House and the Chairman of its Aviation Subcommittee endorsed such a ten-year program, the House Ways and Means committee, which also considered the legislation, reduced the program from ten years to five. They did this for reasons which are not wholly clear to us. However, when they did it, they inadvertently denied Pan Am the same relative assistance in the replacement of its 707 fleet. A ten-year program is required in the international field in order to produce the same result for us that a five-year program will produce for those U.S. carriers which are predominantly domestic.

While the Committee is familiar with the proposals agreed upon by the House Committee for the utilization of the tax funds, I will repeat them briefly in order to make our point.

A carrier is entitled to replace the capacity of its condemned airplanes plus 7 percent of that capacity. It is entitled to utilize the tax credits to pay 25 percent of the cost of the replacement airplanes if they are based upon current technology and 40 percent of the cost of the airplanes if the noise reduction is even greater. Even this formula and the ten-year program result in a heavy load of debt and provide financial support for only 52 percent of the capacity that was condemned. When the tax program was cut to five years, our anticipated tax receipts were cut by 55 percent and would support the replacement of only 24 percent of our non-complying capacity. The Treasury has said that although it is not fundamentally opposed to a ten-year program, it would like to review the matter at the end of five years. While such caution on their part is understandable, we cannot acquire and finance $50 million airplanes on this basis. The great virtue of the original Public Works Committee proposal was in providing carriers a firm basis on which to plan for replacement and in providing the financial community with assurance that some of the funds to repay loans would be forthcoming from the flow of these excise tax credits. To break the program into two elements eliminates one of the essential characteristics.

In addition, Pan Am may be placed in a most difficult competitive position. As the Committee knows, Pan Am must meet the competition not only of many foreign-flag carriers, but also of a large number of domestic carriers which have been authorized to extend their services into the international field. Our competitive situation is bad enough since we have little domestic feed and the domestic carriers operating internationally have a great deal. If this legislation is adopted with a five-year term, that competitive disadvantage will be increased by providing the domestic carriers with relatively more equity for fleet improvement than is available to Pan Am.

Obviously, from what has been said, we must conclude that Senate bill S. 3064 does not meet the problems which have been created by the noise regulation and the resulting necessity for fleet replacement. The increase of long-term debt, the increase in debt service, and the unfavorable debt-equity ratios are the problems and guaranteed loans cannot solve them. Guaranteed or not, a debt must appear on the balance sheet as a reflection of the carriers financial condition and debt service must be paid. In addition, the financial community will not be quick to come forward with billions of dollars in loans, even if guaranteed by the Government, in the absence of increases in the airlines' equity nor will they reduce interest rates substantially for the privilege of financing airlines when there are other industries of greater financial soundness to which the financial community can loan its money.

The CHAIRMAN. The next witness, Mr. Robert Ginther, president of the Association of Local Transport Airlines.

STATEMENT OF ROBERT E. GINTHER, PRESIDENT, ASSOCIATION OF LOCAL TRANSPORT AIRLINES, WASHINGTON, D.C.

Mr. GINTHER. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Ginther, it's a pleasure to have you here this morning sitting out on that side of the desk representing the local services airlines.

Before we have your statement on the noise legislation that is under consideration, I wonder if you would want to, in view of your term in the Senate, if you would want to comment on the revolving door policy.

Mr. GINTHER. Commenting on the revolving door policy, I remember a statement Senator Magnuson once made when he was asked about the seniority system in the Senate. He said, "I didn't like it much when I got here, but the longer I'm here, the better I like it."

The CHAIRMAN. All right, your statement will be made a part of the record in full. If you would just highlight from it, as I will have to leave here in 22 minutes to make a commitment at the White House.

Mr. GINTHER. Mr. Chairman, I will be glad to summarize as I go along.

It's a pleasure and somewhat curious feeling to be sitting across the table from the committee that I have served for many years. I'm delighted to be here representing the local services airlines who have some unique problems in the area of FAR 36 and the current Government program.

The locals, like the trunk airlines, strongly support the noise control bills which have recently been marked by the House Public Works and House Ways and Means Committees. In order to comply with FAR 36 as presently written, we seriously need a funding mechanism to help us generate cash, and I emphasize cash, to meet part of this need.

Of the three major proposals before you, only the Anderson-Corman bills provide a funding mechanism which generates substantial case or front-end money to meet this requirement. In addition, the legislation has a feature which avoids cross-subsidies among the airlines to which Mr. Ignatius alluded earlier.

Mr. Chairman, we also strongly support the provisions in your bill which would stretch out until 1990 rather than 1985 the period for compliance with part 36 for the two- and three-engine jets.

This is a practical approach where FAR 36 is not. It places further emphasis on replacement rather than retrofit.

We feel retrofit is a complete waste of time and money and share the view that you have expressed on occasion that the public will not perceive much benefit from a retrofit program.

We strongly urge the committee to combine that approach in your bill of delaying the retrofit requirement for the two- and three-engine aircraft with the funding mechanism present in title III of the Anderson-Corman legislation.

I would like to return to that in just a few moments, but I will briefly summarize where we are today with part 36 and how we got here.

A reading of my statement will indicate that it's our view that the current Federal Aviation Regulations part 36 have been the

result of strong political pressure from a relatively small number of communities who have insisted over the years that the Federal Government was not doing enough about aircraft noise.

In 1972, Congress reacted to this pressure by passing the Noise Control Act which for the first time gave EPA authority to make recommendations on aircraft noise.

Following that, there was a good deal of wrangling between the FAA, the EPA, the airlines and airport operators about whether part 36 should be applied retroactively.

Unfortunately, in the fall of 1976, in the midst of a Presidential election, President Ford announced in a political event near J.F.K. Airport in New York that the U.S. Government was going to make part 36 regulations retroactive to all existing aircraft.

Ironically, the President's order came at a time when senior policymakers in the executive branch were not at all convinced that a retroactive application of part 36 made sense.

The decision itself appeared to be totally political as senior officials only had a few hours' notice of President Ford's actions.

After the Carter administration came into office in 1977, the President, his staff, and the Secretary of Transportation, Brock Adams, sat down to review the decisions that were made by the earlier administration.

As a former staff member of your committee, I participated in discussions with some of these officials as they reviewed the part 36 regulations. I'm sorry to say, Mr. Chairman, that from the highest ranking officials on down, there was a consensus that the new regulations did not make sense, would not significantly reduce aircraft noise and were not, by any stretch of the imagination, cost effective.

After reaching that consensus, the decision was made to let the regulations stand. I cite this history only to try and demonstrate that a whole series of actions have taken place on this issue over a period of a decade and nearly all of them have been politically inspired.

They have been brought about by governmental officials responding to pressure and lobbying from a small group of Americans who are seriously impacted and who have acted through their city officials and representatives to try to get Congress to do something about the noise problem.

I hope these remarks, in the sense of a preface to this testimony, are not taken to indicate the local service airlines are not concerned about noise. That is not the case.

We are concerned, however, about the governmental program which we do not believe will do much to solve the problem.

You have heard a good deal of testimony both from Administrator Bond and Mr. Ignatius regarding the efficacy of part 36 as it pertains to two- and three-engine airplanes.

I think it's fair to say that there is an honest difference of opinion. However, you and other Senators have sat in this committee over the years listening to tape recordings of part 36 airplanes and nonpart 36 airplanes, retrofitted and nonretrofitted airplanes, and I think it's fair to say that the difference in perceived noise levels is insignificant and inaudible to many, if not most human ears.

One of the things that disturbs us about the retrofit question and particularly the retrofit of two- and three-engine airplanes which our airlines exclusively fly, is that some have said if we retrofit all the fleet, we will tell the public that they will have quieter aircraft and ipso facto, the public will believe it.

We think this is nonsense.

We have also heard this morning that on an individual basis, the retrofitted planes are not noticeably quieter, but on a cumulative basis, it provides noticeable relief.

While this may be a laboratory theory, we don't know of any sound evidence regarding real people which demonstrates that this is true.

In the final analysis, in our view, retrofit is really a political way out of a public dilemma facing a few of the Nation's airport operators.

Again, as a staff member to your committee, I have spent many hours talking to them and I understand the intense political pressures that they are under and they are looking for the Federal Government to deal with the problem at the source so that they can get some relief from the pressure of the citizens' groups.

Many have said privately that retrofit won't provide much relief, but they feel it is a symbolic gesture, one indicating that the Government is doing something even if that something will not provide serious public relief.

In our view, this is not the proper role of public policy, especially a policy that will cost billions of dollars.

I have spent some time here discussing the current regulations, where they came from and why, in our view, applying part 36 to small jets is inappropriate, excessively costly, and ineffective in reducing aircraft noise.

These arguments have been made many times before. They have been made here and before the executive branch.

I regret to say that we, as an industry, have not been persuasive in overcoming the political support that this movement has achieved both in the executive and in the Congress.

Let me turn briefly to the legislation before you.

All the bills have in common governmental commitment to help the airlines to meet the enormous costs involved in complying with these regulations. Each does so in a slightly different manner.

In addressing your bill, Senator, we particularly support the provision to stretch out the requirement to retrofit or replace the two- and three-engine jet airplanes from 1985 to 1990.

While this is still an onerous requirement, such a stretch-out will certainly emphasize replacement of airplanes rather than retrofit.

I might say parenthetically that our segment of the industry flies exclusively two- and three-engine airplanes, predominantly the B–737, B–727, and the DC–9. There is no airplane on the blackboards of the manufacturers to be a successor airplane to the 737 or the 9.

The fact is that the new technology airplanes you have heard about this morning are being developed to meet the 160-seat and larger aircraft market and, of course, are not generally suitable to the type of routes our carriers mostly fly today.

We would be delighted if we could see on the horizon aircraft in the 100 to 120 passenger size incorporating the latest technology both in the high bypass ratio engines and the other aerodynamic improvements being made in the new generation equipment.

Unfortunately, in the replacement program which has 1985 as a deadline, we are certain that there will be no aircraft to meet that requirement for us. Therefore, we simply buy more of the existing equipment which is, of course, not nearly as quiet as the new technology machines will be.

Current equipment which is available to us on a replacement basis does not meet stage 3 of FAR 36 and, as I think you know, that is the kind of equipment that is going to truly provide public relief.

If, on the other hand, you choose to stretch out this requirement to 1990 on the two- and three-engine equipment, we feel that there is a possibility that the manufacturers will become interested in the market that I have described.

The history of aircraft production is usually the history of making the larger machines first, followed by successively smaller airplanes and certainly, the Boeing Co. today is emphasizing the large equipment.

Several years from now, it may indeed emphasize the kind of aircraft we need.

Turning to the financial aspects of the legislation before your subcommittee, the local services industry continues to strongly support the Anderson-Corman legislation recently marked up in the House. We are still studying the Cannon program of loan guarantees for the purchase of new aircraft.

Frankly, some of our members feel it's a very provocative idea. Unfortunately, they have not had the time to do the arithmetic to try to determine which would provide the most financial benefit.

After initial review, we foresee several problems, however, with your approach. First, there is a limit to how much airlines may borrow to reequip, with or without Government guarantees.

Many airlines, including some who belong to ALTA, currently have debt-equity ratios which are heavily loaded toward debt, highly leveraged.

The ability of these airlines to absorb great new debt, whether guaranteed or not, is questionable.

In addition, even with guarantees, many lenders may be discouraged from additional loans to highly leveraged companies.

Second, the locals, as you know, have had loan guarantees since 1957 provided by the program which has been very helpful in meeting our equipment needs.

While this program has recently expired, we presume it will be reenacted upon passage of the regulatory reform legislation.

Simply giving the local airlines greater guarantee limits as envisioned in your bill does not necessarily offer us a new funding mechanism.

Third and most important, the Cannon-Pearson bill provides no up-front money with which to begin the task of either retrofit or replacement. The Anderson-Corman bill provides equity capital rather than debt capital.

While the money that will be available under the House bills would certainly not begin to do the entire job, the credits available to the airlines constitute meaningful financial support to begin.

Since you have already heard a thorough explanation of the legislation, I won't be repetitive in restating the features of the various bills, but will close by emphasizing our support at this time for the Anderson-Corman financial approach, coupled with your concept of pushing back the dates of compliance for the two- and three-engine airplanes.

Thank you, Mr. Chairman, for the opportunity to present the views of the regional airlines and I will be most happy to try and answer any questions which your subcommittee might have.

The CHAIRMAN. Thank you very much for a very fine statement. It is true that the Senate bill would not provide up-front money to aid the carriers, but it's also a fact that a federally guaranteed loan program would produce meaningful savings to the carriers in the form of reduced interest rates.

Wouldn't the savings generated by the loan-guarantee program provide substantial assistance to the carriers to provide retrofit kits for the planes they choose not to replace?

Mr. GINTHER. I think there is no question it would provide financial benefit in terms of low-interest loans. We, as I say, have not done the arithmetic to estimate how much might be saved. But as Mr. Ignatius said earlier, that, while attractive, still does not solve the up-front money need problem.

If our airlines can avoid debt in favor of acquiring equity, it's in our interest to do so, particularly the companies that are very heavily in debt today because regardless of part 36 requirements, even if they did not exist, many of our airlines have equipment needs pressing right now with which debt, unfortunately, will be the financing mechanism.

Only very recently have the local-service airlines had any success at all in the equity markets. We cannot determine whether equity financing is a realistic alternative at this time.

The CHAIRMAN. You say you would support the provisions in S. 3064 to stretch out the date for compliance of aircraft in the two- and three-engine category.

What is your comment to FAA's claim that retrofit in all operations averages a 7-dB reduction on an approach for a 727 and that this is a significant reduction?

Mr. GINTHER. Well, 7, I guess, is in the ballpark. The numbers that I have heard over the years were 5 and 6. But given 7, I have listened to tapes that both McDonnell-Douglas and Boeing have made which demonstrate that magnitude of difference and I can honestly say that while I can perceive the difference, it's not significant.

It's not meaningful.

We question the program's effectiveness when the normal human cannot find much difference in a reduction of that magnitude.

It's far preferable, we believe, to try to get on with a program which would emphasize the new technology airplanes.

Hopefully, we will reach that point ourselves and buy these airplanes because we think that will provide the public with the kind of real relief that they want.

The CHAIRMAN. Thank you very much. Your testimony is very helpful and we appreciate you being here.

Mr. GINTHER. Thank you.

[The statement follows:]

STATEMENT OF ROBERT E. GINTHER, PRESIDENT, ASSOCIATION OF LOCAL TRANSPORT AIRLINES

Mr. Chairman, I am Robert E. Ginther, President of the Association of Local Transport Airlines, the trade association representing the 15 regional or local service carriers who operate throughout the United States.

We are pleased to be here to have the opportunity to testify before your Subcommittee on the issue of aircraft noise and legislative proposals which have been introduced in an effort to reduce it.

Briefly, let me describe the position of the local service airlines on the pending legislation. First, the locals, like the trunks, strongly support the Anderson/Corman bills, which have recently been marked up in the House Public Works and the House Ways and Means Committee.

While we disagree with much in Part 36 of the Federal Aviation Regulations, we are somewhat resigned to the fact that the government is going to force us to undergo costly modification or retirement of our two- and three-engine jets. In order to do this in a timely fashion as the regulations require, we seriously need a funding mechanism which will help us generate cash to meet part of this need. Of the three major proposals before the subcommittee, only the Anderson/Corman bills provide a funding mechanism which generates substantial cash or front end money to begin to meet the requirement. The bills also provide that the funds will come from passengers, the users and beneficiaries of the system. In addition, the legislation has the feature which avoids cross subsidies among the airlines, that is, each airline receives credits only to the extent of taxes collected from its passengers. I will have more to say on this bill further in my statement.

Mr. Chairman, we also strongly support the provision in the Cannon/Pearson bill which would stretch out until 1990, rather than 1985, the period for compliance with part 36 for the two- and three-engine jets. This is a practical approach, where FAR 36 is not, in that it places further emphasis on replacement rather than retrofit, which we feel is a complete waste of time, energy and money. We strongly urge you to combine the Cannon bill provisions on two- and three-engine jets with the financing provisions of the Anderson/Corman bills. I'll return to the legislation in a moment but, first, let me review the nature of the problem and some brief history on how we got where we are today.

The aircraft noise problem first became a national or a Federal governmental issue in 1968, 10 years ago when Congress first passed legislation giving the Federal Aviation Administration authority to establish noise standards for aircraft. Prior to that time, the aircraft noise problem was a local one and was centered at a few airports which provided facilities for long distance or intercontinental flights using the B–707 or the DC–8 aircraft.

After adoption of the legislation, the FAA in 1969 established part 36 of the Federal aviation regulations establishing noise limitations on aircraft produced after 1969. These regulations were consistent with then existing technology and new aircraft types produced since then—most of the B–747's, the DC–10's and the L–1011's—met the new regulation and are comparatively very quiet. I might add that the single largest factor in developing quieter jet airplanes was the development of the high bypass ratio jet engine which is appreciably quieter than earlier technology engines.

In 1972, Congress in responding to intense political pressure from a handful of airport operators passed another law, this time broadening the authority created in 1968 and establishing a role for the Environmental Protection Agency in recommending noise policy to the FAA. The impetus for that change came from airport authorities in league with certain environmental groups who felt that the FAA was not doing enough about aircraft noise.

After years of wrangling between FAA, EPA, the airlines and the airport operators, the President of the United States, in the heat of a Presidential campaign in the fall of 1976, announced in a campaign-staged event near JFK airport in New York that the Federal Government was going to make the part 36 regulations, then

in effect for new aircraft, retroactive to cover all jet aircraft in the U.S. fleet by 1985.

Mr. Ford's order came at a time when senior policymakers at the DOT, the White House and OMB had grave doubts about the effectiveness of such a policy and how it could economically be carried out. The decision itself appeared to be totally political as senior officials had only a few hours notice of the President's planned action. This was but another in a series of executive and legislative actions designed not so much to significantly reduce aircraft noise but to curry favor with a small but vocal group of citizens or voters who were seriously impacted with aircraft noise. After President Ford's speech, Secretary of Transportation William Coleman instructed the FAA to draft a regulation effecting the Presidential order, notwithstanding the fact that no decision had been made as to how to pay for the largest recall effort in the history of aviation; a recall effort that would require retiring or retrofitting more than 2,000 jet airplanes.

After the Carter administration came into office in 1977, the new administration decided to review the Ford-Coleman decision in light of numerous complaints from the airline industry and some from Congress. As a former staff member to this committee, I took part in discussions with officials of the executive branch as they reviewed the revised part 36 regulations. I am sorry to say, Mr. Chairman, that from the highest ranking officials on down there was a consensus that the new regulations did not make sense, would not significantly reduce aircraft noise and were not by any stretch of the imagination cost effective. After reaching that consensus, the decision was made to let the regulations stand!

I cite this history, Mr. Chairman, only to try and demonstrate that a whole series of actions have been taken on this issue over a period of years and nearly all of them have been politically inspired. They have been made by governmental officials who succumbed to the pressure and the lobbying of a very small group of American citizens, acting through their city officials and Representatives in Congress, who want something done about aircraft noise.

Ironically, it has been the failure of many city officials to act on this problem that has thrust the Federal Government into the role of developng Federal policy and regulations. Time and again city and county officials have stood by and acquiesced as major residential encroachments occurred near jet airports and then have turned to the Federal Government for relief when citizens began complaining about aircraft noise.

Mr. Chairman, I hope that these remarks are not taken to indicate that we are not sympathetic to the aircraft noise problem. We are. However, we believe that the actions taken by the Federal Government to date will be ineffective and astronomically expensive. If this policy is finally carried out, you may have even greater political pressure from citizens who may feel that they have been deceived and shortchanged. The plain fact is that bringing every single airplane in today's fleet into compliance with part 36 will not bring meaningful noise relief to the Nation's seriously impacted airports. If somehow, on the other hand, you could turn all the first generation jet airplanes into second generation jets, you would have noticeable and immediate relief.

Under the regulations as they presently exist, U.S. air carriers will either have to retire their first generation jets by 1985 or have the engine nacelles of these aircraft treated with sound absorbing material; a retrofit process which doesn't solve the problem, but which costs up to $0.5 million per airplane in the two- and three-engine category. Mr. Chairman, you and other Senators have sat in hearings for many days over the past 6 years, examining the issue of whether nacelle retrofit will provide meaningful relief to noise-weary citizens. You have listened to tape recordings of jet airplanes flown without the retrofit kits and planes which have been retrofitted. I think it is fair to say that most people can't tell the difference because the difference involved of 5 or 6 EPNdB is barely, if at all, perceptible to the human ear. Even more dismaying is that the retrofit procedure achieves that slight improvement only on approach. There is no currently available technology to quiet the jet roar characteristic of takeoff so, at the very best, the retrofit procedure provides very small increments of reduction in the approach phase of flight only.

Mr. Chairman, you have heard apologists for retrofit tell you time and again that, while the noise difference of a retrofitted airplane is barely perceptible, the people want relief now and, if we tell them the retrofit will be quieter, then ipso facto it is quieter. I think this is nonsense. You will also hear that while on an individual event basis the retrofitted airplane is not noticeably quieter, on a cumulative basis retrofit provides noticeable relief. This argument doesn't make sense either.

In the final analysis, retrofit is really a political way out of a public dilemma facing a few of the nation's airport operators. They have tired of taking the heat for

aircraft noise and have tried to force the Federal Government to deal with the problem at the source. Many have said privately that retrofit won't provide much relief, but they feel that it is a symbolic gesture—one indicating that the Government is doing something even if that something will not provide serious relief. In our view, this is not the proper role of public policy, especially a policy that will cost billions of dollars.

While it is often stated that more than 7 million Americans are seriously afflicted with aircraft noise, I suspect that number is largely inflated. Most of the nation's airports and citizens have insignificant if any noise problems. It is only at New York, Boston, Chicago, Atlanta and Los Angeles where the problems are truly serious. Again, the real noise offenders are the very noisy 707's and DC–8's. A phase out or retrofit of these aircraft could provide some significant, noticeable relief at these airports. But is that to say that the entire jet fleet should be involved? We think not. We have argued, as has the Air Transport Association, that retrofit of two- and three-engine jets is particularly inappropriate. The noise relief is insignificant and these aircraft are not really the problem. But, again, because of politics, they have been singled out for the same treatment as have the noisier airplanes. More than 70 percent of the airports in this country receive service from only two- and three-engine aircraft. It is clear that these airports are not going to achieve any significant reduction in aircraft noise as a result of Part 36.

Mr. Chairman, I have spent some time discussing the current regulations and where they came from and why we believe that applying Part 36 to smaller jets is inappropriate, excessively costly and ineffective in reducing aircraft noise. These arguments have been made many times before, both before your Subcommittee and in other governmental forums. I regret to say that we have not been persuasive enough to overcome the political support that this movement has achieved both in the Executive Branch and in Congress.

Now, let me turn to the legislation before you today. All of the bills have in common a governmental commitment to help the airline industry meet the enormous costs involved in complying with Part 36. Each does so in a slightly different manner.

In addressing your bill, Senator Cannon, we particularly support the provision to stretch out the requirement to retrofit or replace the two- and three-engine aircraft from 1985 to 1990. While this is still an onerous requirement, such a stretch-out will certainly emphasize replacement of airplanes rather than retrofit.

Sadly, our segment of the industry does not have a new technology replacement on the horizon for the DC–9 and the B–737. The manufacturers are currently emphasizing new technology aircraft in the 160-seat and above category; aircraft that are not now suited to most routes of the local service airlines. Therefore, any replacement program for the locals does not offer the significant productivity increases that the trunks may achieve by purchasing the high technology aircraft. Nonetheless, we still believe retrofit is no answer to the noise problem and believe a stretch out would enable us to minimize the retrofit option. We feel this is the most desirable feature of your bill.

Turning to the financing aspects of the legislation before your Subcommittee, the local service industry continues to strongly support the Anderson/Corman legislation recently marked up in the House.

We appreciate the fact that each of the bills addresses the difficult financing issues confronting our industry and express our appreciation to the leaders in Congress who have recognized this need and developed plans to meet it.

We are still studying the Cannon program of loan guarantees for the purchase of new aircraft, and some of our member airlines find it a very provocative idea. However, after an initial review, we foresee several problems with this approach. First, there is a limit to how much airlines may borrow to re-equip, with or without government guarantees. Many airlines, including some who belong to ALTA, currently have debt/equity ratios which are heavily loaded toward debt or highly leveraged. The ability of these airlines to absorb great new debt, whether guaranteed or not, is questionable. In addition, even with guarantees, many lenders may be discouraged from additional loans to highly leveraged companies. Second, the locals, as you know, have had loan guarantees since 1957 provided by a program which has been very helpful in meeting the equipment needs of our airlines. While this program recently expired, we presume it will be extended upon final passage of the regulatory reform legislation. Simply giving the locals greater guarantee limits as envisioned by the Cannon/Pearson bill does not necessarily offer us a new financing mechanism. Third, and most important, the Cannon/Pearson bill provides no up-front money with which to begin the task of either retrofit or replacement. The Anderson/Corman bills provide equity capital rather than debt capital. While the

money that would be available under the House bills would not begin to do the entire job, the credits available to the airlines constitute meaningful financial support to start the job.

Since you have already heard a thorough explanation of the House legislation, I will not be repetitive in describing its features. I would like to close by saying that of all the financing alternatives that have been studied and advanced, we find this to be preferable for the reasons outlined in the testimony of the Air Transport Association.

Thank you, Mr. Chairman, for the opportunity to present the views of the regional airlines. I will be glad to try and answer any questions which you or the Subcommittee may have.

The CHAIRMAN. That concludes the hearing this morning. We will recess until 9:30 tomorrow morning.

[Whereupon, at 12:50 p.m., the hearing recessed, to reconvene at 9:30 a.m. on Thursday, May 25, 1978.]

AIRCRAFT AND AIRPORT NOISE REDUCTION

THURSDAY, MAY 25, 1978

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE ON AVIATION,
Washington, D.C.

The subcommittee met at 9:36 a.m. in room 235, Russell Senate Office Building, Hon. Howard W. Cannon (chairman of the committee) presiding.

The CHAIRMAN. The hearing will come to order.

Today is the second day of hearings on the aircraft noise reduction bill, S. 3064. And our first witness today is the sponsor of S. 747, the distinguished senior Senator from New York, Hon. Jacob Javits.

STATEMENT OF HON. JACOB K. JAVITS, U.S. SENATOR FROM NEW YORK

Senator JAVITS. Thank you, Mr. Chairman.

Mr. Chairman, I don't think there is anybody in the Congress who can be compared to the chairman of this particular committee respecting this particular subject. My reason for being bold enough to appear and testify is twofold. One, I am the sponsor of one of the bills which the chairman has very graciously included among the bills to be heard, and that, second, in 1976 I did introduce an amendment seeking retrofitting and a user charge on the part of airline passengers to finance it.

At that time the chairman, who was managing that particular bill on the floor, promised that this matter would be considered and dealt with. He has kept keeping his promise, and I want to be a party to that.

But I hope the Chair will understand that my testimony is by no means oppositional, but it is simply advocacy of a particular approach to be submitted to the committee as one of its options. And I hope that the committee may find useful at least some aspects of what we propose.

The differences between the bill which I am sponsoring and your bill, Mr. Chairman, are the following—I ask unanimous consent, Mr. Chairman, that my statement may go into the record, so I can abbreviate the explanation.

The CHAIRMAN. Your statement will be made a part of the record in full, and we would be happy to have you summarize from it.

Senator JAVITS. One difference between my bill and your proposal, Mr. Chairman, is that mine utilizes a grant, not a loan guaran-

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tee. And I will give my reasons for putting it on that basis in a minute or two. So that is point 1.

Point 2 is the matter of extending the dates which have now been fixed for reduction of noise to lower levels, as is contained in the chairman's bill. And I submit that if the plan which is contained in my bill is adopted, it may not prove necessary to extend these dates.

Third is the noise impact of retrofitting, which goes to No. 2, and the difference it will make. And there the issue is: Is the cumulative effect of the reduction in noise on the takeoffs and landings, aggregated in all takeoffs and landings at a given point, so positive that we should reduce the time limit to the absolute minimum and, therefore, that we should not extend these dates, or if we extend them, that we shouldn't extend them as long?

Those are the three issues, and I would like to say a few words on each.

As far as financing is concerned, it is our view that the cumulative effects of regulation over all these years and now a new pattern of meeting fair competition makes it desirable that the retrofit should be done at the users' expense rather than at the airlines' expense. May I say right now, Mr. Chairman, that we are all indebted to you for introducing this new competitive factor in the airline business. A grant program rather than a loan guarantee plan will result in getting it done more quickly and more fairly, and what we lose in the peas we will regain in the bananas.

In other words, what we lose on the fact that we are making grants instead of loan guarantees we will get back in lower fares, because somebody has got to pay the tab, and it is going to be cranked into the equation anyhow.

Mr. Chairman, there are a considerable number of precedents respecting assistance to business and industry where they face costs caused by environmental regulations. For example, we are doing that in water and air pollution control, where we are giving accelerated amortization for tax purposes over a 5-year period. The energy tax bill which the Senate passed contains a tax credit to assist in purchasing pollution control equipment where there is a mandated conversion to coal. So I submit that this is not without some precedent and therefore is warranted by the situation.

The second point on which I would like to make one small further comment relates to this matter of the cumulative impact of noise reductions. As the Chair knows, New York City is a very heavily impacted area in this regard. The chairman has argued before that retrofitting doesn't make that much difference in noise reduction on the single event approach. But the Administrator of FAA has testified that from their findings, based on the findings of technicians and psychoacousticians, the cumulative impact of noise is more important than the single event. Hence, in order to benefit from this cumulative impact, no delay in the time of retrofitting should be made.

Now, under our plan in S. 747, we would advance $300 million out of the Airport Airway Development Fund to get the program under way in time. The user fees would repay this amount as well as fund the separate trust that will be making the grants.

This is pretty much our case, Mr. Chairman. Again, I repeat, we are now arguing about the details. I use the word "arguing" in a noninvidious sense.

Senator Cannon, I would address a very earnest plea to the Chair, realizing the Chair's views—after all, those would be critical in respect to what bill we finally get sent to the floor. But I would really urge the chairman to consider very carefully the question of delay and to do his utmost to bring the promise nearer to realization. In whatever plan is adopted, I think that is really the key point.

And I hope very much that the wonderful initiative which the Chair has taken himself in this matter, as he promised, would be made even better by the fact that its timing would be accepted.

Thank you so much, Mr. Chairman.

The CHAIRMAN. Well, thank you Senator Javits, for a very fine statement. You certainly have addressed the key issue of this whole controversy.

I don't think there is anyone that doesn't recognize that we do have a very serious problem. And, of course, you, coming from the State of New York, have the worst of all of it, I would say. If you take New York, Boston, Chicago, and Los Angeles, you have pretty well covered where the bulk of the problem lies.

Senator JAVITS. Right.

The CHAIRMAN. Although there are obviously other places where the problem exists to differing degrees.

One of the questions that I raised earlier was, why should this industry be entitled to a special tax mechanism to meet environmental requirements when some other industries don't?

Yesterday I used the example of the copper industry out in my State, where we have had to shut down a smelter because with the present state of the price of copper, they can't afford to comply with environmental requirements. Yet it has put a whole town out of business in one location. While the paper industry and other industries may be able to take advantage of accelerated depreciation, they don't get the advantage of up-front money such as is proposed in your bill and in one of the other approaches, the House bill approach.

On the other issue, the issue of delay, my only point in suggesting an exception for two- and three-engine aircraft is the fact that I believe that the improvements brought about by retrofit are not going to be perceptible enough. And I think that after these improvements are made, if your constituency in and around those airports can't tell the difference, they are going to be a little upset at an expenditure of $300 million of fees to do a retrofit job that cannot be perceived by the ordinary person. That is my concern. It may or may not be correct.

We are going to try to conduct a flyover demonstration to see if people actually on the ground, with their ears, can perceive the difference between the retrofitted aircraft and the nonretrofitted to the point that it would be really meaningful.

I recognize the cumulative effect that you are talking about, certainly. But if it isn't really readily perceptible to people on the ground, I am really wondering whether we ought to spend some $300 million of the usable money for relief that may be inaudible

to the person who is the target of these sounds on the ground at the present time.

Senator JAVITS. Well, Mr. Chairman, if I might answer both questions in reverse order. I think we now have some technical advice that cumulatively, it does make a difference. I hope the tests which the Chair has in mind will be tests on the cumulative effect too. And I hope that the Chair might consider calling some of the psychoacousticians which Langhorne Bond talked about, to have their testimony in the record.

The CHAIRMAN. Incidentally, that was a new term to me. But we will see if we can't find some.

Senator JAVITS. Yes. He found six; you ought to be able to get a few.

On the issue of aid to other industries, Mr. Chairman, I have already stated that our view on that relates to the competitive problems of the industry in meeting its tab for new aircraft, and the fact that it has been under regulation for so long that it shouldn't have to carry the entire burden of the noise regulations.

I must say that I personally—and I hope the chairman would give that consideration—look with favor on some way of helping American business with these nonproductive expenses such as retrofitting scrubbers and other antipollution equipment. You know, we are in the cellar in productivity in the world and I believe the American industrial plant is dangerously obsolescent or obsolescing.

As a matter of fact, at my behest, the Joint Economic Committee is conducting a study as to the obsolescence of American industry and its plant and equipment of American industry.

I would personally favor some assistance, just as we are giving it in taxes on clean air and clean water, where you have enormous investment. You know, the United States Steel Corp. is putting more money into this nonproductive investment dealing with pollution than it is into productive investment, notwithstanding the agreement by all of us that many if not most of the American Steel plants are relatively obsolescent as they are compared to Japan and Germany.

And, Mr. Chairman, what is an amazing fact, or figure, is that the productivity increase rate of the United Kingdom is better than ours. We are literally in the cellar, at roughly 1½ percent average per annum over the last 10 years.

These are my thoughts, Mr. Chairman. I hope that you will understand—I think you know me well—that there is nothing oppositional in my testimony. I do think, Senator Cannon, that you are a fair man, and you ought to crank in these other considerations as the committee considers what is the best thing to do.

And I deeply believe that while you may not find the single event noise level change perceptive, the people who live in these areas are sensible enough so that they will understand and appreciate the effort to deal with the cumulative effect. It is the people who live under the flight patterns that are most affected. Not people, you know, who walk down the street, or are in an area briefly. For example I was at the Georgetown commencement the other day—my son graduated from the law school on Sunday. You couldn't hear the commencement speaker for about three-quarters

of the time. Somebody counted 19 flights in a 20- or 22-minute commencement speech. But that just has to be accepted. The flight patterns that day happened to be that way. But what we are talking about are the people who live in those areas. They suffer because of the tendency for real estate to depreciate and for living conditions to be materially adversely impacted by the continuum of the noise.

And I hope then, Mr. Chairman, if you do test the single event noise impact you will give equal weight to the cumulative effect upon the local people.

The CHAIRMAN. Of course, what you said earlier is one reason to encourage replacement rather than retrofit. Replacement is productive because the new generation aircraft are much more efficient than those being replaced. I would like to do everything I can to encourage the replacement, which would be, of course, the most effective solution to the problem.

But, obviously, we have the economic factor of whether it is reasonable economically to replace aircraft of the two- and three-engine variety at this point in their lifespan. Can we really afford to do so at this point, or isn't it desirable to do something to allow longer productive lives?

Senator JAVITS. I would think that the decision would very likely come down to the latter. You really can't abort their productive lives for this reason.

Thank you so much, Mr. Chairman.

The CHAIRMAN. Thank you very much, Senator Javits. We appreciate you being here.

[The statement follows:]

STATEMENT OF HON. JACOB K. JAVITS, U.S. SENATOR FROM NEW YORK

Mr. Chairman; I thank you for giving me the opportunity today to appear before your subcommittee to discuss this problem of aircraft noise which you and I have long been concerned with. As you know, I introduced an amendment in 1976 to provide financial assistance to airlines to retrofit and replace the noisiest of their fleets. Then last year I introduced S. 747, a bill similar to my 1976 amendment. It is S. 747 that is one of the bills before your subcommittee today.

I regret the delay that has occurred in addressing this pressing problem, but I understand your subcommittee's time problems, Mr. Chairman, with the major effort your committee undertook on airline regulatory reform. May I take this opportunity to commend you and your fellow members for the excellent bill that your committee reported to the Floor and which has been passed overwhelmingly by the Senate. With that legislation through the Senate, I am sure you will be moving expeditiously to report out a noise reduction bill.

S. 747 provides necessary assistance to airlines without adding to the cost of airline travel or making direct expenditures from the Federal Treasury. It establishes a separate trust, for the specific purpose of noise reduction expenditures. The trust fund would be supervised by the Civil Aeronautics Board and would be funded by an airline ticket surcharge. S. 750, which I introduced along with S. 747, would reduce the ticket tax by an equivalent amount so that costs to consumers would not be increased. An appointed trustee would administer the fund, and distribute revenues directly to airlines for retrofitting, re-engining, and replacement based on a distribution formula established by the CAB after notice and hearings. No grant in excess of one-third of replacement cost could be made for an airplane not meeting the FAA noise standards in existence at the time the grant is made. Nor could funds be distributed for replacement that would increase aggregate capacity of the planes being replaced.

S. 747 also provides for authority in the Secretary of Transportation to use a portion of the existing surplus in the Airport and Airway Development Fund. It would permit use of up to $300 million of the currently existing $2 billion surplus to assist in retrofitting and replacing outdated aircraft. This is no Federal give-away

program. These revenues have been raised by the aviation industry and the flying public who are the rightful ones to bear the costs of environmental degradation to airport neighbors. This allocation from the surplus would place a portion of the burden on past users, thus sharing the burden in part with today's travelers who will be paying the surcharge. This allocation will also provide an immediate source of funds to start this long-overdue process while the separate trust accrues monies for the longer term needs.

As you know, Mr. Chairman, S. 747 is the Ford Administration proposal, which differs from the amendment I introduced in 1976 using Airport and Airway Development monies. I am not wedded to the financing methods contained in S. 747, but I do feel it essential to incorporate some form of user charge and to establish incentives through direct payments for a mixed program of retrofitting, re-engining, and replacement to meet the 1985 deadlines.

The need for some form of financial assistance for the airlines in meeting Federal noise regulations is essential in view of the financial condition of the airline industry. The industry is recovering from the severe problems of 1974 and 1975. But even with increase prosperity, the airlines will be severely strained to meet the noise regulations. Estimates made in 1976 by the Department of Transportation indicated that even without implementation of the noise standards, $11 billion of the $32 billion needed for capital outlays would have to be obtained from external markets. DOT estimated that the additional outlay to meet noise standards would be $5.5 to $7.6 billion. The magnitude of this increase is highly likely to be more than many carriers could meet in their already strained borrowing position.

Financial assistance for the airlines is important for the aerospace industry as well. The aerospace industry in the United States has traditionally been the leader in new technologies. But in recent years our leadership has been threatened. Our Government has not chosen to underwrite developmental costs as have foreign governments. Rather, we rely on the demand from our major carriers to stimulate advanced designs. These carriers have been financially unable in recent years to make these purchases in sufficient volume so our leadership position is threatened.

A compliance program to meet the 1985 noise standards would stimulate the development and production of advanced design aircraft. The FAA estimates that by 1985 350 of the advanced technology planes would be in production or operation if a program of retrofitting of 2 and 3 engines and replacement and/or retrofitting of 4 engines is in effect. Without such a program the FAA estimates only 60 such planes would be in production.

The side benefits of such increased utilization of the most advanced technology should not be overlooked. For every $1 billion in expenditures, 60,000 jobs are created. Aerospace exports are second only to agriculture in aiding the United States in its balance of payments problem. Improved fuel efficiency brings energy conservation and lower operating costs that could be passed on to the consumer. These additional benefits are all available as we work to meet the noise problem that brings us here today.

Financial assistance to private industry for complying with Federal environmental regulations is not without precedent. Businesses installing pollution control equipment to meet the requirements of the Water Pollution Control and Clean Air Acts may amortize such costs over a five year period. The Energy Tax Bill passed by the Senate contains a tax credit to assist businesses in meeting the cost of pollution control equipment in mandated conversion to coal. Certainly a federally mandated user charge is an appropriate alternative form of financial assistance to meet the costs of the federally mandated noise regulations.

Mr. Chairman, I urge you and your subcommittee to retain the FAA compliance dates and to provide the financial assistance to make compliance feasible for the airlines. Failure of timely implementation would have serious adverse impact on the 6 million Americans that live in noise impacted areas. In New York alone the impact is great. More than 1 million people are adversely impacted by noise at LaGuardia Airport; more that 500,000 are in the Kennedy Airport impact area.

Much of the adverse noise impact comes from the 2 and 3 engine planes, for they comprise 80 percent of the fleet operations nationwide, and 70 percent of these planes do not meet FAR 36 requirements. If these standards are lifted, even if temporarily, 75 percent of the airports would get no benefits from a noise program.

Retrofitting of these planes does bring perceptible noise relief. For example, tests showed that retrofitting a B727-200 would provide over 7 decibels of relief on approach at LaGuardia airport, significantly above the less than 5 decibels that is commonly assumed to be generally undetectable to humans. Take-off noise was reduced 2 to 4 decibels in these LaGuardia tests, but with improved thrust coutback procedures these reductions could be brought to 5 dBs. I would urge the FAA to

continue its efforts in reducing noise throught operational procedures, such as thrust cutbacks, for we must continue this attack on noise on many fronts.

Even the reductions of less than 5 decibels produce cumulative noise relief that I feel is very important to these noise-impacted communities. I would urge you, Mr. Chairman, if you haven't already scheduled expert witnesses in psycho-acoustics, that you do so. They will certainly be able to give you the technical information that is necessary for a complete record.

The cost of retrofitting 2 and 3 engine planes seems large, but it is small when considered on a per flight basis and when viewed in terms of the relief it will bring. The Department of Transportation estimates that the total cost of retrofitting these planes will be $225 million in 1977 dollars and $297 million by the implementation deadlines using a 7 percent inflation factor. Retrofit cost per airplane is approximately $225,000 for 727's and $297,000 for 737's and DC–9's. Using these costs and factoring in useful life and frequency of flights, the Department of Transportation estimated that the average retrofitting costs would be $6.28 per trip—$6.28 out of a total per flight cost of $1,359. This seems a small price to pay for noise relief.

Mr. Chairman, I am optimistic that this issue can be resolved in the near future because I know of your interest in this important legislation. I certainly appreciate having the opportunity to testify before your subcommittee today.

Thank you.

The CHAIRMAN. Mr. George J. Bean, president, Airport Operators Council International, Inc., accompanied by C. B. Pattarini, AOCI second vice president, director of aviation, the Port Authority of New York and New Jersey; David W. Davis, exceutive director, Massachusetts Port Authority; and J. Donald Reilly, AOCI executive vice president.

STATEMENTS OF GEORGE J. BEAN, PRESIDENT, AIRPORT OPERATORS COUNCIL INTERNATIONAL, INC.; ACCOMPANIED BY C. B. PATTARINI, AOCI SECOND VICE PRESIDENT, DIRECTOR OF AVIATION, THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY; DAVID W. DAVIS, EXECUTIVE DIRECTOR, MASSACHUSETTS PORT AUTHORITY; J. DONALD REILLY, AOCI EXECUTIVE VICE PRESIDENT; AND MARVIN ELLIS, SAN JOSE, CALIF.

Mr. BEAN. Thank you, Mr. Chairman.

The CHAIRMAN. I didn't realize San Jose's problem was quite that big.

Mr. BEAN. Thank you, Mr. Chairman. You have already introduced the panel, so I will not do that. We have submitted a prepared statement to the committee, and we ask that you receive it for the record, and our statement this morning will be an attempt to highlight it, what we consider to be the major point at issue.

The panel, as you indicated, does represent the Airport Operators Council International which is the association of representative governmental bodies who operate the principal airports in the United States and abroad, and on Tuesday, I was authorized to tell you, Mr. Chairman, that our statement has been endorsed by the American Association of Airport Executives and to request that you accept our statement as also being theirs.

Before discussing the noise issue, we would like to comment briefly on the pressing need for additional Airport Development Aid Program, ADAP, funding for fiscal year 1979 and 1980. We are most pleased that your legislation, Mr. Chairman, would increase funding levels for these years by a total of $570 million and would also extend current law to keep the aviation trust fund share of

ADAP safety project costs at the 90 percent rate through 1980 for all smaller airline and all general aviation airports.

Applications for some $900 million in FAA-reviewed ready-to-go airport safety and capacity projects will go totally unfunded this year, even though the current surplus in the aviation trust fund is approaching $2 billion.

Small airports, particularly, are uncomfortable with the year-and-a-half funding backlog within FAA when the projects for which they need additional discretionary funds are not being funded. Even if this committee does not report a noise financing bill, we hope you would act on the ADAP increase legislation separately and without delay.

As most everyone knows by now, the local government which operates the airline airport is in the middle of the noise problem.

The Supreme Court has held that the airport proprietor is legally liable for the reduction in property values resulting from the noise of aircraft which only the Federal Government certificates and which the private airlines operate along aerial paths under the exclusive control of the Federal Government.

So far some 80 of our airport sponsors have expended $200 million in settling lawsuits and buying land in advance of lawsuits.

Another $365 million of noise damage suits or claims are pending.

When the Administration adopted the FAA Fleet Quieting Regulation in December 1976, we were pleased that action had finally been taken to shrink over time the noise from the 1,600 jets in the fleet which met no noise standards.

That regulation, as you know, has already been in place for a year and a half, and requires that the U.S. domestic airlines retire or quiet their fleets to 1969 noise standards.

In promulgating that regulation, FAA also determined—as required by the congressional delegation of authority—that implementation of the regulation by the domestic airlines was economically reasonable without any Federal subsidy program at all, and that the technology was already available and was appropriate to the aircraft to be quieted.

While some communities contended that an 8-year compliance timeframe was too extended, most decided that having a final regulation in place at least set definite, legally secure parameters for future planning actions by communities.

In our view, a regulation 8 years in the making which merely requires the industry to apply 1969 moise technology by 1985 is an absolutely minimum response to increasing numbers of noise-affected citizens in our metropolitan areas.

We are, then, strongly opposed to any legislative attempt to weaken or extend or waive or otherwise water-down those deadlines.

We believe, Mr. Chairman, that if $20 billion of aircraft purchases are to be guaranteed with Federal funds in the name of noise abatement, then at least two broad rules should apply.

First, Federal noise financing shouldn't be available to reimburse the airlines for the costs of the aircraft they have ordered or will order strictly for cyclical fleet modernization purposes and which can be financed through their own resources. If the aircraft being

purchased aren't quieter than the airline would have ordered anyway, there's no reason for financial "incentives." That is "plain" subsidy without an extra noise relief component.

Second, any title III legislation should include a statutory formula so that, in replacing the four-engine older jets, the airlines could get increasing Federal aid in proportion to the decibel reductions achievable by that type aircraft.

As you know, Mr. chairman, we also believe that the proposal to extend the compliance deadlines for the two- and three-engine jets from 1985 to 1990 is not justified, or right, or wise. We think the airlines won't willingly retrofit to the 1981 and 1983 deadlines and won't replace by 1990. They'll be back in 1985 to Congress and DOT for "just a few more years."

We think that the FAA regulations mandating the retrofit of the two- and three-engine jets will provide some real relief to airport neighbors. Retrofit is not a panacea or a "solution" and our communities don't expect it to do more than the FAA data says it can.

Frankly, we think the weight of the evidence suggests, contrary to your honestly felt view, that there is a direct relationship between the measurements of cumulative noise, NEF, Ldn, CNEL, and people's perception of noise and its annoyance.

We would endorse Senator Javits' testimony, Mr. Chairman, and we urge you to take independent testimony on this issue from psychoacoustic experts of your own selection, because they apparently also disagree with your conclusion that if you can't perceive noise from single aircraft flyovers of retrofitted and unretrofitted aircraft, then a sizable proportion of a whole impacted community also cannot, when measured for the cumulative impact of numerous flights, at all hours of the day and evening in the midst of a "real world" residential situation.

Cumulative noise measuring systems are already in widespread use. DOT, FAA, EPA, HUD, and DOD require noise impacts to be measured cumulatively in connection with grant applications and all sorts of environmental approvals. Also, courts use such cumulative measures to determine under State law whether, following the Supreme Court's decision giving liability to the airport sponsor, there has, in fact, been a "taking" of property by the airport.

Mr. Chairman, if you won't ultimately accept a cumulative noise measure, could you then prohibit all the other actors in the noise equation from their using cumulative noise measures by which to judge airport plans and actions? It does not seem fair to determine noise costs and liabilities by one set of rules but countervailing benefits—amount of noise reduction from retrofit—by a separate and different rule book.

The costs of retrofitting the entire nonconforming two- and three-engine fleet are truly modest relative to the accompanying noise benefits and the numbers of cummunities getting the most relief realistically available.

The entire capital cost would not exceed $300 million.

Last, there would be other negative results beyond just the actual loss of the noise reduction, were the FAA's regulation to be overturned by Congress.

Our noise conscious communities could fairly conclude that the Federal Government collectively would not be doing all that's tech-

nologically practicable and economically reasonable to reduce their levels of noise exposure.

And at least one reputable study has shown that citizens' perception of Government doing "all it can" in the aircraft noise field reduces annoyance equivalent to not less than a 5-decibel real noise reduction.

Worse, a congressionally mandated delay in the noise implementation schedule would throw out all of the noise compatibility planning airports and communities have been doing based upon the assumption of full fleet compliance by 1985.

I would like to briefly describe the charts we have brought with us today. Copies of them, C1 and C2, are included in your package or statement.

These charts show the beginning—show the effect of a series of FAA noise regulations over time beginning in 1975.

The main points that we would like to make are that, first, on chart C1, in 1975, about $60 billion worth of land around U.S. airports, containing 6 million residents, was impacted by serious aircraft noise levels—NEF 30 or greater.

Second, the effect of FAA's 1969 regulation which applied to new aircraft—the top line—and the 1973 regulation requiring new copies of old aircraft to meet the 1969 standard—the next line down—would be to reduce this 1975 base case noise impact area by about 20 percent in 1985.

Third, the bulging line at the bottom shows the effect of FAA's fleet replacement/retrofit program. If allowed to continue in its current form without modification, this program will produce an additional 25-percent reduction in noise-impacted areas by 1985.

This would leave about 54 percent of currently impacted land around airports to be treated as a residual noise problem—land having a value of about $37 billion today.

Finally, chart C2 shows the noise reduction that is attributable to retrofit of only two- and three-engine aircraft. The shaded area shows that by 1985, more than half of the regulation's overall impact will be achieved through retrofit of these aircraft.

However, assuring full-fleet compliance with FAR 36 by 1985 will not solve the noise problem: As you can see, $37 billion in NEF 30 or greater impacted land will remain.

Mr. Chairman, I would like to go a little further. We made a serious effort to compare the Senate bill under consideration with one of these charts. We couldn't do this because we could not come up with a curve as to how the airlines would comply with the regulation.

We honestly don't feel that the noisy two- and three-engine aircraft will be out of the fleet in 1990. We doubt very much that they will be retired or that they will self-destruct. We feel that they will be in the fleet and at some point in time something is going to have to be done to make them more quiet.

This being the case, if our assumption is correct, it should be done immediately.

We support title I of S. 3064, which is identical to title I of H.R. 8729, and which authorizes up to $400 million in aviation trust fund money to airport sponsors and other noise-affected communities in mitigating the noise which remains after all that can be

done through source noise and operating procedures has been achieved.

Mr. Chairman, we will offer a number of proposed changes to title I of your bill before your hearings are completed, and after a membership survey we have underway is completed. And we ask that the record be held open for that purpose.

In the end, Mr. Chairman, it all gets down to how much noise relief is guaranteed to our communities. The proposal in S. 3064 to extend the fleet quieting regulation deadline until 1990 for the two- and three-engine aircraft is perceived as another case of "just a few more years, there's something better around the bend".

We just can't accept that any longer. The FAA compliance regulation at long last is on the books. The clock is running.

Frankly, AOCI and its membership would prefer that regulation—unweakened and unfinanced—to any legislation which would add "just a few more years" and would also use the Federal funds to reimburse the airlines for doing what they wanted to do all along: have the Federal Government share the cost of fleet modernization without speeding up for noise abatement purposes the retirement dates on their existing aircraft.

And, Mr. Chairman, I would now like to introduce to you Mr. Marvin Ellis, who is the noise specialist at San Jose Municipal Airport, who would like to offer some testimony on behalf of his airport.

Mr. ELLIS. Mr. Chairman, I would like at this time to present a graphic display of the impact of retrofit on San Jose Airport. What we have here is a graphic display of the 65 C. & E.L. appropriate to the California State noise law around San Jose Municipal Airport for the year 1975 on a cumulative basis.

The CHAIRMAN. Why don't you swing it around so that the people out there can see it too. There are a lot of people here.

Mr. ELLIS. For the year ending December 31, 1975, which is our most current year, the outside contour is the 65 C. & E.L. based on San Jose Airport's noise monitoring system which has been in operation since 1973.

The inside contour is the reduction in that noise level, 65 C. & E.L., if only two- and three-engine aircraft were retrofitted. It does not include four-engine retrofit or replacement. It assumes they are still operating at the same noise level so we are trying to demonstrate the differences between retrofit of two- and three-engine aircraft.

We are looking at, in this area, a reduction in area of 25 percent approximately and under California State noise law requirements by 1985 we will have to make all the land within the 65 C. & E.L. compatible with aircraft with that noise level.

To do that, we are talking about 1,470 residential units or cost to San Jose Airport of about $110 million that would be saved by this reduction we have here.

Mr. BEAN. Mr. Chairman, I would now like to turn to Mr. C. D. Pattarini, who is director of aviation for the Port Authority of New York and New Jersey.

Mr. PATTARINI. Mr. Chairman, my remarks might seem redundant following George Bean's remarks, and I must repeat what the Senator from New York State stated, that our airports are severely

impacted. With that emphasis on source noise reduction, relief of noise affecting so many people in our area comes at the sacrifice or could only come at the sacrifice of our airport system and the enormous contribution that air transportation makes to the region's economy.

We simply could not afford this kind of trade-off.

Air transportation is the backbone of the economy of a region which is the Nation's leading headquarters city, the leading international gateway, leading tourist mecca and the world's leading air cargo center.

Hundreds of thousands of jobs are tied to the activity of our airport complex.

The promulgation by the FAA–Department of Transportation of its retrofit/replacement regulation covering subsonic jet aircraft in December 1976 represented a milestone in the fight against noise. Long years of debate were ended. A changeover to a fleet in compliance with Federal Air Regulation 36 by January 1, 1985 for four-engine aircraft and by 1983 for two- and three-engine aircraft was ordered.

We think that the entry of quieter, more fuel-efficient aircraft into the fleet at a faster pace than would otherwise happen is worth a temporary diversion of funds which now flow into the aviation trust fund.

We also favor this funding assistance as a form of insurance. We believe that FAA–DOT then will be in a better position to resist air carrier pressures for extensions beyond 1983 and 1985. This point is vital to us and to our neighbors who have to believe that, by design, noise relief will always remain "just around the corner."

Legislation can also make the FAA–DOT's stated intention of broadening coverage to international carriers a matter of statute.

Last, legislation can promote planning to deal with residual noise problems.

If Congress does not act to assure full implementation of retrofit and replacement in accordance with established dates, the Federal Government will have broken its promise to promote quieter skies. Without such assurance, local proposals intended to provide relief are not attractive or feasible. They would produce little improvement and would damage our economy and prospects for growth.

We are supporting House bills that foster the noise abatement objective we see as essential, specifically, H.R. 8729. We are opposing any bill that would undermine these purposes.

We believe we have some convincing evidence to indicate how S. 3064 would have this kind of effect, severely setting back the cause of noise abatement.

Last December, at my direction, the Port Authority's Aviation Economics Division initiated a survey of air carriers serving the Port Authority's regional airport system. In the letter to the airlines, and I quote, in part we said as follows:

> We are very much aware of the fact that, collectively, the profit picture for the airlines has been very poor for many years and that many airlines may have had considerable difficulty in undertaking the retrofit and reequipment program necessary to meet the FAR 36 timetable for 1981, 1983 and 1985. Through our own efforts and those of our association, the Airport Operators Council International, we are supporting Congressman Glenn Anderson's bill, H.R. 8729, which will provide funding for retrofit and aircraft replacement out of the passenger fare tax. In order to

add weight to these efforts, we think it would be most helpful if each airline could give us a forecast of aircraft departures, starting with base year 1976, at our three airports by type of equipment for 1981 and 1983, showing the number of departures which would conform to FAR 36. The forecast would be for the three airports combined and would be based upon the assumption that the Anderson bill will be passed.

In our meetings with airlines, it was clearly understood that the forecasts for compliance submitted in them would be heavily dependent on the funding from the Anderson bill and the pressure of the FAA rule.

As is customary, the Port Authority received excellent cooperation from the airlines and the results received from 33 U.S. and foreign flag services which account for over 90 percent of the region's scheduled departures are summarized on the table that I am submitting along with my testimony. It shows that from the base year of 1976 when 20.5 percent of regional departures were FAR 36 aircraft, the percentage would increase to 53.2 in 1981 and 72.5 percent in 1983, as airlines meet midpoint compliance dates and get ready for full compliance by 1985.

We think the manner in which the airlines intend to comply is also very enlightening. For instance, while FAR 36 747 departures more than double by 1981, they rise less than 17 percent more by 1983. The increase in DC–10/L–1011 traffic is projected to be less than 15 percent by 1981 and a little more than 15 percent by 1983.

The three-engine conventional/two-engine conventional categories are most revealing. It is apparent there will be reliance on retrofit, as the departures for FAR 36 727's increase more than 240 percent by 1981 and nearly 400 percent by 1983. While this is a regional study, we believe the results will be reasonably accurate systemwide.

These results tell us that if we re to have the fleet mix that will begin to shrink noise footprints in 1981, shrink them more in 1983 and still further in 1985, while allowing for modest air traffic growth, the compliance deadlines in the present regulation, ending in 1985, must remain in force.

As long as they are in effect, we will have more than 50 percent fewer people in noise impacted areas, NEF 30, at La Guardia in 1983. The same would hold true at Kennedy by 1985, where, additionally, the people in the severe noise impact zone, NEF 40, would be reduced from more than 100,000 to about 30,000.

Corresponding noise benefits will result at Newark International which is served by a mix of four-engine and two- and three-engine aircraft.

As we see it, rolling back the dates for two- and three-engine aircraft, as S. 3064 would do, really means giving way on the promise of noise relief that is due our neighbors. We are totally opposed to it.

It seems unbelievable that we are still dealing with this issue today, when there was early evidence of the problem in the early 1950's. It was in 1951 that the port authority commissioners passed a resolution to the effect that no jet aircraft could operate at our facilities without permission. In the 20 years since the advent of jet aircraft at our airports, we have had White House conferences, international conventions, FAA and EPA involvement in noise,

under congressional mandate, and we still have a concern about noise.

We are, in fact, here today talking about allowing the issue to drag on into 1990 and possibly beyond.

We must make a stand somewhere, and we are drawing the line at any rollback of the 1983/1985 deadline.

We are pleased to note that S. 3064 was described as open to change.

We sincerely hope that the points we raised will be considered, and the result will be an amended measure more in keeping with the House bill on the critical issue of holding to already specified compliance schedules.

The Federal Government must take the lead. Its abdication will lead to bitter and costly local recriminations and disputes—and no reduction in noise.

Mr. BEAN. Next, Mr. Chairman, would be Mr. David Davis, executive director of the Massachusetts Port Authority.

Mr. DAVIS. Thank you, Mr. Chairman.

In the interest of time and, perhaps, abating the noise from airport proprietors, I will also abridge my remarks but hope that they are incorporated in the record in full.

I think that very often we are mesmerized by the cumulative contours that we see on airport maps: 30 NEF contours, 65 Ldn contours. But that is important to us, because in Boston there are 143,000 people living within those contours.

But it may—those cumulative contours in some respects might be somewhat misleading at some airports, particularly airports that have people living in very close proximity to the airport. And certainly Logan is one of those airports, because you have got to consider not only the extent of noise but its severity.

And it is just axiomatic, I think, that the closer that you get, that the more noise is dominated by landings. I know that is not exactly the conventional wisdom. As you get closer to the end of that runway, the more problem is caused by the landings of the aircraft.

A lot of reasons for that, obvious reasons for it. If you are taking off on our long 15–33 runway, by the time you go over the houses at the 15 end, you are 400 or 500 feet off the ground. When you are landing on the standard-sized glide slope, you are 150 feet over those houses, we hope.

It is just true that noise differences are perceived much more clearly, much more easily the closer that you are to the source of the noise. And besides that, I think we all know that on takeoff—takeoffs can be splayed out, I guess, and spread the noise around, or more hopefully, to follow industrial tracts or stay over the water or park land or rivers, as we do sometimes, I guess, here at National.

Although I must say that I took a busman's holiday last night to attend an FAA hearing on National Airport, and I don't know if I can say I was delighted or sorry to see that they have pretty much the same problems that Boston-Logan apparently has.

I would like to also make the point that while we are a fairly good size airport, two- and three-engine aircraft are very important

to us. They constitute a very large part of our fleet mix, more than 40 percent, in fact. So it is not a trivial problem as you get larger.

Indeed, it is a very big problem at Boston-Logan. It is a 100 percent problem, I think, at La Guardia. It is over 95 percent problem, I believe, at San Jose.

So let's be sure that we understand that for most airports in the country, it is the two- and three-engine aircraft that is causing the trouble, because the four-engine aircraft are simply not operating out of those airports.

I think others have dealt pretty effectively on the cumulative kind of methodology, and I would like to spend most of the rest of my remarks discussing the effect of retrofitting, even if we consider the effect on just a single-event basis.

The charts that I have before you today show the noise contours, EPNL values, for a landing by a B–727 at Logan International.

Now, obviously, that is several landings, because it shows it around each runway, and the airplane doesn't land on all of them simultaneously. But they are single events in the case of each runway. The three contours are for the 105 EPNL, the 100, the 105, and the 95 to 100.

Mr. Chairman, I respectfully say to you that I firmly believe a 5-decibel difference is perceptible, very perceptible. And, indeed, I think your staff has helped me to that conclusion by pointing me toward Mr. Borsky, who says that in a fairly conclusive way, and I think Langhorne Bond discussed that yesterday.

Merely looking at the difference between the size of the contours before and after retrofitting, you begin to get the idea of the dramatic effect of retrofitting, even on a single-event bases. Maybe Harkey can compare those maps. It might help.

I might say, we even had to use a slightly larger map for the nonretrofitted contours. That is a pretty sizable difference in land area.

Now, the third chart that I would like to have you look at today shows you the effect of that retrofitting in people terms; that is, on the population around Logan Airport. As you can see, the percentage of people who enjoy reduction at the highest level of noise is more than 86 percent. At the 100 to 105 level, it is greater than 38 percent. At the 95 to 100 level, which is marked much larger in land area than either of the other groups, in terms of people, the number of people affected, the reduction in the affected population is almost 59 percent.

If you want to add them up, what you see is that the high range noise—and at 95 and above we are talking about very loud noise—it is reduced for some 34,000 people. That amounts to a 58 percent reduction in the number of people who are exposed to high-range noise as a result of retrofitting, single event, with a 727 aircraft.

When you take into account that 40 percent of the Boston fleet is in nonretrofitted two- and three-engine aircraft, it is readily evident that retrofitting has dramatic benefits for people in the communities surrounding our airport. These reductions are equally dramatic for school kids in the areas surrounding Logan.

There are 17 schools within the 95 EPNdB arrival contour and above. Almost 6,700 children attend those schools. Retrofitting will reduce the number of students impacted by this high-level noise

down to less than 2,700 students. That represents a reduction of 60 percent of the number of children exposed to high-level noise on a single-event landing basis.

This evidence makes, I think, retrofitting especially worth doing. Naturally, the cumulative effect of retrofitting the fleet would have even more profound effects.

In the light of these facts, the benefit of retrofitting two- and three-engine aircraft seems to be unassailable. But there is the additional question of cost-benefit.

First, let me say that such a cost-benefit must be considered in the light of the fact that the bills before you seek to provide the industry with a means of financing both replacement and retrofitting, neither of which was considered an essential factor in the FAA's ruling establishing a 1985 deadline on noise compliance. But even where such funding mechanisms are available—and we aren't suggesting that they shouldn't be, although they do raise serious public policy questions—there is ample evidence that a positive cost-benefit relationship exists for retrofit.

The Boeing airplane company recently supplied the FAA with data relative to the cost of retrofitting two- and three-engine aircraft. What the data shows is that on an average, it costs $30,000 to retrofit a JT8D–7, which is the engine used in 727's and DC–9's. What this would mean in Boston is that the airlines, supplied with some form of financing incentives, will be spending less than $1 per engine for every person relieved of high-range noise. This can hardly be considered exorbitant, and I don't think it is cost inefficient.

Indeed, more far-sighted carriers are already beginning to take steps to retrofit their planes, recognizing that there is value to them economically. In Boston, for instance, the Federal Air Express Co. has agreed and is now in the process of retrofitting a 727–100 for Boston service. This is costing them approximately $78,000, which is consistent with the figures from Boeing.

The CHAIRMAN. You say they recognize it will benefit them economically. Where does the economic benefit come from?

Mr. DAVIS. You can't fly at Logan without it. They want the business.

So what we see is that retrofitting not only provides dramatic relief for communities surrounding airports, but that it costs less than we have been led to believe by some of the more melodramatic rhetoric of the industry.

Incidentally, going back to that answer, Senator, I would like to say that I don't like to have to have noise rules that are unique to Boston-Logan. I would very much rather be with my colleagues in the more standardize format. But there is great incentive for us, with litigation that is pressed on us, with a cost of so-called land compatibility, to become on a standard when a retrofit-replacement program, which we have relied upon for so long, is attenuating.

Indeed, Boston's noise rules and regulations have been based on the FAA schedule, and I think in a fairly reasonable way.

So when the Federal Government doesn't exercise aggressive leadership or when it backs off a policy, it does leave a kind of vacuum, and it does mean that there are a lot of reasons for the

individual airport proprietor to take some actions, which, I think, is kind of unfortunate but is sort of mandated by our constituents.

There is another important point I would like to make. And that is that the 727 fleet is not going to disappear from the face of the Earth, even when they are no longer used for carrying passengers—and I think they will be carrying passengers for a long time. Aviation history suggests that when they outlive their usefulness in the passenger role, they will be incorporated into the cargo fleet, because under deregulation, the 727 size is ideal.

I think if we allow a bill to be passed that doesn't insist on retrofitting of these aircraft, we will have another kind of problem of a lot of noisy cargo planes at a particularly difficult time of day, since cargo tends to move at night.

We think, then, that the best thing to do is go to a combination of replacement as the preferred method—certainly, I agree that is the best—but with retrofitting as the alternative. I think the approach will provide dramatic relief. I think a combination of replacement of our four-engine aircraft and retrofitting of the two- and three-engine narrow-body aircraft, using efficient technology, will give a reduction altogether of an average of 12 dB on landing, which is certainly very noticeable, and 8 on takeoff at Boston-Logan. And there are some numbers we have run out attached, if you care to look at them.

Mr. BEAN. Finally, Mr. Chairman, I have also included with our testimony some testimony related to Tampa International Airport. I hope you will have an opportunity to review it. I won't go into it at this time.

Thank you.

The CHAIRMAN. Does that conclude your presentation?

Mr. BEAN. Yes, it does, sir.

The CHAIRMAN. Well, thank you very much. I must say that my initial reaction after listening to you people and Mr. Bond yesterday, is that perhaps none of you read the proposal that I have set forth very closely.

Mr. Bean, throughout his testimony, referred to my proposal as one to extend the compliance deadline for two- and three-engine aircraft from 1985 to 1990. It sounds to me like you are reacting in sort of a knee jerk fashion. Mr. Bond indicated, that he thinks that the proposal is designed to extend the period of time for compliance, 7 years. Well, it is no such thing. What I am saying in here is that the airlines do, in fact, have to meet the 1981–83 deadlines for retrofit.

But to provide for accelerated introduction of meaningful quite aircraft, I have provided an option here for the carriers to take some additional time for replacement for some of their fleet. They don't get that additional time for replacement unless they come in with a signed contract for an aircraft that is going to measurably decrease your noise problem, the problem that you are complaining about.

In other words, that signed contract has to be for a replacement of a particular noisy aircraft with a stage 3 aircraft.

So it seems to me that even with this option, there is no question but what the great majority of the two- and three-engine aircraft

would have to be retrofitted, because the airlines are not going to replace them all with new aircraft.

The FAR 36 deadlines apply to those aircraft, and an extension of time is available only for ones that are going to be replaced by stage 3.

So it seems to me that if you really took a look at the cumulative effect that you are all talking about, the cumulative effect is going much more favorable at the end of the time frame than it would be if we forced a retrofit by 1981 and 1982.

I wish AOCI would take a took at that precise problem, and I would like to ask whether you have made an attempt to examine the impact of accelerating the introduction of the new technology aircraft versus retrofit.

Has AOCI taken a look at that precise problem?

Mr. BEAN. Mr. Chairman, first of all, if we have misunderstood your bill, we apologize. I am more or less pleased with your explanation. But, as I indicated, when we presented our charts, we attempted to draw some sort of a curve to show the effects of S. 3064, but we have no way of knowing how the airlines will comply. If, in fact——

The CHAIRMAN. But you have assumed that they would be able to continue using all their unretrofitted airplanes, which they can't do if this bill passes.

Mr. BEAN. Mr. Chairman, if I understand your comments this morning to mean that most of the fleet will comply with the deadlines as now established, this is fine, but——

The CHAIRMAN. We say in this bill that during the first year of enactment, they would have to draw up a plan in which they would specify how they are going to handle the problem.

If an aircraft is not going to be replaced by a stage 3 aircraft, it must be retrofitted with the time deadlines.

On the other hand, if a particular airplane is going to be replaced by a stage 3 aircraft, and they come in with a signed contract for the purchase of that replacement aircraft, then they have an extension of time.

So really what I am trying to do is to reduce your problem, instead of exacerbating it.

Apparently you haven't addressed this concept, because it sounds like I caught you all by surprise, but I hope that you would take a look at that very precise problem, because if you consider the cumulative effect I think you are going to find that the net cumulative effect will be to your advantage.

Mr. REILLY. Senator, if I may perhaps start a response, I think the generalization is that under the Federal requirement now in place, 50 percent of the two- and three-engine aircraft would have to meet FAR 36 by 1981 and 100 percent by 1983.

I think that under the wording of the Senate bill, that time period, if, in fact, as you say, those planes would be replaced by a stage 3 aircraft, they would not have to meet that until 1990.

The CHAIRMAN. On one condition, and what is the condition?

Mr. REILLY. That it is stage 3 type aircraft.

The CHAIRMAN. That they come in with a signed contract for the purchase of a replacement stage 3 aircraft.

Mr. REILLY. Senator, I think the thing of great concern is that now we are talking about extending for 9 years, from 1981 to 1990, for 50 perent of the two- and three-engine aircraft and for 7 years for 100 percent of the two- and three-engine aircraft. That is what is of such great concern, Senator, to all the people around the airports who have so valiantly fought to get this Federal rule in with the due dates of 1981 and 1983.

Now, what you have said, I think, is quite accurate, that with the stage 3 aircraft in 1990, there might be a cumulative reduction in overall noise. But our problem is that we don't think the people are going to stand still for that extended 9-year and 7-year provision.

Mr. DAVIS. I would add two other points among a number that concern me, and they are, first of all, what happens to those 727's that are not retrofitted, because they are going to be replaced?

I think we all know that the life of those airplanes is probably going to go much beyond those times, and maybe they are going to be sent to South America; I don't know.

The CHAIRMAN. But let me stop you right there. They have to be retrofitted if they are going to be used, whether it is in the cargo fleet or whatever kind of fleet it is going to be in.

If it is not going to be replaced by a stage 3 aircraft, it has to be retrofitted, and this has to be spelled out in the plan that the carrier has to come in with within 1 year.

Mr. DAVIS. And the other concern I have just has to do with his industry. And history, as it was discussed, as I understand it, in this room yesterday, when the ATA said that if they were going to meet the FAA schedule, they are going to have to make some hard decisions right away.

Well, I think they should have made some hard decisions a couple of years ago. The industry is obviously dragging its feet pretty hard. I must confess to a certain lack of credibility as far as the industry intention is concerned.

The CHAIRMAN. I understand. You have a credibility problem. But I am trying to get at a more fundamental problem of what we are up against. I know you have these people in your hair around your airports, and that you just dread the thought of anybody saying we are going to extend the time for anybody to comply.

But let's go back to the San Jose contour he showed us up here. How many complaints do you get outside of that contour that you showed this morning? Do you get any?

Mr. ELLIS. Very small percentage.

The CHAIRMAN. How many do you get within the two red lines that you showed?

Mr. ELLIS. Within the two red lines we showed?

The CHAIRMAN. Yes; what percent?

Mr. ELLIS. Probably talking about 15 percent.

The CHAIRMAN. About 15 percent. So you see, if you reduce it from the second line to the inside one, you are only solving about 15 percent of your problem then; is that right?

Mr. ELLIS. In that respect; yes.

The CHAIRMAN. Yes. So you people are looking at this because on paper it sounds like it is going to solve your problem. What I am trying to say to you is it is not going to solve your problem. The basic problem is not going to be solved at all. But I am suggesting a

solution here. Again, I say I am not hidebound on this particular solution, but I think it is certainly better than your knee jerk reaction to it. You are saying, "I can't go back to my constituents and tell them that the Congress is going to extend that time way out to 1990 to retrofit these airplanes that they were supposed to have retrofitted by 1983," which is incorrect. It is absurd.

Now, the reason I chose that long a period in time, is because, first, it will encourage new aircraft to be developed to satisfy this particular need, I believe, and, second, no aircraft manufacturer can meet the demand for new equipment within the FAR 36 deadlines.

And so this is why they have got to have time to phase in new airplanes over a period of time.

But they are going to have to make this decision.

How many airplanes will we replace? They will have to make that decision within a year. If they say we are going to replace 30 percent of the fleet, then only 30 percent are going to be affected by that extension, and the other 70 percent are going to have to be retrofitted on that same schedule that is in the law now.

Let me read this to you. Section 305.

> After January 1, 1985, no operator who is listed by the Secretary under section 302 shall operate any noncomplying aircraft in the United States, except that such an operator may continue to operate a noncomplying aircraft of two or three engines until January 1, 1990, if such operator has entered into a binding contract before January 1, 1985, for the purchase of a replacement aircraft for such noncomplying aircraft.

Now this gets at the point you were raising, that if they sell the plane to a cargo carrier, it's going to go ahead and use the aircraft without complying. That is nonsense.

They have to comply whether a fellow's flying passengers or cargo. If he can't fly in and out of Boston, he can fly into Las Vegas, we will be glad to have his business out there.

But I think you really should take a look at the cumulative effect of this kind of an approach. I know it is very difficult to be precise because of the point you have made already, that you don't know what each carrier's plans are, but you can assume enough to develop a computer model that would give you, I think, a reasonable base.

You pointed out that the carriers have been very good in responding to some of the questions you have asked. And I think that they would be glad to give you some kind of response, given these circumstances, that you could feed in to determine what the cumulative effect might be.

Yes?

Mr. PATTARINI. Senator, I get confused in this sense. Past history has proven to me, anyway, that no matter how good the intent, one always runs into the delay factor. Now, as I understand your statement, within 1 year the airlines would have to commit to retrofit on two- and three-engine aircraft.

In 1985, they would have to come forward with a contract to have that aircraft in service by 1990.

My gut feeling tells me in 1985 they will come before you or the Congress and say, "We are not ready yet, and we will be in the year 2000."

So there is no control, as I see it, in your proposal wherein, though you say if they commit to retrofit, fine, if they don't, they have until 1985 to get started.

We can't afford that period of time.

The CHAIRMAN. Maybe the time is too long. Maybe we need to shorten that time. But I think we need to know realistically from the manufacturers when they have an airplane that can fill that need and produce it so that a carrier can contract.

Now, you do claim to be worried that if this extension of time is granted, others will follow.

Mr. PATTARINI. I will be out of business.

The CHAIRMAN. That is a real concern. But don't you think it will be much tougher for the airlines to get new legislation in 1983 or 1985 than it would be for them to get an administrative extension from FAA?

Mr. REILLY. Senator, I would say that either might be very accessible to them, unfortunately, because in that time, 1983 and 1985, we are so concerned, Mr. Chairman, that there is going to be a new technology breakthrough 10 years off into the future again and it is going to be a very convincing argument, why not wait another 10 years.

The CHAIRMAN. Well, you heard my question to the Administrator yesterday, and you know that some of them are not going to be able to comply because they are not going to be able to get the kits.

So what will happen? Do you think the Administrator will shut them down or give them an extension?

Mr. PATTARINI. Give them an extension.

Mr. REILLY. Correct. I really believe that, from some of the off-the-cuff comments we have heard, that the kits can be provided by 1981 and 1983.

The CHAIRMAN. Well, you are the fellow that is getting the complaints and not the guy that has to go out and try to buy them. I think there is a difference from where you look at the problem. Anyway, I hope you will take a look at what I am suggesting here and be sure you understand what the bill will do because I am satisfied that none of you knew what it would do until you got to the table here this morning.

Maybe I don't either, but at least that was the apparent difference to me.

And now I think you have got—I will get back to your question here in a few minutes, too, on when you point out, you point out the importance of a single landing event and AOCI, as I read their testimony, they don't express that much importance in the single event. They express more importance to the cumulative event.

In your presentation you state that title III of S. 3064 has nothing to do with noise abatement, but is an airline reequipment measure.

Now, that is plainly an incorrect statement. The loan guarantee is provided specifically because new airplanes do provide perceivable—I repeat, perceivable—noise decreases over the aircraft they replace. In addition to the entitlements in title III that the guarantees are available for FAR 36 or stage 3 aircraft—and, as I have said, after 1985 it would be available for any other except stage 3—

there are formidable market incentives to buy the quietest new aircraft as they are also the most efficient.

Now, why does AOCI not make the same criticism of the House bill? They fund retrofit which S. 3064 does not, and FAR 36 stage 2 aircraft.

Mr. REILLY. Mr. Chairman, again going back to your original statement and in response to your question just now, I think that we did understand what the Senate bill intended to do. And, as we tried to relate, it was because of that new 9-year lapse and 7-year lapse for 100 percent of the two- and three-engine aircraft where we felt that in making the statement, that the airlines, during the course of the next 10 years, are going to be out because of fuel energy reasons and others, to buy a mammoth number of new aircraft which they would have to be doing anyway.

But what concerns us so much is that we provide under the Senate bill this new 9- and 7-year lapse which runs counter to a pure regulatory noise proposition that we have right now.

The CHAIRMAN. Well, I will admit it does, but, as I said, I think it runs counter simply because when you pull those numbers out of a hat, it scares the dickens out of you. You are not really looking at what it does. You are looking at the psychological impact that is going to come from the people that you have to deal with around the airports.

Mr. PATTARINI. That is important.

The CHAIRMAN. It is a big factor, no question about it. I am not underplaying that.

Mr. BEAN. Mr. Chairman, may I comment?

The CHAIRMAN. Sure.

Mr. BEAN. I mentioned this testimony that related to Tampa, but I didn't want to go into it in detail.

On June 1 we are holding a public hearing on a runway extension. We have an environmental impact statement. We have used the contours assuming compliance with FAR part 36 as written. If that regulation lets go, our master plan is no longer valid.

Whether or not we construct that runway, whether there is a long delay in getting it constructed, depends on those lines on a sheet of paper.

The decisions will be made by people who have never even seen our airport who will see nothing but a bunch of contours on a sheet of paper.

If we go to court, the judge looks at these lines on a sheet of paper. And it is more than a psychological problem. It is a very real and potentially very costly problem for each airport.

The CHAIRMAN. You state that a flyover demonstration would be ambiguous, admitting that some listeners might not perceive significant differences, and I personally suspect that most of them would not.

So if you are unwilling to accept the reaction of the committee to a live test of retrofit, your argument boils down to the defense of the cumulative impact of noise whether or not it is perceivable to the area.

Now, isn't taking a noise decrease you can't hear and multiplying it by the frequency of flights something like multiplying 50 times 0 and coming up with 50?

Mr. REILLY. I don't think so.

Mr. DAVIS. I don't think so.

The CHAIRMAN. Why don't you want to have a flyover, then, and let's see?

Mr. DAVIS. I think a flyover is fine. I think it ought to be tested otherwise, too, and I think there is a lot of expertise in this country that can tell us about the effects of noise.

I think you have heard the analogy before, but there is something beyond the level of perception also.

If we brought a bag, someone said, of asbestos in the room, and all inhaled deeply, probably none of us would perceive any damage, but that doesn't say that none exists.

There is a lot of evidence in this country that there is damage whether it is perceived or not by sustained high levels of noise. I think I have a responsibility to deal with that question also.

If I might, however, I would also like to comment a little bit on your proposals in your title III.

I think at the risk of alienating my comrades here, I think that they have some merit if their thrust is at more replacement and less retrofit.

I think all of us would like to see more replacement and less retrofit. The question is the time.

You know, sir, if you are open to other adjustments—perhaps I can see a bill that would say a commitment in 1981 rather than 1985, with delivery as soon as the industry can push it out. That would be pretty attractive.

The CHAIRMAN. That might be a solution. I would like to have you people take a look at it and see.

As I said initially, I put this in here for the purpose of discussion—and I am not necessarily wedded to it. But I am scared to death about the problem that you people are going to have since I don't think the FAA retrofit solution is going to make a doggone bit of difference. When we have finished, we will have spent a lot of money for nothing, and we won't have encouraged the carriers to go out, instead, and spend this money for new airplanes. That is really the thing that bothers me about it.

You mention the importance of doing something even if it is not perceptible for those people who have lived with the noise problem. I say that that psychological impact is going to be gone as soon as new people move into that impacted area as well.

Mr. BEAN. Mr. Chairman, if I can comment, that psychological impact you are referring to now, quickly turns into political impact, and this quickly turns into curfews.

May I take another minute to ask Mr. Corbett, from our staff, to make a comment? He is expert in this area.

The CHAIRMAN. I will agree it turns into a political impact, and I am glad I don't come from New York or Boston or Los Angeles.

Mr. DAVIS. I went to Los Angeles a couple of months ago, and noticed the difference right away.

Mr. CORBETT. Going back to your question, do we understand the bill—I think we do. I think we read the regulations that have been on the books for 17 months as saying that by 1981, for one-half of the two- and three-engine fleet, the airlines have to have retrofit in

place for that one-half, or have a signed contract by 1981. That is something——

The CHAIRMAN. For the record.

Mr. CORBETT. That is something that has to be accomplished by a date. We understand, also, your bill to say that for the same one-half of the fleet, in 1981 nothing happens. They don't have to have retrofit, they can just be talking about having a contract, but they don't have to have the contract in 1981, Senator, they have to have it in 1985.

The only thing they have to have before that, Senator, is a plan and there is no reason why an airline should not be allowed to change the plan under the bill. So, we see a 4-year drop as minimum in terms of when the airlines have to do something, Senator, and that is the problem we are worried about.

The CHAIRMAN. I don't agree with you on how you interpret the bill, and maybe I am wrong, but let me tell you what the intent is.

The intent is that they have to come up with a plan, as I said. Their plan may call for x number of airplanes to be retrofitted because they don't feel they can economically replace them. If they say 50 of our airplanes are going to be retrofitted, then the percentage factor that applies is that in the FAA regulation.

Mr. CORBETT. I think we are fearful that the airline plans are going to show that they are going to replace by 1990 with these new aircraft that have not been made yet. So they are not going to do anything by 1981. And in 1985, instead of coming in with a contract, Senator, they are going to come to you or your successor and say, "Just a few more years." It really doesn't make any sense——

The CHAIRMAN. You assume they won't come in with a reasonable plan. It reminds me of our hearings on regulatory reform when the airlines were all scared to death because they figured every other carrier is going to jump in on top of their best route. You have to believe that these carriers are going to use good business judgment. They are in business to make money. They are not there to provide uneconomic service.

And DOT has to approve the plan. The plan has to be approved by the Department of Transportation.

Mr. CORBETT. I think we are agreed, Senator, that the earlier you can get the airlines to make an irretrievable commitment, that is something that can be taken to the communities as showing a real time defined promise of relief.

The CHAIRMAN. Well, perhaps there is a way around our disagreement. AOCI approves of the House mechanism as far as no extension of compliance deadlines. The entitlements that carriers are eligible to receive, and the concept of providing the approximately $3½ billion to achieve a mix of retrofit and replacement by 1985. Is that a fair statement?

Mr. PATTARINI. That's right.

Mr. REILLY. That's correct, Senator.

The CHAIRMAN. My problem is that I don't agree on the effectiveness in the retrofit, first. And, two, I have a philosophical problem with all the system users being charged to fund a program aimed at benefiting only a small number of communities which have serious aircraft noise problems.

What if we accepted the House entitlements approach without any compliance extension, but rather than getting the revenue from a 2-percent ticket tax, have the airports provide the funds by charging a head tax.

Mr. PATTARINI. No way.

The CHAIRMAN. Each airport would be required to provide the same percentage of the $3.5 billion as the airport's percentage of the 7 million people who are seriously affected by aircraft noise.

For example, New York has about 2 million people within NEF 40, so they would be required to collect from their users about 30 percent of the $3.5 billion, or approximately $210 million per year.

Assuming about 20 million enplanements per year, that would require the Port Authority to collect a $10 head tax for 5 years. Such a system would allocate the true costs, properly, for the system.

Those communities which are seriously impacted by noise, and seeking relief, perceptible or otherwise, would pay the cost of that relief. Mr. Bean and Mr. Pattarini, would you be willing to have your community pay for the relief that you are seeking?

Mr. REILLY. Mr. Chairman, before they answer, may I respond by saying one thing, sir.

The CHAIRMAN. Don't give them the answer, now.

Mr. REILLY. Based on your golden guidance over these many years, we have developed a tremendous national airport system in the United States. That system, with your leadership, provides that a user tax of passengers at the larger airports provides funds which we, to a large extent, distribute through many of the smaller airports to keep the total system viable and moving.

I guess what I want to say is that I don't see why we have a national problem involving aircraft noise because the planes fly to all the communities, why we should start, you know, reducing the base to cover the need.

The CHAIRMAN. When you finish, I want to go back to Mr. Bean and Mr. Pattarini. I don't want to give them too long to think about this.

Mr. PATTARINI. I don't need too long to think about it, sir. A head tax, in my opinion, would be discriminatory. I think the problem lies within the industry as a total. Those aircraft that would benefit the surrounding community by being quieter, in the case of New York, would also benefit people in other States from which these aircraft go to and from. You just can't specify an aircraft to operate with A and B route system. It is a system approach.

The CHAIRMAN. Well, if people from other States want quieter aircraft, they would have to pay for it the same way. You have 2 million people with NEF 40. That is about 30 percent of the total. If you communities that are affected are willing to pay your share for the relief you are seeking, I wouldn't object to you getting the type of relief that you want, as long as you are paying for it.

Mr. PATTARINI. Let me give you another parallel, then.

When we had the great hijacking situation, I was number 1 on the hit parade. Three airports, right? Presidential action came out, boom. Within 90 days we had to find more cops than you could

shake a stick at. And it is still in being. And it didn't need 15 or 20 years, or x years, to reach a solution to a nationwide problem.

Why can't this be viewed in that vein?

Mr. BEAN. Mr. Chairman, I would answer your question, first, by questioning a premise in the question; that is, that only a few airports are impacted.

It is a matter of degree, admittedly. But I think I can best demonstrate it by saying I was at a meeting of the American Association of Airport Executives a couple of days, primarily attended by small airport operators. And, if I may, it was put to them, "Would you prefer a bill that extends—well, Senate bill 3064, basically—would you prefer that, or would you rather have the regulation as it is?" And this was almost unanimously adopted, which indicates to me that all the airports have a problem, and it is with the two- and three-engine aircraft.

The CHAIRMAN. But you are omitting what I said. You are neglecting attention to what I said, because every airport has some people that are within that NEF 40 contour, so they would pay their proportionate share, as I spelled out. This would determine the volume of payments.

Mr. BEAN. I would guess—I'm not an economist. I would guess it probably would be paid on that basis, whether it comes out of the 8-percent tax or if the airlines increase their fare, or what have you, because Mr. Pattarini's airports enplane a much larger percentage of passengers than my airport or smaller airports.

Mr. REILLY. Mr. Chairman, that is an important point. I hope you haven't missed what was just said. And that is that in essence, by using the trust fund moneys that users of the system are paying into to put up the front money for noise abatement, we are in essence doing what you are saying, but we are still confining it on a national basis, as a national problem. And I think that is the important strut that we rest on.

Mr. DAVIS. I will have to add that I think that that is a very clever proposal and one that, obviously, has, as you well know, a self-destruct button right in the middle of it. I think it would be pretty difficult to move that through your colleagues on the other side of the Congress, because there is a matter of basic equity here.

The CHAIRMAN. You don't mean to imply that you can't get something through the House that is equitable, do you?

Mr. DAVIS. I am implying that everybody has their own set of equities.

The CHAIRMAN. I see.

Mr. DAVIS. And I think we all know that we have, larger airport operators have been subsidizing, with all the enplanements, passengers that we put into the system, most of the rest of the system. If there is a disagreement on that, I would like to know about it. But it is time to help those, us, with our problem, too.

I think, incidentally, the problem is a good deal more widespread than you put it. I was very interested in the San Jose testimony, George's testimony from the AAAE convention. Really, it is a matter of equity and one that, I think, the other side would quickly recognize.

Mr. PATTARINI. Senator, let me reverse your question.

On the assumption—on the assumption that I went along with the rollback in dates—which I will not do; but assume I did—would the Federal Government pick up the liability in the event of lawsuits?

The CHAIRMAN. You would have to ask some other department. That is not in my department.

Mr. REILLY. Senator, may we extend your jurisdiction?

The CHAIRMAN. Well, gentlemen, thank you very much. We have had a very interesting discussion, and I hope you will take another good look at this bill and see if maybe there is some common meeting ground that is going to help solve your problem in the long run.

The thing I just fear, I would hate like the dickens to be Secretary of Transportation once this retrofit program goes into effect and you people continue to get your complaints and find out that not only was the noise difference imperceptible, but the complaint difference was imperceptible.

Mr. PATTARINI. May I make one final comment, sir?

The CHAIRMAN. Yes.

Mr. PATTARINI. If the Federal Government put into being as part of aircraft certification, noise, and they have, and we talk about FAR 36 as the perfect thing at the moment——

The CHAIRMAN. Stage 3.

Mr. PATTARINI. Stage 3, that is 25 years away, then, the difference between a retrofitted aircraft and what you achieve through FAR 36, if one really gets into it, is a couple of dB. So maybe we are talking in circles. I will back that up by another statement.

Based on the work we did on the Concorde—and that is where you get into the psychoacousticians—we had a consultant from England that did an extensive test for us at Heathrow. We did them at Charles de Gaulle. We did them at Washington National, et cetera. And the so-called flybys to get a perception on what 5 dB means cannot be done with one. It is done over a period of time. Subjects have to be analyzed; the people have to react to them.

One thing that we derived out of those tests, which are now in the literature, when you talk—in the old days we talked about a 9 to 10 spread in dB's. We are doubling the noise or the sensitivity of one's ears. Based upon the findings of these acousticians, you will find that now maybe 5 to 6 is equivalent to a doubling or a halving.

So I think a little more study should be given to the subject, whether 5 dB is meaningless. I think it is tremendous, and I don't think we can wait 5 or 6 more years for it.

Mr. REILLY. On December 4, 1975, the Administrator of the FAA had the same concerns as you are expressing, whether it is meaningful to retrofit. At that time, to allay his fears, he had a conference call with six of the gentlemen that are called psychoacoustic experts. The FAA has some documentation on that.

We would certainly hope that—in response to your question, we would be happy to again look at your bill to make sure we understand it. But we would more or less implore you, sir, to perhaps bring some of these gentlemen before you to give you professional views on whether the single flyover is meaningful and, really, what does the cumulative contours mean. Perhaps these gentlemen, as experts, can shed new light on this for you.

The CHAIRMAN. Thank you very much, gentlemen. We appreciate you being here today.

[The statements follow:]

STATEMENT OF GEORGE J. BEAN, PRESIDENT, AIRPORT OPERATORS COUNCIL INTERNATIONAL, INC.

Mr. Chairman and Members of the Subcommittee: The panel before you this morning represents the Airport Operations Council International (AOCI). AOCI is the association of the governmental bodies which own and operate the principal airports in the United States and abroad. AOCI members, such as those represented on our panel, serve metropolitan regions in the United States which encompass the vast majority of the estimated 7 million citizens presently subjected to aircraft noise. (A listing of our United States members is attached.)

Mr. Chariman, we greatly appreciate your having scheduled these hearings to consider legislative approaches to what we firmly believe is a most serious national problem. Later in our presentation we will be commenting on various aspects of S. 3064, proposed for discussion by you and Senator Pearson; S. 747, offered by Senator Javits; and H.R. 8729, the legislative approach developed by the House Public Works and Transportation Committee.

NEED FOR ADDITIONAL AIRPORT DEVELOPMENT FUNDS

Before discussing the noise issue, we would like to comment briefly on the pressing need for additional Airport Development Aid Program (ADAP) funding for fiscal year 1979 and fiscal year 1980. We are most pleased that your legislation, Mr. Chairman, would increase funding levels for these years by a total of $570 million and would also extend current law to keep the Aviation Trust Fund share of ADAP safety project costs at the 90 percent rate through 1980 for all smaller airline and all general aviation airports.

Applications for some $900 million in FAA-reviewed ready-to-go airport safety and capacity projects will go totally unfunded this year even though the current surplus in the Aviation Trust Fund—from user-contributed taxes—is approaching $2 billion. Smaller airports, particularly, are uncomfortable with the year-and-a-half funding backlog within FAA when the projects for which they need additional discretionary funds are overdue runway extensions, taxiway repairs, runway lighting, and other high priority projects. In the absence of legislative action, Mr. Chairman, the Treasury Department will lend that $570 million of the surplus to other Federal programs and the Trust Fund balance will be increased by another $76 million in interest income but the safety of the airport system will not have been enhanced.

The ADAP increase really isn't connected to the noise financing issue but has been included in your bill and the House noise bill for convenience purposes. Even if this Committee decides not to report a noise financing bill, and to let the airlines work out with the CAB and the passenger fare structure the costs of compliance with the noise regulation, we hope you would act on the ADAP increase legislation separately and without delay.

MAGNITUDE AND SERIOUSNESS OF AIRCRAFT NOISE PROBLEM

The physical descriptor of today's aircraft noise pollution problem are often cited: 7 million citizens exposed to excessive levels of noise; 900,000 acreas of land so impacted by aircraft noise levels that HUD has redlined that whole expanse as not normally eligible for Federal construction loan guarantees; and Property values around airports depressed by an estimated $3.25 billion annually just because of the noise flyovers.

But the impact of the noise problem on the people and the fabric of the society in which they live and react is also an important cost that often doesn't receive the same attention as dollar costs. Communities not wanting to be dispersed even with generous Federal relocation aid; school children tuning out the teacher as well as the noise; and neighborhoods where backyard barbecues must be moved indoors or conversations regularly suspended for thirty-second intervals.

As most everyone knows by now, the local government which operated the airline airport is in the middle. The Supreme Court has held that the airport proprietor is legally liable for the reduction in property values resulting from the noise of the aircraft which only the Federal Government certificates and which the private airlines operate along aerial paths under the exclusive control of the Federal Government.

So far, some 80 of our airport sponsors have expended $200 million in settling law suits and buying land in advance of law suits. Another $365 million of noise damage suits or claims are pending.

More important for the future, the airport operator alone cannot negotiate harmony, peace and quiet. Adjoining communities are politically active for restrictions on jet operations (curfews) but won't voluntarily exercise their land use control power to zone for future compatibility with the airport. The airlines understandably want the greatest possible freedom to schedule their aircraft efficiently and profitably, unhampered by different and inconsistent rules in every city. The Federal Government ends up supporting the right of the airport proprietor to restrict aircraft operations so long as there's no real "system" impact but limited always by the Federal budgeteer's fear that too heavy a Federal hand could switch legal liability for noise from the proprietor to Uncle Sam. In too many cases, this confluence of forces results in at least short-term delay in obtaining the increases in metropolitan airport system capacity which will be needed before the 1980's.

AOCI AIRCRAFT NOISE POLICY—IN GENERAL

Before commenting on the legislation, Mr. Chairman, we should note that AOCI has spent much time reviewing the Aviation Noise Abatement Policy Statement issued jointly by the Secretary of Transportation and the Federal Aviation Administrator on November 18, 1976. We have endorsed it both in general and with regard to virtually all of its specific findings. We urge that it be included in toto in the record of these proceedings (attachment A) [1] as a comprehensive and yet understandable summary of noise abatement options—source noise reduction in the aircraft and engine; aircraft operational procedures to keep the aircraft away from populated areas; and land use and airport use restrictions to reduce the number of people impacted by noise.

FAA FLEET QUIETING REGULATION: ESSENTIAL, OVERDUE RELIEF

When the Ford Administration adopted the FAA Fleet Quieting Regulation in December 1976 (FAR Part 91—Amendment 136—Noise Abatement Operating Restriction), we were pleased that action had finally been taken to shrink over time the noise from the 1,600 jets in the fleet which met no noise standards.

That regulation, as you know, has already been in place for a year and a half, and requires that the U.S. domestic airlines retire or quiet their fleets to 1969 noise standards in accordance with the following schedule: Older four-engine jets (B–707, DC–8, B–720) by January 1985 with one-quarter compliance by 1981 and one-half by 1983; Two- and three-engine jets (B–727, B–737, DC–9, BAC 1–11) [and a few earlier B–747 4-engine aircraft] by January 1983 with one-half compliance by 1981; and if an airline opts, as part of a DOT-approved compliance plan, to order a replacement aircraft which is scheduled for delivery prior to 1985, DOT can allow the older aircraft to remain in service until the replacement arrives.

In promulgating that regulation, FAA also determined—as required by the Congressional delegation of authority—that implementation of the regulation by the domestic airlines was economically reasonable without any Federal subsidy program at all, and that the technology was already available and was appropriate to the aircraft to be quieted.

While our communities contended that an eight-year compliance timeframe was too extended, most decided that having a final regulation in place at least set definite, legally secure parameters for future planning actions by communities.

In our view, a regulation eight years in the making which merely requires the industry to apply 1969 noise technology by 1985 is an absolutely minimum response to increasing numbers of noise-affected citizens in our metropolitan areas.

We are, then, strongly opposed to any legislative attempt to weaken or extend or waive or otherwise water-down those deadlines.

TITLE III OF S. 3064: FLEET MODERNIZATION WITH NOISE ABATEMENT SIDE EFFECTS

With due respect, Mr. Chairman, we find Title III of S. 3064 terribly disappointing because it's not really a noise abatement program at all. It's an "airline fleet re-equipment financing program" which would have greater or less noise reduction side effects depending upon the kinds of aircraft the airlines decide—for their own corporate purposes—to buy to replace their aging and noisy B–707 or DC–8 first generation jets.

There's nothing in Title III to encourage the airlines to buy aircraft which are any quieter than the aircraft they would buy (and, in many cases, have already

[1] Attachment A is available from the Department of Transportation and has been placed in the committee files.

ordered from existing financial resources) solely for capacity purposes without any special consideration for noise relief. Once again, noise abatement is left to the market place.

In our view, a large part of our noise problem today is as a direct result of noise (like other environmental pollutants) not being a competitive element in private airline decision-making. The airlines have in the past had no competitive incentive to buy quieter aircraft because passengers don't favor the airline with the quietest fleet. For example, in the early 1970's the airlines had the choice of purchasing from the manufacturers aircraft that were quieted in manufacture or identical aircraft without the optional noise treatment. Even after the personal plea of the then-FAA Administrators, airlines went ahead and ordered the noisier versions.

Only Federal regulatory action applicable to all competitors will assure noise relief or clean air or clean water.

We believe, Mr. Chairman, if $20 billion of aircraft purchases are to be guaranteed with Federal funds in the name of "noise abatement", then at least two ground rules should apply:

First, Federal noise financing shouldn't be available to reimburse the airlines for the costs of the aircraft they have ordered or will order strictly for cyclical fleet modernization purposes and which can be financed through their own resources. If the aircraft being purchased aren't quieter than the airline would have ordered anyway, there's no reason for financial "incentives." That is "plain" subsidy without any extra noise relief component.

Second, any Title III legislation should include a statutory formula so that, in replacing the 4-engine older jets, the airlines could get increasing Federal aid in proportion to the decibel reductions achievable by that type aircraft.

COMMUNITIES OPPOSE S. 3064'S 2- AND 3-ENGINE COMPLIANCE DATE ROLLBACK

As you know, Mr. Chairman, we also believe that the proposal to extend the compliance deadlines for the two- and three-engine jets from 1985 to 1990 is not justified, or right, or wise. We think the airlines won't retrofit to the 1981 and 1983 deadlines and won't replace by 1990. They'll be back in 1985 to Congress and DOT for "just a few more years." Let us list for you part of our reasoning:

First, Congress explicitly delegated to FAA in 1968 the authority to issue regulations to require the retrofitting of aircraft which, when purchased, admittedly didn't have to meet any noise standards. [Senate Report No. 1353, 90th Congress, prepared by this Committee, stated in 1968 that "the bill grants authority to require retrofitting of aircraft already certificated."]

So any airline buying after 1968 the kind of two- or three-engine jet at issue here today bought it with the knowledge that it might have to be retrofitted.

Second, DOT/FAA, in observance of its limited delegation from Congress, went through more than six full years of detailed and technical rulemaking before issuing its final regulation in December 1976. All the arguments raised by those who still don't like the idea of retrofit were offered to FAA in response to its successive rulemaking proposals on this subject in 1970 and 1973 and 1974 and 1975. Those comments to the dockets—including the Chairman's July 24, 1974, submission—were considered and their arguments ultimately found wanting.

Based on the comprehensive documentary record, we do not believe that any Federal court would find that FAA had abused its discretion in judging the two- and three-engine aircraft retrofit requirement "economically reasonable and technologically practicable" for implementation for half the non-complying fleet by 1981 and for full effect by January 1983.

Third, given that administrative history and record, we think that there should be a very heavy burden of proof upon any party who would have Congress just overrule that regulation. Upon what new technical data or claim of economic hardship is the case for Congress' taking back its duly delegated authority based? Our communities want to know.

Fourth, apart from the history of the regulation, we think that the FAA regulation mandating the retrofit of the two- and three-engine jets will provide some real relief to airport neighbors. Retrofit is not a panacea or a "solution" and our communities don't expect it to do more than the FAA data say it can.

Single event test results (flyovers) will be ambiguous

We would guess—even though airport directors don't hold themselves out as acousticians—that on a single-event basis such as a flyover of test aircraft in an artificial setting, the difference between the noise levels of fully retrofitted and unretrofitted B–727 aircraft probably would be perceptible to most observers at the approach measuring point. For the other 2- and 3-engine aircraft types, some listeners may "perceive" the noise reduction and others may not. While a 1- or 2-dB

reduction at a single measuring point for a single flight may not alone be "perceptible" to even someone with good ears, there is a real "perceptible" difference in the whole daily dosage in a real setting.

Mr. Chairman, we are pleased you indicated again yesterday during your Aero Club speech that you were open to new information during these hearings.

Frankly, we think the weight of the evidence suggests, contrary to your honestly felt view, that there is a direct relationship between the measurements of cumulative noise (NEF, Ldn, CNEL) and people's perception of noise and its annoyance. [See "How Noise Is Described," pp 13–15 of DOT/FAA—Noise Policy Statement.]

We urge you to take independent testimony on this issue from psycho-acoustic experts of your own selection because they apparently also disagree with your conclusion that if you can't perceive noise from single aircraft flyovers of retrofitted and unretrofitted aircraft, then a sizable proportion of a whole impacted community also cannot, when measured for the cumulative impact of numerous flights, at all hours of the day and evening in the midst of a "real world" residential situation.

Mr. Chairman, we hope you could come to appreciate the validity of the cumulative noise measurement methodology because then the noise reduction our panel can show from two- and three-engine retrofitting of aircraft serving their communities would be more understandable.

Fifth, cumulative noise measuring systems are already in widespread use. DOT, FAA, EPA, HUD, and DOD require noise impacts to be measured cumulatively in connection with grant applications and all sorts of environmental approvals. Also, courts use such cumulative measures to determine under state law whether, following the Supreme Court's decision giving liability to the airport sponsor, there has in fact been a "taking" of property by the airport.

Mr. Chairman, if you won't ultimately accept a cumulative noise measure, could you then prohibit all the other actors in the noise equation from their using cumulative noise measures by which to judge airport plans and actions? It does not seem fair to determine noise costs and liabilities by one set of rules but contravailing benefits (amount of noise reduction from retrofit) by a separate and different rulebook.

Sixth, all air carrier airports would get the benefit of some noise reduction resulting from two- and three-engine retrofit because those aircraft serve all U.S. airports. Also, as you know, those aircraft perform more than 80 percent of all takeoffs and landings from our airports because of their short- and medium-haul characteristics. (Attachment B.)

Seventh, the costs of retrofitting the entire non-conforming two- and three-engine fleet are truly modest relative to the accompanying noise benefits and the numbers of communities getting the most relief realistically available. The entire capital cost would not exceed $300 million. That averages out to $6.28 per landing or takeoff per retrofitted aircraft throughout the 1980's, according to our recent calculation. If you consider that the block time (operating) cost for an average haul B–727 flight is about $1300, the increase resulting from the retrofit kit will be less than 1 percent.

Lastly, there would be other negative results beyond just the actual loss of the noise reduction, were the FAA's regulation to be overturned by Congress. It would be an awful precedent. FAA would in the future try to guess what result Congress wanted in each regulatory situation and would not be anxious to develop a contrary view of its own no matter how well documented. Moreover, our noise conscious communities could fairly conclude that the Federal Government collectively would not be doing all that's technologically practicable and economically reasonable to reduce their levels of noise exposure. And at least one reputable study has shown that citizen's perception of government doing "all it can" in the aircraft noise field reduces annoyance equivalent to not less than a 5dB real noise reduction. Worse, a Congressionally-mandated delay in the noise implementation schedule would throw out all of the noise compatibility planning airports and communities have been doing based upon the assumption of full fleet compliance by 1985.

COST-EFFECTIVENESS OF RETROFIT AT 25 AIRPORTS

I would like to briefly describe the charts we have brought with us today. Copies of them, C1 and C2, are included in your package. These charts show the effect of a series of FAA noise regulations over time beginning in 1975.

The main points that we would like to make are that, first, on chart C1, in 1975, about $60 billion worth of land around U.S. airports, containing 6 million residents, was impacted by serious aircraft noise levels (NEF 30 or greater).

Second, the effect of FAA's 1969 regulation which applied to new aircraft (the top line), and the 1973 regulation reuiring new copies of old aircraft to meet the 1969

standard (the next line down) would be to reduce this 1975 base case noise impact area by about 20 percent in 1985.

Third, the bulging line at the bottom shows the effect of FAA's fleet replacement/retrofit program. If allowed to continue in its current form without modification, this program will produce an additional 25 percent reduction in noise impacted areas by 1985. This would leave about 54 percent of currently impacted land around airports to be treated as a residual noise problem—land having a value of about $37 billion today.

Finally, chart C2 shows the noise reduction that is attributable to retrofit of only 2- and 3-engine aircraft. The shaded area shows that, by 1985, more than half of the regulation's overall impact will be achieved through retrofit of these aircraft.

However, assuring full fleet compliance with FAR 36 by 1985 will not solve the noise problem: as you can see, $37 billion in NEF 30 or greater impacted land will remain.

TITLE I—HELPING COMMUNITIES WITH RESIDUAL NOISE IMPACTS

We support Title I of S. 3064, which is identical to Title I of H.R. 8729, and which authorizes up to $400 million in Aviation Trust Fund money to airport sponsors and other noise-affected communities in mitigating the noise which remains after all that can be done through source noise and operating procedures has been achieved.

As we have shown on the attached charts, to the extent that Congress would weaken the Fleeting Quieting Regulation, that would increase disproportionately the residual land use problem. And land use solutions—where feasible—historically have been the least cost-effective approach to noise reduction. The voluntary approach to land use planning is appropriate, at least at this time, and we are hopeful that this mechanism will increase the cooperation between the airport sponsoring and neighboring jurisdictions.

Mr. Chairman, we will offer a number of proposed changes to Title I of your bill before your hearings are completed and after a membership survey we have underway is completed. It does appear, however, from partial survey results to date that not all of the money authorized in Title I in S. 3064 and H.R. 8729 for fiscal year 1979 would actually be used up by airports and adjoining communities. As the Administration is concerned about expenditure levels, we would support a reduction in Title I funding for fiscal year 1979, depending upon the final results of our survey of airports.

Without meaning to be repetitious we find that, here again, there is a direct relationship between the potential slippage of the FAR 36 compliance deadline from 1985 to 1990 and the degree of cooperation airport sponsors will get from other local governments. Our membership has been attempting to get these neighboring jurisdictions to keep or get land near the airport zoned or otherwise protected for compatible uses. That may translate as action by those communities on a voluntary basis to reduce their own property tax revenues. Can we ask those communities to act responsibly if Congress by weakening the noise regulation switches more of the pre-1985 burden from the industry to these noise-impacted communities?

AOCI VIEWS ON OTHER LEGISLATIVE APPROACHES

To the extent that we have commented on Titles I and II of S. 3064, Mr. Chairman, our views encompass also the identical provisions of H.R. 8729. We have supported Title III of that but with two reservations:

1. Section 306 of H.R. 8729 (and a similar provision in S. 3064) would authorize the DOT Secretary to waive the compliance regulation for "good cause." We disagree with the need for any such provision as DOT regulations allow the Secretary to grant waivers in all appropriate circumstances. Further, the examples of "good cause" specified in those sections are, in our view, not adequate reasons for waiving the deadlines. This language should be removed from both bills.

2. If the House approach is to be accepted in conference, our members need assurance that not more than five years of Aviation Trust Fund tax sources (up to two percentage points of the existing 8 percent passenger ticket tax) will be used for helping the airlines. To do more, would throw the Trust Fund into near bankruptcy by 1985 or so.

S. 747 essentially implements the FAA rule as proposed by the Ford Administration. It ensures that there will be no delay in airline compliance, but uses a CAB surcharge approach.

CONCLUSION

In the end, Mr. Chairman, it all gets down to how much noise relief is guaranteed to our communities. The proposal in S. 3064 to extend the Fleet Quieting Regulation

deadline until 1990 for the two-and three-engine aircraft is perceived as another case of "Just a few more years. There's something better around the bend."

We just can't accept that any longer. The FAA compliance regulation at long last is on the books. The clock is running.

Frankly, AOCI and its membership would prefer that regulation—unweakened and unfinanced—to any legislation which would add "just a few more years" and would also use the Federal funds to reimburse the airlines for doing what they wanted to do all along: have the Federal Government share the cost of fleet modernization without speeding up for noise abatement purposes the retirement dates on their existing aircraft.

Attachment B

AVERAGE DAILY COMMERCIAL JET OPERATIONS (TAKEOFF OR LANDING) AT SELECTED U.S. AIRPORTS, FEBRUARY 1978

72 percent of the airline airports in the States represented on the Senate Aviation Subcommittee receive jet service only via 2- and 3-engine narrow-body aircraft (B–727, B–737, DC–9, BAC–111) which, as a class, would be given a 5–9-yr delay for noise quieting/replacement to 1990 by S. 3064.

Nationwide, 2- and 3-engine narrow-body jet aircraft constitute 63 percent of the fleet and perform 8.4 percent of all air carrier operations. These aircraft operate into all air carrier airports.

State and city	Total jet OPS	2- and 3-engine narrow-body operations [1]	
	Number	Number	Percentage
Alaska:			
Anchorage	137	69	50
Andreafsky/St. Ma	1	1	100
Aniak	1	1	100
Barrow	3	3	100
Bethel	4	4	100
Cordova	4	4	100
Dillingham	3	3	100
Fairbanks	28	26	92
Galena	1	1	100
Homer	1	1	100
Juneau	14	14	[2] 99
Ketchikan	26	12	46
King Salmon	2	2	100
Kodiak	4	4	100
Kotzebue	5	5	100
McGrath	1	1	100
Nome	5	5	100
Petersburg	4	4	100
Prudhoe Bay	4	4	100
Sitka	6	4	100
Unalakleet	1	1	100
Wrangell	4	4	100
Yakutat	4	44	100
Total	260	176	73

AVERAGE DAILY COMMERCIAL JET OPERATIONS (TAKEOFF OR LANDING) AT SELECTED U.S. AIRPORTS, FEBRUARY 1978—Continued

State and city	Total jet OPS	2- and 3-engine narrow-body operations [1]	
	Number	Number	Percentage
Arizona:			
Grand Canyon	4	4	100
Phoenix	279	210	75
Tucson	107	100	94
Total	390	314	81
Hawaii:			
Hilo	46	39	85
Honolulu	278	158	56
Kahului	100	100	100
Kailua-Kona	33	33	100
Kamuela	1	1	100
Kaunakakai	11	11	100
Lanai City	1	1	100
Lihue	58	58	100
Total	527	400	76
Illinois:			
Champaign/Urbana	19	19	100
Chicago	1,607	1,164	72
Chicago (Midway)	5	3	70
Decatur	11	11	100
Marion	2	2	100
Moline	51	51	[2] 99
Peoria	52	52	100
Quincy	3	3	100
Rockford	8	8	100
Springfield	24	24	100
Total	1,783	1,339	75
Kansas:			
Salina	9	9	100
Topeka	12	12	100
Wichita	68	67	98
Total	83	82	[2] 99
Kentucky:			
Covington/Cincinnati	202	185	91
Lexington	45	45	100
Louisville	150	144	96
Paducah	11	11	[2] 99
Total	408	385	94
Louisiana:			
Alexandria	16	16	100
Baton Rouge	44	44	100
Lafayette	20	20	[2] 99
Lake Charles	11	11	100
Monroe	27	27	100
New Orleans	283	254	89
Shreveport	73	73	[2] 99
Total	475	446	94

AVERAGE DAILY COMMERCIAL JET OPERATIONS (TAKEOFF OR LANDING) AT SELECTED U.S. AIRPORTS, FEBRUARY 1978—Continued

State and city	Total jet OPS	2- and 3-engine narrow-body operations [1]	
	Number	Number	Percentage
Michigan:			
Alpena	2	2	100
Detroit	417	305	73
Escanaba	8	8	100
Flint	19	19	100
Grand Rapids	49	49	100
Hancock	4	4	100
Iron Mtn/Kin	12	12	100
Kalamazoo	14	14	100
Lansing	33	33	[2] 99
Marquette	6	6	100
Muskegon	10	10	100
Pellston	2	2	100
Saginaw	28	28	100
Traverse City	8	8	100
Total	612	500	82
Missouri:			
Columbia	6	6	100
Joplin	8	8	100
Kansas City	2	2	100
Kansas City (Intl.)	267	240	90
Springfield	35	35	100
St. Louis	478	388	81
Total	794	677	85
Nebraska:			
Grand Island	6	6	100
Lincoln	43	43	100
Omaha	105	100	94
Total	154	149	97
Nevada:			
Ely	4	4	100
Las Vegas	285	229	80
Reno	79	71	89
Total	368	304	83
New Hampshire:			
Manchester	16	16	100
Total	16	16	100
New Mexico:			
Albuquerque	133	125	93
Carlsbad	6	6	100
Clovis	4	4	100
Hobbs	6	6	100
Roswell	8	8	100
Total	158	150	95

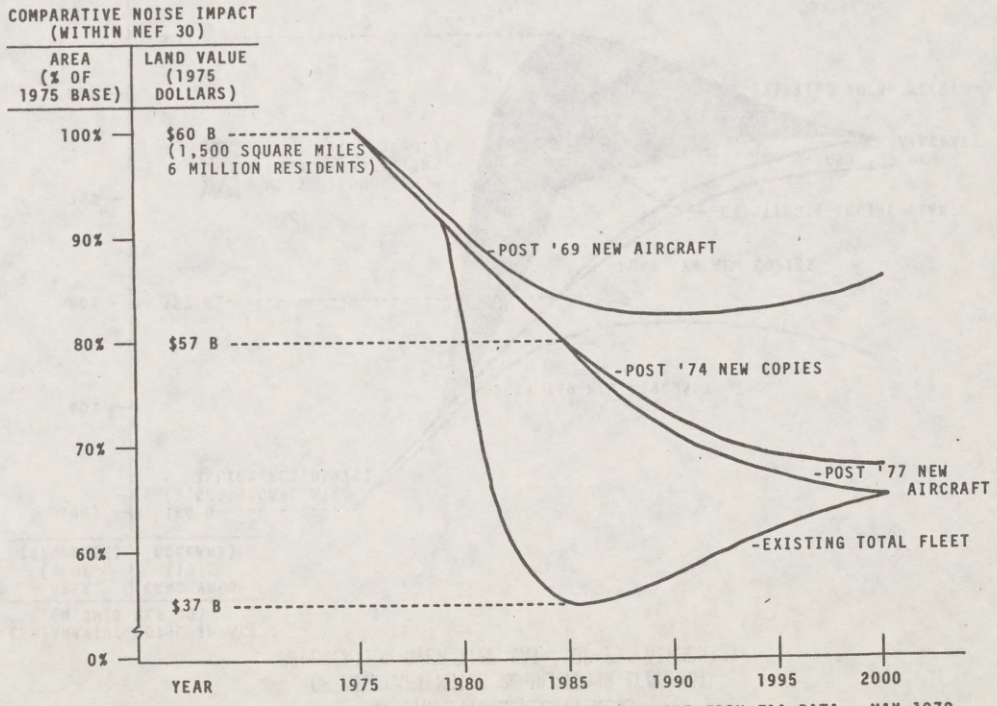
AVERAGE DAILY COMMERCIAL JET OPERATIONS (TAKEOFF OR LANDING) AT SELECTED U.S. AIRPORTS, FEBRUARY 1978—Continued

State and city	Total jet OPS	2- and 3-engine narrow-body operations [1]	
	Number	Number	Percentage
Oregon:			
Eugene	26	26	100
Klamath Falls	8	8	100
Medford	14	14	100
Pendleton	6	6	100
Portland	217	181	83
Redmond	8	8	100
Salem	4	4	100
Total	283	247	87
South Carolina:			
Charleston	46	44	95
Columbia	53	51	96
Florence	4	4	100
Greer	39	39	100
Myrtle Beach	10	10	100
Total	152	148	97

[1] Non-compliant (non-FAR 36) 2- and 3-engine aircraft comprise over 75 percent of the 2- and 3-engine fleet.
[2] Some non 2- and 3-engine jet operations do occur, but less than 1 percent.

Source.—Official Airline Guide, February 1978, FAA Computer listing.

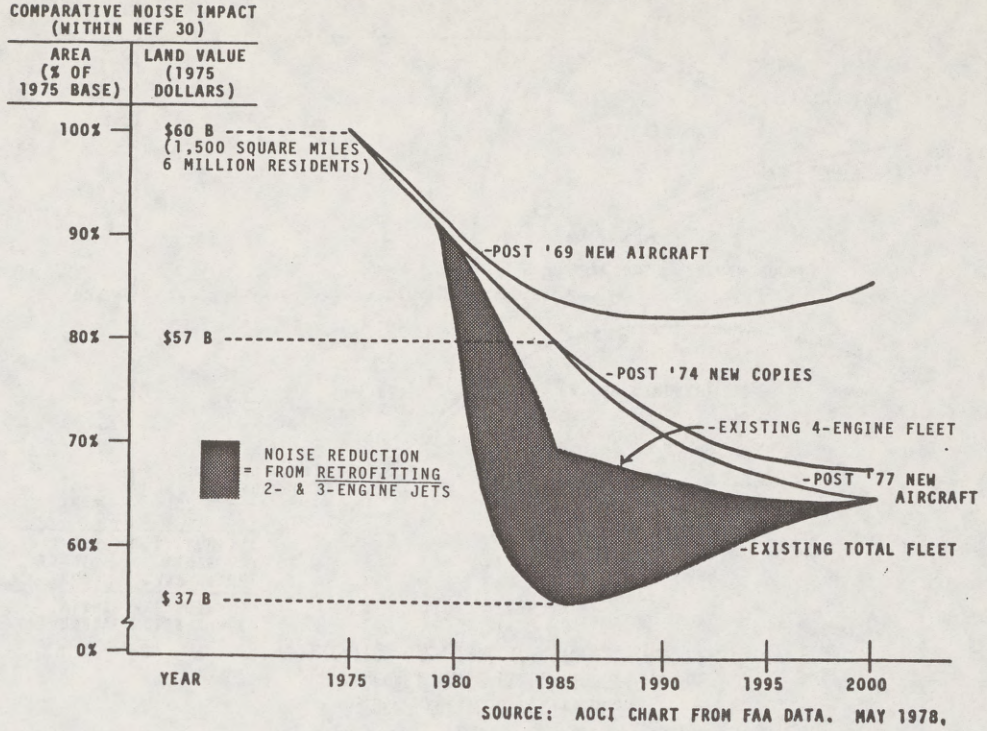
COMPARATIVE EFFECTIVENESS
OF AIRCRAFT NOISE REGULATIONS (FAR 36)
APPLICATION OVER TIME (AT "TOP-25" AIRPORTS)



SOURCE: AOCI CHART FROM FAA DATA. MAY 1978.

(ATTACHMENT C-1)

COMPARATIVE EFFECTIVENESS OF AIRCRAFT NOISE REGULATIONS (FAR 36) APPLICATION OVER TIME (AT "TOP-25" AIRPORTS)



SOURCE: AOCI CHART FROM FAA DATA. MAY 1978.

(ATTACHMENT C-2)

ROSTER OF MEMBERS—APRIL 1978

UNITED STATES OF AMERICA

Alabama
Birmingham—Department of Aviation.

Alaska
Alaska—Department of Transportation.

American Samoa
American Samoa—Government of.

Arizona
Phoenix—City of.

California
Fresno—City of.
Kern—County of.
Lockheed Air Terminal Inc.
Los Angeles—Department of Airports.
Oakland—Board of Port Commissioners.
Orange County Airport.
Palm Springs—City of.
Sacramento—County of.
San Diego—Unified Port District.
San Francisco—City and County of.
San Joaquin County—Department of Aviation.
San Jose—City of.

Colorado
Colorado Springs—City of.
Denver—City and County of.
Pueblo Memorial Airport.

District of Columbia
Metropolitan Washington Airports.

Florida
Broward County—Board of County Commissioners.
Dade County—Aviation Department.
Hillsborough County—Aviation Authority.
Jacksonville—Port Authority.
Lee County Airport.
Melbourne—Airport Authority.
Orlando—Greater Orlando Aviation Authority.
Palm Beach County—Board of County Commissioners.
Pensacola—City of.
Sarasota-Manatee—Airport Authority.
Volusia County—Daytona Beach Regional Airport.

Georgia
Albany—Dougherty County Airport.
Atlanta—Department of Aviation.
Savannah—Airport Commission.

Guam
Guam—Government of.

Hawaii
Hawaii—Department of Transportation.

Illinois
Chicago—Department of Aviation.
Peoria—Greater Peoria Airport Authority.
Rockford—Greater Rockford Airport Authority.
Rock Island County—Metropolitan Airport Authority.
St. Louis—Metropolitan Area Airport Authority.
Springfield—Airport Authority.
East Alton—Civic Memorial Airport Authority.

Indiana
Fort Wayne—Board of Aviation Commissioners.
Indianapolis—Airport Authority.
St. Joseph County—Airport Authority.

Iowa
Cedar Rapids—Municipal Airport Commission.
Des Moines—Department of Aviation.
Mason City—Municipal Airport Commission.

Kansas
Wichita—Airport Authority.
Topeka—Metropolitan Airport Authority.

Kentucky
Louisville and Jefferson County Air Board.
Paducah—Airport Corporation.
Lexington—Blue Grass Airport.

Louisiana
Baton Rouge—Greater Baton Rouge Airport District.
Calcasieu Parish—Airport Authority.
Lafayette—Airport Commission.
New Orleans—Aviation Board.

Maine
Bangor—City of.
Portland—City of.

Mariana Islands
Saipan—Department of Transportation.
Saipan—International Airport.

Maryland
Maryland—State Aviation. Administration.

Massachusetts
Massachusetts—Port Authority.

Michigan
Flint—City of.
Kalamazoo Municipal Airport.
Kent County—Aeronautics Board.
Muskegon County Airport.
Tri-City—Airport Commission.
Wayne County—Board of County Road Commissioners.

Minnesota
Minneapolis-St. Paul—Metropolitan Airports Commission.

Mississippi
Jackson Municipal Airport Authority.

Missouri
Columbia—City of.
Jefferson City—Airport Commission.
Joplin—City of.
Kansas City—Aviation Department.
St. Louis—Airport Authority.
Springfield—Municipal Airport Board.

Nebraska
Lincoln—Airport Authority.
North Platte—Airport Authority.
Omaha—Airport Authority

Nevada
Clark County—Department of Aviation.
Reno—City of.

New Hampshire
Manchester—Airport Authority.

New Jersey
Trenton—City of.

New Mexico
Albuquerque—City of.

New York
Broome County—Department of Transportation.
Buffalo—Niagara Frontier Transportation Authority.
New York—Metropolitan Transportation Authority.
New York—The Port Authority of New York & New Jersey.
Syracuse—Department of Aviation.

North Carolina
Charlotte—City of.
Greensboro-High Point—Airport Authority.

Ohio
Akron-Canton—Regional Airport.
Cleveland—City of.
Columbus—Metropolitan Airport and Aviation Commission.
Dayton—Department of Aviation.
Kenton County—Airport Board.
Toledo-Lucas County—Port Authority.
Youngstown—City of.

Oklahoma
Oklahoma City—Airport Trust.
Tulsa—Airport Authority.

Oregon
Portland—Port of.

Pennsylvania
Lehigh-Northampton—Airport Authority.
Pennsylvania—Department of Transportation.
Philadelphia—Department of Commerce.
Pittsburgh—Greater Pittsburgh International Airport.

Puerto Rico
Puerto Rico—Ports Authority.

Rhode Island
Rhode Island—Division of Airports.

South Carolina
Charleston County Aviation Authority.
Greenville-Spartanburg—Airport Commission.
Richland-Lexington—Airport Commission.

Tennessee
Chattanooga—City of.
Knoxville—City of.
Memphis-Shelby County—Airport Authority.
Nashville—Metropolitan Nashville Airport Authority.

Texas
Austin—City of.
Dallas—Department of Aviation.
Dallas/Fort Worth—Regional Airport Board.
El Paso—City of.
Houston—City of.
San Antonio—Department of Aviation.

Utah
Salt Lake City—Airport Authority.

Vermont
Burlington—Airport Commission.

Virginia
Norfolk—Port and Industrial Authority.
Peninsula—Airport Commission.

Virgin Islands
St. Thomas—Virgin Islands Port Authority.

Washington
Seattle—Port of.
Spokane—Airport Board.

West Virginia
Tri-State—Airport Authority.

Wisconsin
La Crosse—Municipal Airport.
Milwaukee County—Department of Public Works.

Wyoming
Natrona County International Airport.

STATEMENT OF CAESAR B. PATTARINI, DIRECTOR OF AVIATION, THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Thank you for the opportunity to present the Port Authority's views on legislation needed to alleviate the adverse affects of aircraft noise on hundreds of thousands of people in the New York/New Jersey region and millions more across the country.

We favor noise reduction at the source—the aircraft engine—as quickly as possible and to the greatest extent possible. The reasons are obvious. The airports operated by the Port Authority—LaGuardia, Kennedy International and Newark International—are located in the most densely populated urban area in the nation. Without emphasis on source noise reduction, relief from the noise affecting so many of our neighbors can only come at the sacrifice of our airport system and the enormous contribution that air transportation makes to the region's economy. We simply cannot afford this kind of tradeoff. Air transportation is the backbone of the economy of a region which is the nation's leading headquarters city, the leading international gateway, a leading tourist mecca and the world's leading air cargo center. Hundreds of thousands of jobs are tied to the activity of our airport complex.

The promulgation by the FAA-Department of Transportation of its retrofit/replacement regulation covering subsonic jet aircraft in December 1976 represented a milestone in the fight against noise. Long years of debate were ended. A changeover to a fleet in compliance with Federal Air Regulation 36 by January 1, 1985, for four engine aircraft and by 1983 for two and three engine aircraft was ordered.

Nevertheless, there remain compelling reasons for Congressional action on aircraft noise. While the FAA's economic analysis at the time of the regulation's issuance indicated that it was economically reasonable, public testimony by the aviation industry made a strong case for funding assistance, from user sources, as a means of encouraging replacement in addition to retrofit as a compliance option. We think that the entry of quieter, more fuel-efficient aircraft into the fleet at a faster pace than would otherwise happen is worth a temporary diversion of funds which now flow into the Aviation Trust Fund. We also favor this funding assistance as a form of insurance. We believe that FAA-DOT then will be in a better position to resist air carrier pressures for extensions beyond 1983 and 1985. This point is vital to us and to our neighbors who have come to believe that, by design, noise relief will always remain "just around the corner." Legislation can also make the FAA-DOT's stated intention of broadening coverage to international carriers a matter of statute. Lastly, legislation can promote planning to deal with residual noise problems.

If Congress does not act to assure full implementation of retrofit and replacement in accordance with established dates, the Federal Government will have broken its promise to promote quieter skies. Without such assurance, local proposals intended to provide relief are not attractive or feasible. They would produce little improvement and would damage our economy and prospects for growth.

We are supporting House bills that foster the noise abatement objective we see as essential, specifically, H.R. 8729, the Airport and Aircraft Noise Reduction Act, and H.R. 11986, the Noisy Aircraft Revenue and Credit Act of 1978. We are opposing any bill that would undermine these purposes.

We believe we have some convincing evidence to indicate how S. 3064 would have this kind of effect, severely setting back the cause of noise abatement. Last December, at my direction, the Port Authority's Aviation Economics Division initiated a survey of air carriers serving the Port Authority's regional airport system. The letter to the airlines read in part: "We are very much aware of the fact that, collectively, the profit picture for the airlines has been very poor for many years and that many airlines may have had considerable difficulty in undertaking the retrofit and reequipment program necessary to meet the FAR 36 timetable for 1981, 1983 and 1985. Through our own efforts and those of our association, The Airport Operators Council International, we are supporting Congressman Glenn Anderson's bill (HR 8729) which will provide funding for retrofit and aircraft replacement out of the passenger fare tax. In order to add weight to these efforts, we think it would be most helpful if each airline could give us a forecast of aircraft departures, starting with base year 1976, at our three airports by type of equipment for 1981 and 1983, showing the number of departures which would conform to FAR 36. The forecast would be for the three airports combined and would be based upon the assumption that the Anderson bill will be passed."

In our meetings with airlines, it was clearly understood that the forecasts for compliance submitted in them would be heavily dependent on the funding from the Anderson bill and the pressure of the FAA rule.

As is customary, the Port Authority received excellent cooperation from the airlines and the results received from 33 U.S. and Foreign Flag Service which account for over 90 percent of the region's scheduled departures are summarized on the table that I am submitting along with my testimony. It shows that from the base year of 1976 when 20.5 percent of regional departures were FAR 36 aircraft, the percentage would increase to 53.2 in 1981 and 72.5 in 1983 as airlines meet midpoint compliance dates and get ready for full compliance by 1985.

We think the manner in which the airlines intend to comply is also very enlightening. For instance, while FAR 36 747 departures more than double by 1981, they rise less than 17 percent more by 1983. The increase in DC–10/L–1011 traffic is projected to be less than 15 percent by 1981 and a little more than 15 percent by 1983.

The A–300B/new aircraft category more than doubles from 1981 to 1983 and we can ascertain from the four-engine conventional category that some carriers intend to exercise the retrofit option.

The three-engine conventional/two-engine conventional categories are most revealing. It is apparent there will be reliance on retrofit, as the departures for FAR 36 727's increase more than 240 percent by 1981 and nearly 400 percent by 1983. While this is a regional study, we believe the results will be reasonably accurate systemwide.

These results tell us that if we are to have the fleet mix that will begin to shrink noise footprints in 1981, shrink them more in 1983 and still further in 1985, while allowing for modest air traffic growth, the compliance deadlines in the present regulation, ending in 1985 must remain in force.

As long as they are in effect, we will have more than 50 percent fewer people in noise impacted areas (NEF 30) at LaGuardia in 1983 (see attached table). The same would hold true at Kennedy by 1985, where, additionally, the people in the severe noise impact zone (NEF 40) would be reduced from more than 100,000 to about 30,000. Corresponding noise benefits will result at Newark International which is served by a mix of four-engine and two- and three-engine aircraft.

As we see it, rolling back the dates for two- and three-engine aircraft as S. 3064 would do really means giving way on the promise of noise relief that is due our neighbors. We are totally opposed to it.

Similarly, we consider the inclusion of international carriers a necessity. Last year, there were still more than 93,000 707–DC–8 movements at Kennedy, more than 35 percent of the airport's total. These long-range aircraft not only are not going to completely fade out of the picture by themselves but are given a rebirth through the medium of low-cost charters and off-hour operations.

It seems unbelieveable that we are still dealing with this issue today when there was early evidence of the problem as far back as the 1950's. It was in 1951 that the Port Authority Commissioners passed a resolution to the effect that no jet aircraft could operate at our facilities without permission. My personal experience with noise began in the 1950's in the development of the Port Authority noise level

criteria. In the twenty years since the advent of jet aircraft at our airports we have had White House conferences, international conventions, FAA and EPA involvement in noise, under Congressional mandate, and we still have a concern about noise. We are, in fact, here today talking about allowing the issue to drag on into 1990 and possibly beyond.

We must make a stand somewhere and we are drawing the line at any rollback of the 1983/1985 deadline. We are please to note that S. 3064 was described as open to change. We sincerely hope that the points we raised will be considered and the result will be an amended measure more in keeping with the House Bill on the critical issue of holding to already specified compliance schedules. The Federal Government must take the lead. Its abdication will lead to bitter and costly local recriminations and disputes, and no reduction in noise.

FAR 36 COMPLIANCE, U.S. AND FOREIGN FLAG AIRLINES, REGIONAL DEPARTURES BY AIRCRAFT TYPE, 1976 ACTUAL AND 1981, 1983 FORECAST [1]

Aircraft type	1976		1981		1983	
	FAR 36	Other	FAR 36	Other	FAR 36	Other
747	9,700	5,000	20,300	1,800	23,600	800
DC–10/L–1011	22,200	.....	25,400	.....	29,400	.....
A–300B/new aircraft	.....	.....	6,200	.....	15,000	.....
4 Engine conventional	.....	46,200	2,100	36,600	5,200	25,500
3 Engine conventional	25,300	88,600	87,100	58,600	123,800	29,600
2 Engine conventional	300	69,500	24,900	42,000	36,700	26,900
Turboprop	.....	13,300	.....	6,900	.....	5,900
Total	57,500	222,600	166,000	145,900	233,700	88,700
Grand total	280,100		311,900		322.00	
Percent FAR 36	20.5		53.2		72.5	

[1] Based on responses from 33 scheduled carriers accounting for over 90 percent of the region's scheduled departures.

LA GUARDIA AIRPORT: EFFECT OF COMPLIANCE WITH FAA 2- AND 3-ENGINE RETROFIT RULE

Community	Over flights per year	Operations	People within NEF–30					
			1976		1983		Removed	
			People	Days	People	Days	People	Days
South Bronx, Uptown Manhattan.	77,269	A–13, D–31	29,111	199	.....	.....	29,111	199
		D–31	476,075	172	278,776	172	197,299	172
Throngs Neck, Castle Hill, City Island.	165,998	A–22, D–4	2,701	270	.....	.....	2,701	270
		D–4	66,650	80	39,057	80	27,593	80
Flushing, Fresh Meadows, Bayside.	91,870	A–31, D–13	8,208	233	362	233	7,846	233
		D–13	171,238	113	29,877	113	141,361	113
Jackson Heights, Woodside.	11,528	A–4	30,007	28	16,112	28	13,895	28

Conclusion.—Of the 783,990 people currently living within the LaGuardia NEF–30 contour for varying portions of the year, 419,806 (54 percent) will be removed through compliance with the FAA 2- and 3-engine retrofit rule.

Statement of David W. Davis, Executive Director, Massachusetts Port Authority

In order to determine what measures will most significantly reduce noise within the 1985 deadline established by the FAA, we must carefully examine the options available. Clearly, replacement with new technology engines provides the greatest benefit. But in instances where replacement cannot take place by 1985, the benefits of retrofit must be carefully examined. To do this, it is first necessary to measure the relative impact of landings versus takeoffs in order to view the problem in proper perspective.

If you look at a typical set of airport noise contours, the first thing that catches your eye is the area encompassed by the lowest levels, that is the NEF 30 or LDN 65 contours. This often leads us to express the severity of an airport's noise problems by citing the number of people residing in these contours: For instance, at

Logan Airport, over 143,000 people live inside of the LDN 65 contour. But at some airports, and Logan is one of those, this is misleading, because the real problem is not only the extent of the impact, but the severity of impact for those people living extremely close to the airport.

What I am saying is that the closer to the airport you get, the more the noise environment is dominated by approach noise. For example, an aircraft departing runway 33L at Boston will first pass over houses at an altitude of 400 or 500 feet, assuming a 5-degree climbout angle and a 5,000-foot takeoff roll. An aircraft approaching that same runway for landing will cross those same houses at an altitude of only 150 feet.

There are other things to consider in assessing the merit of landing versus departure noise. At Boston, we have recently enjoyed extensive cooperation from the FAA tower officials in experimenting with noise abatement departure headings designed to turn aircraft offshore as soon as possible.

We have had good success in that some departures are being turned to reduce the takeoff noise impact on the southerly half of Boston to almost zero. Similarly on another runway, we are attempting to route departures over industrial areas and parklands, avoiding as much as possible the residential neighborhoods. We cannot, however, exercise the same flexibility on approaches, which, because they are constrained by the glideslope and the localizer, come dragging in over our neighbors at low altitudes while emitting the characteristic whine of early jet technology. In fact, even the most up-to-date methods, such as the new and steeper descent profiles being employed by the FAA in Washington, D.C., and Boston, give no relief to the most severely impacted residents.

What I am saying is that the conventional wisdom that noise contours are dominated by takeoffs is only true in terms of the number of people affected at the lower impact levels—further from the airport. When you look at arrival and departure separately, as we have done at Logan, you see that the departure contours are characterized by long distance between each contour line and a large area impacted. But the arrival contours are very sharp, narrow, intense, and have a devastating effect at those airports like Washington National, and Boston, which have substantial populations very close to the boundaries.

Another effect to be considered is the fleet mix which prevails at these airports. I think we are all in agreement that the very noisiest of aircraft are the 707's and DC–8's, which represent early technology, and should be re-engined or replaced with new technology capable of producting 95- to 100-db levels.

It is important, however, to consider what happens after we do that. With the aircraft mix using Logan today, the worst offender is the 707 fleet on landing, followed by that same aircraft on takeoff. Surprisingly, the DC–8 is not next. Rather, it is our fleet of DC–9 30's not complying with part-36 in third place, followed by our non-part 36 727's in fourth. However, the DC–8 and 707 fleet combined account for only 10 percent of our operations while the DC–9, 727–100 and –200 noncompliant fleet account for 43 percent of our operations. This is typical of LaGuardia and is certainly true at Washington. Indeed, the predominance of two and three engine, narrow body, non-part 36 aircraft tends to make this same result the rule, rather than the exception, at all but the major international gateways.

Another way to assess the effects of retrofit is to do a summation of the total noise energy received in an average day with the real fleet mix operating at the airport. We did this using the noise values published in the FAA's advisory circulars 36–2A and 36–1B for aircraft in our fleet at the part-36 measuring point. Remember, that this is not unrealistic for Boston since at the part-36 arrival measurement point, one mile from the runway, you have yet to fly over several of our most impacted neighborhoods. What you get from this procedure is an extraordinarily high noise impact for the existing Boston fleet. The total landing noise in the course of the day is equivalent to a single flyover producing 136.4 decibels. The number for takeoffs is 129.6. I have given you a table which summarizes the effects of several actions being considered under Federal legislation.

But equally important, the effect of retrofitting would create a significant reduction in high-level noise—even if we consider such an effect on a single event basis. The charts I have before you today show the noise contours—EPNL values for a landing by a 727 at Logan International Airport. The three contours are for 105 EPNL, 100–105, and 95–100. By merely looking at the difference between the size of the contours before and after retrofitting, you begin to get an idea of the dramatic effect of retrofitting—even on a single event basis. When you examine what these contours mean in human terms, the positive effect of retrofitting two and three engine aircraft is even more dramatic.

The third chart before you today shows you the effect of that retrofitting on the population around Logan Airport. As you can see, the percentage of people who enjoy a reduction at the highest levels is more than 86 percent. At the 100–105 level, it is greater than 38 percent. At the 95–100 level, which is much larger than either of the other groups, in terms of the number of people affected, the reduction in the affected population is almost 59 percent. When you total these numbers, what you see is that high-range noise—and at 95 and above we're talking about very loud noise—is reduced for some 34,000 people. That amounts to a 58 percent reduction in the number of people exposed to high-range noise as a result of retrofitting a single 727. When you take into account that 40 percent of the Boston fleet is in non-retrofitted two and three engine aircraft, it is readily evident that retrofitting has dramatic benefits for people in the communities surrounding our airport.

These reductions are equally dramatic for school children in the area surrounding Logan Airport. There are 17 schools within the 95 EPNdB arrival contour and above. Almost 6,700 children attend these schools. Retrofitting will reduce the number of students impacted by this high-level of noise down to less than 2,700 students. That represents a reduction of 60 percent of the number of children exposed to high-level noise on a single event basis. This evidence makes retrofitting especially worth doing.

Naturally, the cumulative result of retrofitting the fleet would have an even more profound effect.

In light of these facts, the benefit of retrofitting two and three engine aircraft would seem unassailable, but there is the additional question of the cost benefit. First, let me say that such a cost benefit must be considered in light of the fact that the bills before you seek to provide the industry with a means of financing both replacement and retrofitting, neither of which was considered an essential factor in the FAA's ruling establishing a 1985 deadline on noise compliance. But, even where such funding mechanisms are available—and we aren't suggesting that they shouldn't be although they raise serious public policy questions—there is ample evidence that a positive cost benefit relationship exists for retrofitting. The Boeing Airplane Co. recently supplied the FAA with data relative to the cost of retrofitting two and three engine aircraft. What this data shows is that on an average, it costs $30,000 to retrofit a JT8D–7, which is the engine used in 727's and DC–9's. What this would mean in Boston is that the airlines, supplied with some form of financing incentives, will be spending less than $1 per engine for every person relieved of high-range noise. This can hardly be considered exorbitant, let alone cost inefficient.

Indeed, more farsighted carriers are already beginning to take steps to retrofit their planes, recognizing that there is value to them economically. In Boston, for instance, the Federal Express Co. has agreed and is now in the process of retrofitting a 727–100 for Boston service. This is costing them approximately $78,000, which is consistent with the figures from Boeing.

So, what we see is that retrofitting not only provides dramatic relief for communities surrounding airports, but that it costs less than we have been led to believe by some of the more melodramatic rhetoric of the industry.

There is one more important point I wish to make. The 727 fleet is not going to disappear from the face of the Earth once they are no longer being used to carry passengers. All aviation history suggests that when they have outlived their usefulness as passenger carriers, they will be incorporated into the air cargo fleet, because the 727 size is ideal for use, once the air cargo deregulation mandated by Congress in in effect. If we allow a bill to be passed which does not insist upon the retrofitting of those aircraft, we will be inviting a mosquito fleet of noisy air cargo planes—a vast portion of which will be flying into airports at night. That, in our opinion, is not the way to reduce noise.

The best way to do so is through a combination of replacement, as a preferred method, but with retrofitting as an alternative. This approach provides dramatic relief. A combination of replacement of the four engine aircraft and retrofitting of the two and three engine narrow-body aircraft, using efficient technology, gives a reduction of 12 db on landing and 8 db on takeoff at Boston Logan.

TOTAL NOISE OF LOGAN FLEET [1]

	Existing fleet	Replace [2] 4 ENB	Retrofit [3] 4 ENB	Retrofit 2 and 3 ENB and replace 4 ENB
Landing	136.4	130.1	132.1	124.4
Reduction from existing		6.3	4.3	12.0
Takeoff	131.6	122.4	125.3	123.5
Reduction from existing		7.2	6.3	8.1
Total	137.6	130.8	132.9	127.0
Reduction from existing		6.8	4.7	10.6

[1] At part-36 approach measuring point. Takeoffs corrected for 5,000 ft. T/O roll and 5 climbout.
[2] New technology assumes 100 EPNdB approach, 95 EPNdB T/O.
[3] Assumes retrofit to part-36 limits.

POPULATION EXPOSED TO VARIOUS EPNL VALUES DURING LANDING OF 727 AIRCRAFT BEFORE AND AFTER RETROFIT, BOSTON-LOGAN INTERNATIONAL AIRPORT, POPULATION EXPOSED WHEN 727 IS LANDING ON RUNWAY

EPNL values	4 L&R	15R	22 L&R	27	33L	All runways combined	Percentage reduction (after retrofit versus before retrofit)
Before retrofit:							
105	1,220	4,000	3,910	440	0	9,570	
100 to 105	1,750	7,420	3,990	500	0	13,660	
95 to 100	8,090	18,190	7,780	800	0	34,940	
						63,170	
After retrofit:							
105	0	740	490	90	0	1,320	86.2
100 to 105	1,460	3,640	2,920	440	0	8,460	38.1
95 to 100	2,040	7,690	4,650	0	0	14,380	58.8
						24,160	58.0

SCHOOLS WITHIN 95 EPNL ARRIVAL CONTOUR FOR 727 [1]

Neighborhood and school	Impacted enrollment preretrofit	Impacted enrollment postretrofit
East Boston:		
Kennedy	219	
Sheridan	185	185
E. B. High	1,098	
Revere:		
Roosevelt	200	
Mabie	100	
Howe	250	250
Ronan	204	204
Pasteur	113	113
Walcott	219	219
Garfield	289	289
Liberty	400	
Chelsea:		
Williams	1,310	
St. Stanislaus	221	
Shurtleff	858	858
Everett:		
Lewis	173	
Centre	549	549
Devens	296	
Total	6,683	2,667

[1] Reduction equals 60 percent.

The CHAIRMAN. Mr. John Nammack, executive vice president, National Association of State Officials.

STATEMENT OF JOHN A. NAMMACK, EXECUTIVE VICE PRESIDENT, NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS; ACCOMPANIED BY LUCIE G. SEARLE, COMMUNITY LIAISON, MASSACHUSETTS AERONAUTICS COMMISSION; AND KARL SATTLER, ADMINISTRATOR, AND T. JAMES TRUBY, DIRECTOR OF PLANNING AND DEVELOPMENT, MARYLAND STATE AVIATION ADMINISTRATION, WASHINGTON, D.C.

Mr. NAMMACK. Good morning, Mr. Chairman.

The CHAIRMAN. John.

Mr. NAMMACK. Thank you, Mr. Chairman. I am here as a layman with three noise experts, so what I have to say will be mercifully short.

I would also like to note that it is a pleasure to be discussing with you an aviation issue which is far less controversial and more amenable to solution than another issue which we waded through for the past 3 years along your side.

We want to stress a few points, Senator Cannon, and that is the fact that, as you well know, and, as a matter of fact, as was pointed out in your statement for the Congressional Record, airport development has all but stopped in this country, new airport development, largely because of the noise problem, the 20-year-old noise problem.

It is entirely possible that we have not fully understood the intent of your noise bill, and we might have jumped to the conclusion that you are advocating a 5-year extension of noise compliance deadlines.

We are going to have to go back and restudy the bill ourselves. We think that title I is basically strong the way it stands, and we will support it.

We think title II is something we all want, but will never get, for the simple reason that as recently as last week we had FAA witnesses appearing before a Ways and Means Committee to say that they have got all the ADAP money they can possible spend.

I would like to very quickly introduce the other witnesses. We have Ms. Lucie Searle, representing Massachusetts Aeronautics Commission, and Mr. Karl Sattler, administrator of the Maryland Aviation Administration, and James Truby, director of planning.

Ms. SEARLE. Mr. Chairman, we have submitted our statement to you this morning. I am just going to briefly summarize it. NASAO has provided considerable testimony in the past on the subject of aircraft noise abatement.

We have pointed out that there are three essential elements that have to be in any comprehensive solution to noise abatement: Quieting at the source, aircraft and airport operating procedures for noise abatement, and also land-use controls around airports.

We have included with today's statement an earlier statement we would like you to include in the record which goes into some detail on our general views on the topic of aircraft noise abatement. This is a joint statement given earlier by NASAO and the National Governors' Conference before the House Aviation Sub-

committee in February of 1976. So this morning we will concentrate our remarks on S. 3064.

I would mention that we have been following the congressional effort in this area very closely. We have testified on Congressman Anderson's bill and offered subsequent comments on later versions of the bill.

We are pleased, Mr. Chairman, that you and Senator Pearson have introduced a parallel bill in the Senate, and we are pleased that your bill retains in it the three essential elements that we have identified, and which are also found in Congressman Anderson's bill.

Specifically with regard to S. 3064, we are supportive of title I and title II. We particularly note that title I provides for the planning and carrying out of noise compatibility programs and provides some funding to get that job underway.

Title III, Mr. Chairman, is where we have some problems. We have read the bill and have particular problems with section 305. We have interpreted that section as meaning that effectively there will be an extension to 1990 on the existing FAR 36 deadlines.

Our reading of that bill has led us in our statement to say that we cannot suport S. 3064, because we consider the extension a very serious weakness.

Now, having listened to the earlier discussion, we will go back and restudy your bill, but that was our reading of it.

We are also quite dismayed that you are not offering in your bill any financial incentives for retrofitting and re-engining, that your emphasis is entirely on replacement. It has been our position and continues to be that we need a combination of the three.

We do not believe retrofit and re-engining can be overlooked as noise abatement tools, and think that an effective bill needs to include a combination of the three: Retrofit, re-engining, and replacement.

That is basically a summary of what we have said in our full statement.

I would like to let the gentlemen from Maryland give you some very specific experiences that they have had in their own State, where they have a very comprehensive noise bill, one of the best in the country, in our opinion.

Mr. SATTLER. Thank you, Mr. Chairman. Maryland, in 1974, passed what was known as the Maryland Environmental Noise Act. It was a comprehensive noise act dealing with all forms of transportation noise, one section of which, the one that I am most directly concerned with, is, of course, aviation noise. Maryland Aviation Administration of its Department of Transportation owns and operates two airports, one is the Baltimore-Washington International Airport and the other Glenn L. Martin State Airport, the general aviation reliever facility.

The noise bill, the aviation portion of the noise bill, as enacted, set up a twofold program, one of which requires the airports, all public use airports within the State, to adopt procedures and a program to abate noise to the greatest extent practicable and technologically feasible around their facilities.

On the other hand, it mandates land-use controls. This is what we believe makes our law unique and will make it effective in

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years to come. It has been in operation; it has proven successful. But one of the keystones to that bill and to the land-use controls and to the acceptance of land-use controls by the people living within the noise contours, is that what we believed at that time was the promise of relief at the source, which I think, as most people would see, is the main way of abating noise. And perhaps if the FAA were more forthcoming in new techniques, the ability to implement flight procedures may also have a significant effect.

We were greatly alarmed by the bill, and myself, the Secretary of Transportation, members of the legislature, take a fair amount of the heat when we have to go back out to the public and try to explain why that which we held forth is not forthcoming.

I think we have obviously an easy answer. We merely point the finger down the road a few brief miles. But that still does not resolve the problem. It would be, I guess, my gut instinct listening to your discussion with members of AOCI, that perhaps good business judgment would dictate without some sort of a binding commitment that an airline may take the short-term approach to avoid the outlay of cash during a time when the whole air system is in somewhat of a confusion, not having necessarily the firm positions that they have experienced over the years.

Until they settle down, I think they are going to be reluctant to put out a lot of cash. So we would be most hopeful that your bill in its final form will assure that the airlines will use not only good business judgment, but good social judgment, to assure that the most meaningful and the most expeditious noise relief is granted to the airports and to the people living around those air facilities.

The CHAIRMAN. Your statute requires the localities to zone the property, doesn't it?

Mr. SATTLER. No, sir; it does not require change of zoning. It merely requires that no noncompatible use based upon Ldn contours, cumulative noise exposure, be permitted to be erected except through a variance procedure.

For example, around BWI and Glenn L. Martin Airport I, as aviation administrator, have no discretion. The matter is either black or white. If a person comes in to build a home within an Ldn 65 contour I have to deny that. If it is in an Ldn 70 or 75, other uses will be denied. There are compatible uses permitted.

The airport noise zone produces a changed conditions situation whereby the person may apply to the local jurisdiction for a change in zoning, either spot or comprehensive rezoning.

The CHAIRMAN. So the State really preempted the field, then, in that area?

Mr. SATTLER. Yes, sir.

The CHAIRMAN. They have to come to you to get a permit to be able to construct in that area?

Mr. SATTLER. Yes, sir. There is a variance board set up, appointed by the Secretary, of citizens who live within the affected jurisdiction.

The CHAIRMAN. All right. Did you have something to add?

Mr. TRUBY. Yes. Actually, I would like to address a question to the chairman.

I think we do understand the bill. Perhaps we don't fully understand its intent.

I think there may be an underlying difference in assumptions between those which you hold and expressed in the exchange with AOCI, and those which we hold.

Our assumption is that the airlines will opt for replacing their aircraft in 1990 rather than going with a retrofit program to meet the 1981–83 regulations.

We base our assumption in part on the statement Karl Sattler made that this is a somewhat uncertain time for the airlines, and the replacement option allows them some additional time to determine what they want to do.

We also note that although the rule has been in effect for nearly 2 years, no retrofit kits have been ordered for two- and three-engine aircraft, and the only kits ordered, to our knowledge, are those related to 747's.

We also note that the bill, as Ms. Searle indicated, does not provide any financial incentive for retrofitting or re-engining aircraft.

So, really, based on those three assumptions, we are assuming that the overwhelming majority of the two- and three-engine fleet will be replaced under your bill in 1990 rather than being retrofitted earlier, in 1981 or 1983.

Do you have any—a long preamble to the question.

Do you have any information to the contrary with regard to what the airlines are likely to do on retrofit versus replacement of the two- and three-engine aircraft?

The CHAIRMAN. I don't have any specific information as to what they are likely to do.

My own belief—an uninformed belief—is that they would have to retrofit a sizable percentage of their two- and three-engine fleet, and that the balance would, of course, be taken care of through the purchase program.

Let's say an air carrier elected to purchase new aircraft, replace 50 of its aircraft—it is not going to take delivery of those 50 aircraft on December 31, of 1990. It has to enter into a reasonable contract program. And this plan that has to be presented would have to have the approval of the Department of Transportation, Secretary of Transportation.

So I think you have to look at what is likely to be reasonable rather than assume the worst possible case as the FAA Administrator was assuming yesterday.

As I said to AOCI, I think AOCI had missed the point entirely, that if the plan didn't call for replacement of a two- or three-engine aircraft, then it has to be retrofitted within the existing time frames that are in the act.

So you would have some improvement immediately, and you would have long-range improvement. The so-called cumulative improvement would be much greater because of the stage 3 aircraft.

Mr. TRUBY. It certainly seems reasonable that they wouldn't receive delivery on all 50 aircraft on January 1, 1990.

The CHAIRMAN. That would have to come out in the plan they present.

Maybe there are other areas of this bill that could be fine-tuned to make it more reasonable.

The suggestion was made earlier that perhaps we could require them to come up with a contract at an earlier date.

I want to talk to some of the aircraft manufacturers and see what kind of an outlook they can give us on coming along with a replacement aircraft that meets stage 3 requirements. Then we can be a little better informed at that time.

Mr. NAMMACK. Senator, there is possibly one thing you could do in the meantime that would be meaningful to a lot of people, the people who pay the judgments in civil suits filed against airport sponsors.

I am not here to carp against the FAA or to otherwise criticize them. But if there is one thing they have been incredibly adroit at doing for these last 20 years, it has been avoiding any fiscal responsibility for the effects of noise.

They have strained the English language and everyone's imagination coming up with new implausible reasons why it is not their cup of tea—"We have not in fact totally preempted the air space." When in fact, of course, they have. Until it comes to paying some of the settlements.

I wonder if there is some way that you might like to suggest—not necessarily today—that when there is a judgment, since they do certificate all the aircraft and have preempted the air space, maybe they share at least a small, modest portion of the liability that accrues to the airport sponsors.

The CHAIRMAN. Well, I don't think you have come to a very sympathetic person in that area, because I have sat by and seen the communities fail or refuse to take action in the form of zoning in and around airports to let this problem build up to a magnitude that they couldn't handle other than through the courts. They then have to go in and buy new homes less than 10 years old, that should never have been permitted to be built in the first instance.

I can't help but recall Los Angeles where you take off out over the ocean. I remember when all there was between the airport and the ocean were sand dunes. Well, they are sand dunes again now, because people went in there and built new homes and then complained about the noise and L.A. had to go in and buy them out to move them out. That sort of planning doesn't make sense to me.

I can't—I wouldn't want to suggest that the Federal Government ought to have to go in and come up with money to help buy out that kind of a condition.

I think that right here in Maryland, now, they are showing some good judgment. I want to compliment them. I hope that they enforce it very strictly and they will have less of a problem than many airports around the country.

Mr. SATTLER. Thank you. We just hope FAA cooperates fully with our plans as we implement them over the coming years.

The CHAIRMAN. We want to help on land-use planning money, too, in this bill.

Of course, the administration doesn't see eye to eye with us on that, but they frequently don't see eye to eye with us, so that is not new.

Well, thank you very much. We appreciate you being here.

Incidentally, let me add something. One of you mentioned that right now no contracts have been let for retrofit kits. That is a fact.

And we are going to find out why in these hearings. But I am satisfied that there is no possible way that the two- and three-engine aircraft could all be retrofitted and meet that deadline. No way.

We are just deluding ourselves if we say well, there we have a great deadline on the books and they are going to have to meet it. They can't meet it. So they will be back to the FAA to extend the deadlines and, if not, to Congress to extend them, because they are going to say, "Well, look, we can't get the kits. We have the airlines here. We can't get them converted." What are you going to do? Are you going to ground the whole aviation system of the country?

I think not.

Mr. NAMMACK. One last footnote, if I may.

I got a notice today that the House once again intends to combine their reform bill with their noise bill once it gets to Rules. That should give all of us an extra incentive to resolve this noise issue this year if at all possible, before it all goes down the drain.

The CHAIRMAN. I like to resolve them one at a time.

Ms. SEARLE. Mr. Chairman, everything just keeps slipping on these deadlines. This has been the point brought out this morning. I can't help but note that the report of the Aviation Advisory Commission to Congress and to the President in 1973 devoted a great deal of time and study to this.

It recommended a retrofit program for aircraft powered by the JT3D and JT8D engines, to be undertaken immediately and completed by 1977.

That is the whole point, the deadlines keep slipping. We have a great deal of documentation on what can be done, but unless the rules are there and enforced, we just have constant setbacks.

The CHAIRMAN. Thank you very much. We appreciate you being here.

Mr. NAMMACK. Thank you.

[The statement follows:]

STATEMENT OF THE NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

Mr. Chairman and members of the subcommittee, the panel before you this morning represents the National Association of State Aviation Officials (NASAO). NASAO is an association of State governmental bodies which promote, foster, regulate and, in some cases, operate elements of the Nation's aviation system. We are pleased to present our views on the issue of aircraft related noise and in particular S. 3064.

Our past testimony on this critical issue has been considerable so along with today's statement we are submitting for the record a copy of a joint statement of the National Governors' Conference and NASAO on aircraft noise, presented before the House Aviation Subcommittee in February 1976. This discusses in some detail our views on what is needed to adequately address the noise problem. Comparing our recommendations with what little has been accomplished in the intervening years, it is very apparent that we still have a very long way to go especially in the area of source quieting.

There can be no doubt that aircraft noise is the most serious problem facing aviation today. We know it is a major disturbance for some 6 to 7 million Americans and because of this, needed airport development and modernization has been inhibited; and, in some cases, what should be routine airport maintenance is threatened.

The problem has been recognized, studied, talked about, analyzed and restudied. What is needed is action based on a comprehensive approach which incorporates three elements: Aircraft quieting at the source, aircraft and airport operating procedures, and land use controls around airports.

NASAO has followed very closely congressional efforts in the House, offering testimony in the spring of 1977 on Congressman Anderson's original bill and commenting on a number of subsequent versions. We are pleased that you have introduced a bill in the Senate which, as regards operating procedures and land use controls, parallels the version passed by the House. However, we are very dismayed by and oppose provisions of title III which would serve to further delay aircraft quieting at the source.

Our specific reactions to S. 3064 are as follows:

Title I makes a significant contribution to addressing the problem because it would do several things: Lead to a much needed single system for measuring noise and determining its impact on people; and most importantly, identify land uses which are compatible with various noise impacts. On the airport side, title I calls for the planning and carrying out of noise compatibility programs; and very commendably would authorize adequate funding to get this job underway. In sum then, title I touches on two of the three necessary elements: Airport and aircraft operating procedures, and compatible land use.

Title II, which would increase the funding for airport development for fiscal year 1979 and 1980 also has our support.

Title III addresses the third essential element: Noise reduction at the source. As noted earlier, we have very serious problems with certain provisions of this title. Until we have more financial information and projections, we will have to reserve judgment on whether source quieting can be more effectively promoted through guaranteed loans or the system of air carrier excise taxes and credits proposed in H.R. 8729. We strongly oppose section 305, however, which grants two- and three-engine aircraft an unwarranted 5-year extension until 1990 for meeting FAR 36 requirements, therefore, we cannot support the bill if it contains this provision in its present form. Both the previous and present administrations have found the 1985 deadline for FAR 36 compliance to be economically and technically feasible, and a 5-year delay is particularly distressing when one recognizes that under title III, 75 percent of the air carrier airports in the country would not receive any noise benefit, and 85 percent would not receive any significant benefits until 12 years from now. Also, this extension to 1990 would upset the critical balance between source noise reduction on the one hand and the 1985 time frame for compatible land use plans and airport/aircraft operational procedures imposed by title I of the bill on the other.

We recognize, Mr. Chairman, that aircraft replacement provides more significant noise relief to airport neighbors than aircraft retrofitting or re-engining. However, the benefits of fleetwide reductions from retrofitting would be substantial, and the Nation's airports and aviation system cannot afford the land acquisition and political costs associated with waiting 5 to 9 additional years beyond the FAA-established deadlines for FAR 36 compliance. Extending the established compliance requirements would only serve to reinforce public perception that all technologically and economically feasible measures are not being taken.

Accordingly, we believe it is essential that S. 3064 provide financial incentives for retrofitting and re-engining as well as for aircraft replacement. If this were done there would not be any valid excuse for failure to meet the existing FAR 36 deadline of 1985.

In summary, Mr. Chairman, NASAO finds titles I and II very attractive. Title III, however, is not acceptable to us for the reasons we have outlined. We cannot support S. 3064 until what we consider to be serious deficiencies in title III have been remedied.

We hope these comments will be useful to you, Mr. Chairman, in developing a program to assure quieting of the commercial fleet no later than 1985, and we stand ready to assist you and your staff in achieving that objective.

JOINT STATEMENT OF THE NATIONAL GOVERNORS' CONFERENCE AND NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

STATEMENT OF CROCKER SNOW, DIRECTOR, MASSACHUSETTS AERONAUTICS COMMISSION

Mr. Chairman and members of the subcommittee, the National Governors' Conference and the National Association of State Aviation Officials are pleased to be able to discuss the timely and important subject of aircraft noise with you, because as individual members they have to cope, either directly or indirectly, with the

problem, and they can use a lot more assistance from the federal government than they are now getting.

So as to be as helpful and specific as possible, I am going to draw heavily on the carefully documented 1973 report of the Aviation Advisory Commission to the President and the Congress which is as pertinent today as it was then, and on some recent and ongoing experience in Massachusetts.

The AAC characterized noise as "the most explosive problem facing aviation today"; said that the most cost-effective and satisfactory long range solution would come from reducing noise at the source; i.e., the power plant; and that much could and should be accomplished in the meanwhile through operational procedures and land-use control.

The AAC concluded that the technology and means exist to confine unreasonable levels of noise within the boundaries of airports and their clear zones; and that given the necessary motivation and resources, this objective could be reached some time in the 1990's.

I'm going to elaborate a bit on each of these three methods of relief—

Source noise—primarily a federal and industry task.

While today's piston engined propeller aircraft are mostly small and low powered, they can still be a problem, especially in touch and go training activities. This is a relatively easy problem to solve. Besides mufflers, which most engines have, all that's needed is to reduce the propeller tip speed. When I started to fly in the 20's, in airplanes having about the same power as today's trainers, we took off and climbed at 1400 rpm and had no noise complaints. Now propeller speed in climb is as high as 2700 rpm, and we have lots of complaints. However, outside of the Bollinger/Koppen/NACA work at Harvard and MIT in the late 40's, and an abortive U.S. Army Vietnam venture, the YO3A, I know of nothing that is being done now to put this past experience to work, although I was happy to learn just the other day that DOT and NASA are planning, with Dr. Lynn Bollinger, to revive the earlier NACA project, this time in the San Francisco Bay area. However, I gather that this will be aimed primarily at finding out what community tolerance to light plane noise is, and I think we know that already. Anything significantly above the ambient noise level sets off complaints.

At any rate, the light plane, engine and propeller manufacturers should be encouraged, by a stricter Federal Aviation Regulation 36 if necessary, to do what they already know how to do.

Helicopters are a sort of in between thing. Many are powered by piston engines, and others by jets, and they can be a serious noise problem because they generally take off, fly, and land much close to people than do airplanes. Hughes, with their Quiet One, have demonstrated a remarkable reduction in helicopter noise. Unfortunately, this project was also undertaken to meet a military need in Vietnam, and I'm afraid that what has been learned is not being as widely applied as it should be.

The jet engine is, or course, the prime offender, both because it's basically noisy and, powering our largest airplanes as it does, the energy it generates is very great.

Spurred on by FAA's wise and effective FAR 36 noise standard for jets, the aerospace industry has shown us what can be done via the 747, the DC 10, and the 1011, and, in the business jet field, most notably the Citation. But FAR 36 only applies to newly produced aircraft, and it's probable that airplanes powered by the noisy JT3D and JT8D engines, and the BAC 111 which is the worst of the lot, will be around for many years, and will comprise at least half of the airline jet fleet of about 3000 airplanes well into the 80's.

Something has got to be done about them soon, or we'll have more and more airport improvements vetoed; operations restricted; deteriorating air transportation; and worsening airline finances.

Short of retirement from service or sale to some less demanding country, neither of which seem imminent, the only answer is a fighting word—retrofit. Before taking it on, I am going to condition you with an analysis of five months of Massport's automatic noise monitoring system at Boston's Logan Airport—no guess work or opinion, but fact. From July 30 to December 31, 1975, the noise of 7250 takeoffs was recorded by 12 microphones located at various points around the airport and tabulated in 5dB increments from 85 to 105dB. I have computed the percentage of takeoffs by each aircraft type that rang the bell at 95dB or over. The BAC 111 won handily with 45%, and airplanes powered by the JT3D and JT8D engines average out at 21.4% of the takeoffs. Except for a few modified late models of the 727 and DC9, none of these meet FAR 36 standards. Compare this with an average of 4.5% for airplanes powered with the JT9D and the RB 211, all of which do comply with FAR 36. Meeting FAR 36 clearly resulted in a big improvement in this actual service test.

You will hear, or have heard, from some of the industry, that retrofit is a cosmetic sham, is inflationary, and will do no good. The AAC, after extensive study by its noise staff headed by an aircraft engine noise expert proselyted from General Electric's jet engine division and now with EPA, and supported by the best consultants it could get, concluded that the JT3 and 8D engines and nacelles can, in fact, be retrofitted so as to meet FAR 36; and recommeded in essence that this be done by 1977; that the bill be paid out of the surplus in the Airport and Airways trust fund; and that all civil aircraft not meeting FAR 36 be retired from U.S. service by December 31, 1980.

Except for the dates, which are no longer realistic because of start up delays, we endorse these AAC recommendations, the details of which are spelled out in Chapter 3 and on Pages 74 and 75 of the report. We feel that tapping the ever growing surplus in the trust fund, instead of increasing fares, is the most reasonable and least inflationary way to pay the bill.

Such a cutoff regulation would, of course, affect many aircraft besides those powered with the JT3D and JT8D engines, all except the BAC 111 being in the general aviation fleet. Based on projections contained in a study completed for the FAA in December 1975, over a third of the business jet fleet will still, by 1985, be made up of aircraft which don't meet today's FAR 36 standards, let alone the more stringent noise standards which developing technology will permit by that time. However, all of these mostly corporate aircraft will be more than ten years old by that time, will represent a small part of the total assets or expenses of the companies that own them, and will be well written off, so requiring retirement or modification should not be an unreasonable financial burden on their owners.

Procedures: It would be nice if these could be uniform, which presupposes federal promulation and enforcement. Unfortunately, this won't always work, for several reasons.

Noise abatement procedures include prescribed flight paths, altitudes or slopes; power and flap management; preferential or obligatory runaway usage; and time of day or seasonal restrictions generally known as curfews. Most of these are site specific and cannot be standardized.

Except for Dulles and Washington National, all public civil airports are owned and run by states or their political subdivisions. The aggrieved citizen looks to the proprietor, not to Uncle Sam, for redress.

At those airports with a noise problem where there is a federal presence, it's usually only in the form of air traffic controllers whose primary responsibility is safety, not the environment.

We have found in Massachusetts that the most effective results come only after open citizen participation with responsible federal, state, local and industry representatives working together.

There is, however, one clear federal preserve. AAC studies found that steeper jet approaches, whether they be two segment or stabilized, would substantially reduce the noise annoyance, and recommended an accelerated evaluation of their pros and cons by the FAA. My subsequent experience, buttressed by conferences with the British CAA which has conducted extensive tests of steep, stabilized approaches at their blind landing experimental unit (BLEU) has convinced me that a steeper stabilized approach than the present 3° standard is effective, safer, and much less expensive to implement than the two segment approach presently under consideration by the FAA. I am disappointed that the U.S. is not doing more to evaluate a 4° glide slope, which would reduce the ground area near airports impacted by any given level of noise by nearly a third compared with present procedures.

One thing is for sure, the slower we reduce source noise, the faster the aviation industry will be subjected to increasingly restrictive procedures.

Land use: Primarily a state and local responsibility.

This is the most illusive of the troika to pin down. Almost everyone will agree that vacant land in the vicinity of busy airports should be kept that way, at least until we reach our goal of quiet aircraft, and that therefter the use of the land should be compatible with other airpo·t byproducts, such as fear, the neon jungle, and ground traffic congestion. The trouble is that the vicinity of our worst problem airports is already loaded with residences, schools, and the like, usually in a different jurisdiction than the airport. A pertinent study for the AAC found that the cost of "sanitizing" enough territory to solve today's problem by buying the impacted real estate around our 26 busiest airports would be many times the cost of quieting the airplanes—and I don't think the public would stand for it anyway.

For two years we have been carrying on a Massachusetts airport noise study with the help of Bolt, Beranek and Newman and a broadly based advisory group of government, aviation and environment people. It was supposed to be completed last

fall with draft enabling legislation, but the date has slipped to the end of March, and the main hang up has been how to handle land-use control. We in Massachusetts don't have the answer yet.

However, California and Maryland have a big head start in airport noise and land-use legislation. Gordon Miller, California DOT, and Karl Sattler of Maryland's DOT are here to discuss their experience. The only aspect of land-use control that I am sure of is that the states and municipalities can do with a lot of financial help in buying real estate or noise easements, and I don't believe that low interest loans would be the best way to do this.

The principle of your Committee's approach in HR 9771, Mr. Chairman, in making the acquisition of noise impacted real property eligible for ADAP, is a better way, but we think the language should be improved, so as clearly to permit an airport proprietor not just to buy the farm, as it were, but in the many cases where structural soundproofing would do the job at less cost and inconvenience, allow the airport to buy a noise easement, with the proceeds used by the property owner to pay for the necessary soundproofing.

My favorite limerick, about Khartoum, has a bottom line which goes, "To do what and with which and to whom." We think you are entitled to similar consideration.

So here, in summary, is exactly what we believe ought to be done, and by whom—

The Congress and the Administration should adopt a ten year national aircraft source noise reduction target for each category of civil aircraft.

This target should be made mandatory by an appropriate FAR 36 to apply to all *old and new* civil aircraft on or before January 1, 1986.

All air carrier aircraft should be required to comply with the present FAR 36 as soon as practical, but in no event later than January 1, 1982, or be barred from flight in the U.S. at that time.

The Congress should authorize the DOT to use up to $1 billion of surplus Airport and Airways Trust Fund money to pay for the cost of retrofitting those aircraft in the U.S. civil air carrier fleet powered by the JT3D and JT8D, or if the owner chooses retirement instead, up to an equal amount towards the cost of this, provided there is no net economic benefit, either directly or indirectly, conferred upon the aircraft owner.

The FFA and the aerospace industry should continue their effective efforts, working with the states, airport proprietors, and concerned citizens, to reduce the impact of noise by way of improved flight procedures, both in the vicinity of airports and enroute. We especially urge the FAA to evaluate the merits of steeper stabilized approaches under all weather conditions, as compared with its proposed two segment approach.

The Congress, in extending the ADAP Act, should modify HR 9771 by substituting in the appropriate place in "difinitions" these words, cribbed from Rep. Milford's draft bill, "Any acquisition of land or of any interest therein, or of any easement through or other interest in airspace, which is necessary to prevent, or to mitigate adverse environmental effects resulting from an airport development project or the operation of aircraft."

Gentlemen, if all these steps are taken, the noise impact of civil aircraft can be reduced at least to the point where it shouldn't bother any reasonable airport neighbor compared with the rest of the noises of our civilization.

Thank you for giving us this opportunity to present our views.

National Governors' Conference Policy Positions, 1975–1976

AERONAUTICS

Because aviation is a critical component of a balance state transportation system, the Governors have a major interest in policies and programs which affect the pattern of development of airport and airway facilities. The Governnors endorse current Department of Transportation policy, which would transfer general aviation programs from federal to state administration. The importance of general aviation to industrial and community development, the need to plan airport facilities as components of the state transportation system, the fully documented fact that States can implement general aviation airport development programs in a more cost-effective manner, all are convincing reasons for a strong state role. The Governors note that 45 States currently provide state funds for airport development, and urge all States to broaden their financial and technical assistance to airport sponsors, thus strengthening the States' ability to fulfill their responsibilities for the development of air transportation.

The Governors reiterate their support for the requirement contained in the Airport and Airway Development Act of 1970 that each State develop a state airport

system plan, and the Department of Transportation develop a national airport system plan which considers appropriated elements of component state plans. All airport facilities development should continue to be guided by state and national airport system plans. Amendments which will permit project funding without regard to long-range planning conducted by the States are unacceptable. Local and regional airport plans should be considered as integral elements in the over-all state plans. Furthermore, the planning grant program should go to States in the form of block grants so that air transportation system planning can be integrated with planning of the total transportation system. The national airport systems plan must reflect essential elements of component state plans.

The Governors stress the need for flexibility in the distribution of airport development funds so that areas of desirable future potential growth may be assisted. Distribution of funds entirely on the basis of current passenger enplanements would leave only limited funds to respond to developing needs in growth areas with low current enplanements. The apportionment formula should also favor smaller air carrier-reliever and general aviation airports which have the least self-financing capability.

The Governors continue to urge all States to make every effort to encourage effective local airport zoning laws to achieve land use that is compatible with airport and aircraft operations. The National Governors' Conference applauds recent EPA and DOT-FAA proposals and regulations designed to further reduce aircraft noise and the initiative taken by certain States to control and mitigate aircraft noise.

The federal government should join the States in recognizing airports as a vital asset which must be protected from incompatible encroachment of urban areas. The Governors believe that the "land banking" concept must be employed to preserve future airport sites in some areas.

The Governors endorse the policy of joint use of military airport facilities by civil aircraft wherever feasible and urge that this policy be implemented expeditiously at the highest federal level.

The changing complexion of certified air carrier service indicates a stronger role for commuter air service to many smaller communities. The Governors recommend:

A. That a Civil Aeronautics Board Policy be developed which recognizes the need for commuter service and that the CAB actively promote this policy; and

B. That the States and the federal government be encouraged to initiate new means of financial support which would provide strong incentives for self-sufficiency in the commuter airline industry.

TRANSPORTATION AND THE ENVIRONMENT

The Governors pledge full cooperation in providing environmental impact statements on transportation construction and strongly endorse efforts to strengthen the A-95 program to provide the Governors with a stronger role in the evaluation, analysis and implementation of all transportation projects, so as to avoid duplication and waste, as well as environmental damage.

The Governors pledge a continued fight against the pollution of our environment by the wastes and by-products of our growing transportation system.

The Governors call upon the federal government to provide effective minimum standards to protect the basic health and safety of every citizen, while leaving state governments free to deal with the problems that have reached extraordinary severity, or to respond to citizen demands for a higher level of environmental quality than that which would be supported nationwide.

The Governors call upon the federal government to join with the States in a vast effort to measure pollution and to apply innovative technology in discovering new sources of energy and new techniques of reducing and disposing of wastes produced by our transportation system.

However, the Governors feel that more specific guidance and clear expression of intent by Congress as to the implementation of NEPA, the Clean Air Act, Section 4(f) of the Transportation Act and other appropriate environmentally oriented federal legislation should be provided to rectify and ease difficulties experienced over the past few years in the administrative processes relating to Environmental Impact Statements and their approval. It would seem an economical and progressive step to assist in achieving a realistic balance between progress and environmental protection through the clarification of this process.

The Governors pledge increased emphasis in the design of highways and other transportation systems so that these facilities complement rather than conflict with the total environment in both its natural and man-made aspects. Further, programs for the preservation and development of historic and scenic vistas along transporta-

tion corridors should be encouraged by the reward of additional federal financial assistance for increased state and local action, rather than by the present threat contained in the Highway Beautification Act of a ten percent penalty in highway funds. We oppose any federal penalties where Congress has failed to appropriate funds which have been authorized to aid States in carrying out beautification programs.

STATEMENT OF GORDON A. MILLER, DEPUTY CHIEF, DIVISION OF AERONAUTICS, CALIFORNIA DEPARTMENT OF TRANSPORTATION

I am Deputy Chief of the California Division of Aeronautics, Department of Transportation and am speaking also on behalf of the National Association of State Aviation Officials.

Solution of the noise problems around the nation's airports can only be achieved by attacking them from at least three directions: reducing noise at its source, that is, making the aircraft quieter; operating aircraft in a manner to cause less noise to impact on communities in the vicinity of airports; controlling the use of land in close proximity to airports to make such use compatible with airport operations.

Other witnesses have talked about the first two of these three general methods of noise control. I will concentrate my remarks primarily on the land use control method and the tools we will need to make this part of the total effort effective.

I have made this choice because I believe we in California have had unique experience with some of these tools. Not completely satisfactory experience, to be sure, but perhaps enough to give us some insight into the possibilities and the pitfalls.

One thing is certain. We must have clarification of the authority and responsibility roles of the federal government, state and local governments and the airport proprietor. The courts have consistently held the proprietor responsible (translate that to say liable) for noise, but his authority to take actions to control noise is being challenged by the federal government. We can't continue to have it both ways! The airport proprietor's responsibility and authority for noise control should be clearly stated in federal law and regulations. State law in California requiring airport proprietors to meet state noise standards is also under attack in court on the basis of federal preemption and some federal agencies have expressed support for these suits against our law and regulations.

The federal government should define goals and priorities for noise control programs by each of the states. I say state programs because the state seems to be the appropriate public entity to provide this function. The noise impacted areas of many of our medium and large airports extend across city and county boundaries. On the other hand, we have found that each airport's noise problems are unique to that airport and its surrounding communities so that a lower level of government than federal is needed to deal with them. States can more readily get the cooperation to deal with local intergovernmental problems, and the community action groups usually involved, than can federal officials.

The noise control programs required of the states should be in terms of the numbers and location of people impacted by unreasonable amounts of noise made by aircraft using the airport. Land use planning standards must be included and federal funds will be needed to help acquire land around some airports.

This program cannot be piecemeal, tacked on to other programs such as the ADAP and Planning Grant Programs. It will be expensive and, therefore, must be specifically aimed at the heart of this very difficult problem which poses such a threat to our air transportation system.

Since it will be expensive to deal with the land use control problems which will remain with many of our airports after everything has been done, which we can reasonably do, to quiet the aircraft, we must have a uniform way to describe the area which is excessively noise impacted. A suitable method has been devised and adopted by federal agencies other than FAA. This method is called the "Day Night Noise Level (L_{dn})". It weights evening and late night noise more heavily than daytime noise and describes the cumulative noise impinging on the vicinity of the airport during a 24 hour period. This noise description method incorporates a level of community noise considered reasonably acceptable and is recognized by several federal agencies. Noise monitoring systems can be installed for use with this method to precisely identify areas of excessive noise. It can also be used to forecast the location of excessively noisy areas after changes have been made, such as using quieter aircraft, increasing or decreasing numbers of flights or changes in operating procedures. Thus this method can be used for noise land use planning as well as current noise control. Incidentally this method is similar to the one we use in California. We would be happy to change over to this method in the interest of

uniformity. The noise description method currently used by the FAA (Airport Sound Description System, ASDS) does not provide a means of comparison to acceptability and so is useless for land use planning. Many agencies do not accept the ASDS method which results in wasteful duplication of many noise study projects. The ability to intelligently make changes in aircraft operating procedures to alleviate noise problems also requires that we have a uniform noise description method such as the Day Night Noise Level method. With its use, quick evaluation of operational changes can be made.

What can we do with the information we obtain by noise monitoring and forecasting? If the land around the airport is not already built up, and the airport proprietor has zoning control, that may be the answer. If he does not have zoning authority, we need another device to help get this job done. In California, we have such a device called the Airport Land Use Commission (ALUC). It is countywide, and can be extended to cover several counties in a metropolitan region. The Commissions are charged, under state law, with responsibility for compatible land use planning around airports. Our Airport Land Use Commissions have not been completely successful, but have provided a continuing forum where all aspects of the problems can be aired. With changes in the law to set a deadline for completion of airport land use plans, provide funds for doing the planning, and give the plans more strength so they cannot be arbitrarily or capriciously changed or overridden, the ALUC idea can be very useful in compatible land use zoning.

When zoning will not provide the land use control needed, land acquisition will be required. This of course is expensive and also is usually met with resistance, and should be used as a last resort when the benefits of air transportation can be shown to be greater than the social and environmental detriments. A federal funding program will be needed.

Acquisition of easements and soundproofing of remaining non-compatible buildings will probably be more economical and acceptable than outright acquisition in some cases. Funding programs should provide for this means of solving noise problems where necessary. Acquisition would be better in the long run.

A federal funding program to support the noise control effort should also be flexible enough to incorporate another idea. Noise compatible areas around airports do not have to be cleared. Many activities can go on within areas which are too noisy for residential use. It may be possible around many noise problem airports for the airport owning entity to buy the necessary land, convert the zoning to that compatible with airport use, and re-sell the land to private interests for compatible uses. A revolving fund concept for this kind of redevelopment funding could be vastly less costly than buying up land to let it lie unused.

As a final remark, and this is on behalf of California, I would like to make a plea to this committee that we made to the FAA and the EPA on June 13, 1973 and have reiterated since. We need the unfettered use of our California Airport Noise Standards to help us deal with our very serious airport noise problems. They are being seriously attacked on the basis of federal preemption. The mere threat is giving us serious difficulty. We feel certain that federal standards similar to these will eventually be adopted, but we don't know when. We would like for any federal airport noise program to accept our noise standards, and those of any other state which are suitable, to be used within the respective states until a suitable federal standard is adopted.

Statement of Karl R. Sattler, Director of Planning and Development, Maryland Department of Transportation State Aviation Administration

I am Karl R. Sattler, Director of Planning and Development for the State Aviation Administration, Maryland Department of Transportation, and as Crocker Snow has pointed out I am here to briefly describe Maryland's activity in the field of aviation noise.

As background, the State Aviation Administration is one of five modal administrations of Maryland Department of Transportation. As such it is mandated to aid, foster, and regulate all aviation activities in Maryland, as well as operate and maintain all State-owned airports. This agency was constituted in its present form in July, 1972 when the State purchased Baltimore-Washington International Airport, (then named Friendship International) from the City of Baltimore. At present we operate both BWI, a medium hub airport, as well as the Glen L. Martin State Airport, a 750 acre general aviation facility located east of Baltimore.

In anticipation of the State purchase of Baltimore-Washington International the Maryland Legislature by Senate Resolution 102 of the 1972 Session directed the newly formed State Department of Transportation to develop standards for aircraft/airport related noise. This mandate was expanded by the Department to include all

types of transportation-related noise and the study resulted in the Maryland Environmental Noise Act of 1974 (attached as Appendix A). This Act attempts to abate all types of transportation noise by means of source control except for that noise which is aviation-related. Because of the degree of federal pre-emption that is present (or at least claimed) in aviation, the Noise Act approached the problem of airport noise from a different direction.

The aviation portion of the Environmental Noise Act of 1974 established a two-pronged approach to the reduction or elimination of the impact of aviation-generated noise on the citizens of Maryland.

On the one hand the Act requires that the owner or operator of a public-use airport do all that is possible to reduce the impact of noise generated by operations at this facility on the surrounding community. The measures included in the noise abatement plan are limited by economic and technical feasibility and safety of flight considerations.

On the other hand, the affected local jurisdiction must adopt land-use restrictions to prevent the creation of additional impact by precluding any further incompatible development.

In the instances that the facility is State-owned the responsibility for enforcing the land-uses control provisions rest with the Administration. Appeals to these decisions may be taken to the Board of Airport Zoning Appeals which is appointed by the Governor.

For all other airports, enforcement is the responsibility of the local jurisdiction in which the Noise Zone lies. However, the Aviation Administration is empowered to assume control should the local jurisdiction fail to act as prescribed by the law.

In this manner existing impacts will be eliminated to the extent practicable and more importantly future airport/community conflicts will be prevented. Inherent in this approach is the realization that not all existing conflicts will be immediately resolved. Therefore, the Act provides authority to acquire land and/or easements and to permit the resale or lease back of the purchased property.

To implement the Noise Act, the Administrator in August, 1975 adopted regulations (Appendix B) that set forth the method for defining an airport noise zone by specifying the following:

Use of the Day-Night Noise Level (L_{dn}) as the method of measuring cumulative noise exposure levels.

The L_{dn} 65 level as the limit for residential land-use, thereby defining the "Noise Zone" of a public-use airport as the area within the L_{dn} 65 contour.

Limits for all other specific types of land-uses. The rationale for these limits is explained in Appendix C.

Procedures for computing the Noise Zone that take into consideration forecasted as well as present airport operations.

With that general background, I believe that a brief discussion of the application of the Noise Act to Baltimore-Washington International will be useful in gaining a better understanding of the land-use provisions and how Federal action could significantly aid our future efforts.

Subsequent to the promulgation of the regulations we computed the L_{dn} contours for Baltimore-Washington International. After determining the impacted areas within the Zone we developed a noise abatement plan that would reduce these noise impacts. Participating in this effort were representatives from the airlines, ATA, ALPA, FAA, and Anne Arundel County, the jurisdiction in which BWI is located.

At present the computer drawn contours are being translated into metes and bounds by the affected local jurisdictions, for presentation to the general public prior to public hearings scheduled for March. Following these hearings and formal adoption of the Noise Zone by the Administrator, all new land-uses will require a permit from the Administration before construction can begin. As mentioned before a denial of a permit may be appealed to the Board of Airport Zoning Appeals. This body can grant variances to the provisions of the Act and condition these variances upon such things as increased sound insulation, dual glazing, forced air ventilation, or other sound attentuating items.

Further, once the Noise Zone is adopted it must be shown on all zoning, general development, or other maps made available to the public.

Contained within the procedures just discussed are several points to which it's worth calling attention:

By only prohibiting incompatible land-uses and not mandating re-zoning, the Noise Act permits the local jurisdiction to retain flexibility in its planning.

By assigning different noise limits to specific land-uses based upon their respective sensitivity to noise, all use of a parcel of land is not prevented.

By establishing noise zones based upon present and future airport operations, a viable airport system is assured as well as permitting long-term land-use planning.

The Act, while able to effectively control land-use, has a major failing in that it can provide the airport operator with only limited options in controlling noise generated by operations at his facility. The federal government, however, can aid in this area.

Analysis at BWI has shown that certain federally controlled procedures could significantly improve the airport operator's ability to minimize noise impact. We believe that the following are reasonable and readily implementable:

4° glide slope: Use of a 4° glide in *both* VFR and IFR conditions would reduce the area within the L_{dn} 65 contour generated by landings at BWI by over 33%.

Climb-out Procedures: We believe that two separate climb-out procedures should be developed that will permit adaption to the following conditions: Residential or other noise sensitive land-uses close-in to the airport; residential or other noise sensitive land-uses more than 3 miles from start of take-off roll.

Runway Utilization—A mandate should be given to the FAA to cooperate more closely with airport operators to institute runway utilization procedures to lessen noise impact before public pressure forces the issue.

Source Control—We strongly support the position taken by NASAO and as presented by Mr. Crocker Snow, in this testimony.

Another area in which the Federal government could support our efforts is in the provision of funding to purchase not only land for purposes of compatible development but also interests in land in the form of noise, easements. Funding could additionally be made available for sound-proofing of existing structures.

It is my belief that if the Federal government moves forward with the recommendations presented by NASAO and works closely with the States and airport operators that significant improvement in the field of aviation noise can be rapidly made.

I thank you for the opportunity to present Maryland's experiences.

Statement by the Iowa Department of Transportation for Iowa Gov. Robert D. Ray [1]

In the last few years, many of the problems associated with airport development and operation are the direct result of past failures to plan for the future. The impediments to airport management and development have come from residents living adjacent and under arrival and departure paths of the local airport. These problems are not just peculiar to Los Angeles International, nor to New York's J.F.K. These problems are very real in Dubuque, Iowa, and Des Moines, Iowa.

Many states are experiencing dynamic growth trends in urban areas. With this growth, air transportation has become an economic necessity for most large communities, and will pay an even greater part in the future of smaller communities. Herein lies the problem: the airport is an economic generator for the community, and has traditionally been placed away from the population center. With population growth, scarce land for residential development is selling for premium prices. Lands adjacent to airport properties are relatively cheap, or at least still available for development. Residential development is drawing closer and closer to airport boundaries in many communities.

Of course, residential land use is the domain of the local community, not the state, and not the Federal Government. Why, then, do these local communities allow this encroachment? The problem of aircraft noise and legal action happens only once in the history of a community. There is no lesson to follow from previous actions. The airport is one aspect of community life, and its detailed problems are known to only a few individuals. In those communities with planning agencies, the future problems are obvious to the planner, but the solutions are vague. Few professional planners have the specialized experience necessary to solve airport vicinity land use problems. It is at this point that State aviation officials have begun programs to help local communities.

These programs include (1) noise definition, where previous master planning work had not been accomplished; (2) noise verification; (3) noise forecasting for the twenty-year period; and (4) land use guidelines for the noise affected area. There exists, however, one key element in this approach to solving future problems. This missing element is the inability of the planner to select arrival and departure routes that are consistently used.

Forecasting the noise footprints around airports presupposes that the track of aircraft will be somewhat consistent. This requires coordination of the FAA air

[1] Presented by Michael E. Palmer, Director, Division of Aeronautics, Iowa DOT.

traffic controller and the land use planner. This coordination has heretofore been missing. In several specific instances, state agencies have met with resistance from the FAA tower officials in trying to solve this type of problem. This problem needs attention from top management of the FAA. We at the state and local level are endeavoring to save our airports from future closures. Through zoning and land use planning, we can prevent future encroachment. However, if there is no order to the arrival and departure of jet aircraft around an airport, no local official will commit his community to zoning that is useless.

The fact that airspace is becoming saturated does add to the problems of air traffic control. However, we have evidence of the consequences of ignoring the problem in the future. Without airports, we will have no future air transportation.

The second area of concern by state officials is the lack of comprehensive planning in airport master plans.

The FAA should require a detailed land use plan that is tied to feasible air traffic control arrival and departure procedures with each financial grant for airport master plans. In the five-year history of the planning grant program, the weakest part of airport master plans has been the land use section. The FAA must require this section to be comprehensive, and require their own Air Traffic Control Branch to get inolved in land use development.

The third area in which Federal action can be more positive is the administration of airport development grants. If the FAA would require a comprehensive land use plan to be adopted for each airport, prior to the approval of a financial grant for development, we could be assured that the airport would no longer be set apart from community planning. This land use requirement could be in the form of an airport master plan, or accompany the required airport layout plan. Continued airport development in communities without a plan to deal with airport problems will prolong these problems we are here to discuss today.

The fourth area in which the federal government can use the existing system is coordination between FAA and the Federal Department of Housing and Urban Development. There exists today procedures by which FAA can inform HUD of noise affected areas around airports. HUD may then restrict loans in this area and otherwise discourage residential development in that affected area. In fact, this just does not work. The sensitivity in the past of affecting the future of the airport has discouraged the FAA from making the first move. Today we must reverse this thinking and proceed to protect these areas from further development.

The fifth area, and perhaps the most important for which Federal involvement is needed, concerns noise standards. The adoption of one, not many, noise measuring system as the National Standard is needed. Today we are using a proliferation of systems such as:

(1) Composite Noise Rating (CNR).
(2) Noise Exposure Forecast (NEF).
(3) Landing Day-Night (LDN).
(4) Aircraft Sound Description System (ASDS).

These many systems all define noise, but nobody agrees to what is acceptable and what is not. The legal issues of zoning, based upon noise contours, are not consistent; there is no National standard. The federal agencies, concerning themselves with noise, must come to some common acceptance of one system. Without this system, how can local governments deal with the legalities of zoning?

In summary, the problem is national in scope from the most urbanized area to the rural airport adjacent to a small communty. Some airports are, in effect, lost due to encroachment. The steps we take here today, and in the near future, must be keyed to saving the airport environs throughout this country. Precious few new airports will be built in the future due to environmental and financial constraints. New technology is needed at the source of the problem; however, we can take the above steps in today's system to help.

The CHAIRMAN. Mr. Tyler.

STATEMENTS OF JOHN TYLER, EXECUTIVE DIRECTOR, NATIONAL ORGANIZATION TO INSURE A SOUND-CONTROLLED ENVIRONMENT, GLASTONBURY, CONN.; ACCOMPANIED BY ROBERT P. ADELBERG, A DIRECTOR; AND ALSO A MEMBER OF THE LOUISVILLE AND JEFFERSON COUNTY AIR BOARD, ON BEHALF OF MAYOR WILLIAM STANSBURY, LOUISVILLE, KY., AND COUNTY EXECUTIVE MITCH McCONNELL, JEFFERSON COUNTY, KY.

Mr. TYLER. Mr. Chairman, I understand two of us are to share time.

The CHAIRMAN. Yes, sir.

Mr. TYLER. Mr. Adelberg is going to speak first.

The CHAIRMAN. All right, sir.

Mr. ADELBERG. I am Robert Adelberg of Louisville, Ky. I ask my statement be entered in the record and that I talk to several points in summary.

The CHAIRMAN. It will be made a part of the record in full.

Mr. ADELBERG. I am testifying in behalf of Mayor Stansbury and Judge McConnell. I might add these gentlemen are of opposite political faiths. I hope the spirit of ecumenism that has brought them together on this issue will also find a parallel in substantial bipartisan agreement effectively dealing with this issue in both the Senate and the House.

About 130,000 citizens live under the impact of flight corridors to our air carrier airport, Louisville Standiford Field.

Our two most populated corridors are occupied by neighborhoods which were essentially established before the airport was built. The present population of these corridors is about 89,000 people.

I am a director of NOISE, National Organization to Insure a Sound-controlled Environment. NOISE's goal is the elimination of all noise which is unnecessary to the safe, efficient operation of transport aircraft.

I have been a member of the Louisville and Jefferson County Air Board since October 1974 and a charter director of the Kentucky Aviation Association. My views expressed in this testimony do not necessarily represent those of either organization.

I hope that aircraft noise is recognized as too large an obstacle to aviation's advancement and in turn aviation's advancement is too important to the national interest that we allow the debate to go into its 27th year. I refer, of course, to what appears to be the beginning of discussion on this issue, the Doolittle report of 1952, which has now grown to debate proportions.

I accept your theme, Mr. Chairman, that the time for debate has ended. "Let's settle the debate this year." But we hope we have built up to a substantial and effective resolution of the question.

Specifically I would like to compliment the tone of your bill in emphasizing new technology in aircraft manufacturing. Frankly, we would particularly like to see stimulation of production of new technology stage 3 reduced by about 4 decibels fuel-efficient aircraft, with the approximately 20 to 25 percent fuel savings benefits over present aircraft.

The manufacture of this new technology which we'll refer to as "stage 3 plus" offers energy efficiency, improved safety, noise reduction, advancement of the aircraft manufacturing industry in-

cluding balance-of-payment benefits and increased employment. Whatever the funding mechanism, it should create the incentives to produce the most cost-effective solution—"stage 3 plus" technology.

I would like to speak to the point——

The CHAIRMAN. By the way, are there any aircraft now in existence that meet that?

Mr. ADELBERG. No; it would be the aircraft JT-10D engine in the proposed 757 Boeing.

The CHAIRMAN. Fine.

Mr. ADELBERG. I would like to speak now to the ineffectiveness of land conversion cost. I happen to also be in the real estate business in Louisville. While reduction of noise at the source is most cost-effective, the conversion of improved land impacted by aircraft noise, is cost-ineffective. Although we would like to see the planning provisions of title I, we recognize that the massive sums of money necessary to purchase land and convert the property to airport compatible use really are not comparable to adopting measures which would shrink the noise contours and allow more of that land to continue in present use.

Also speaking for our elected officials, I think we all would rather see property in private hands on the tax rolls rather than to eliminate the potential production of that property both in the private and public sectors.

On the question of maintaining the two- and three-engine compliance deadlines, we feel that S. 3064 has tainted the atmosphere by suggesting removal of deadlines. We find that the aircraft noise situation is so great in the communities and has been of concern for so many years that FAR 36 is seen as the only anchor in this ever-muddy sea of vicissitudes.

The lifting of the existing deadlines would taint the atmosphere in which aviation interests are striving to broaden their base of support in order to accommodate the growth of the industry.

There has been too much momentum building before the issuance of compliance deadlines in December 1976 to avoid substantial negative consequences if these deadlines were not present. Total conservative cost estimates to retrofit the fleet at $400 million would indicate that relative to the adverse consequences of other options, the interests of aviation and the Nation would be best served if retrofit compliance went forward as scheduled.

Because two- and three-engine aircraft comprise over 80 percent of the fleet operations at our Nation's airports, the benefits can be substantial on a cumulative basis. At Louisville's Standiford Field, two- and three-engine narrow-body daily operations comprise 96 percent of the total. For the four air carrier airports in Kentucky, 94 percent of the daily operations are two- and three-engine aircraft.

Mr. Chairman, I would like to conclude by speaking to section 306 of title III S. 3064—waiver for cause. We feel the tone of the section weakens the bill for it overemphasizes the potential for noncompliance by listing possible causes. We suggest that language granting discretionary authority to the Secretary replace the proposed section. This would give the bill adequate flexibility without

casting the shadow of doubt concerning the need for unnecessary waiver emphasis in the legislation.

Mr. Chairman, thank you.

The CHAIRMAN. Thank you very much for your statement.

Of course, you point out this debate has been going on for 26 years. I would say that the people who were complaining about aircraft noise 26 years ago are not going to be helped by either or any of these programs, because if they were within the noise zone, then they are not going to be materially helped because the zone has been changed so much during that period of time. Would you agree with that?

Mr. ADELBERG. I would say I have lived in that zone for 26 years. My statement was meant to reflect that the debate has warmed since the jet.

The CHAIRMAN. And because of the added frequencies.

Mr. ADELBERG. Exactly.

The CHAIRMAN. I was not misled by what you were saying, but I just wanted to make the point.

All right, sir.

Mr. TYLER. Thank you, Mr. Chairman.

I am submitting my document for the record. I will summarize.

I am presenting testimony on behalf of NOISE, an organization of cities and towns near large airports which are disturbed by aircraft noise. I speak as an expert on aircraft noise abatement technology, having been in charge of aircraft engine noise abatement research and development at Pratt & Whitney Aircraft from 1955 to 1970. During that time I received the SAE Wright Brothers Award, and the Manley Award twice for research in this field.

Mr. Chairman, I support the principle of financial incentives for aircraft retrofit, reengining and replacement through the 1980's to 1990. This statement is based on the fact that incentives seem to be needed to accomplish both the noise abatement and the other purposes of the bill.

First, it is important to note that noise abatement and aircraft efficiency go together rather than work against each other as they appeared to have done for many years. It is true that each new powerplant design must be developed using the newest noise abatement technology. However, the most efficient new aircraft can also be the quietest by a significant margin.

Second, while we have new technology, efficient, quiet engines available for 707 and DC–8 replacement aircraft, a type where replacements are badly needed because these aircraft went out of production several years ago, we do not have such new technology engines available in other sizes, particularly smaller sizes. For example, a prop-fan powerplant has been explored by NASA which promises to use 50 percent less fuel than the present two- and three-engine aircraft that we have been talking about in connection with noise abatement.

It would also produce still less noise than the 707 and DC–8 replacements. This powerplant which is now visualized as going into service in the 1990's could be available for replacement of these two- and three-engine aircraft in the 1980's if Congress developed incentives for a more rapid engine development program in this Airport and Aircraft Noise Reduction Act of 1978.

Third, whereas aircraft with strictly new technology, high bypass ratio engines can meet noise limits about 4 decibels below the FAA stage 3 limits, the modified old technology engines such as those powering the DC-9-80 can only meet FAA stage 3 noise limits. The efficiency of the modified old technology engine aircraft as well as their noise emissions are between that of present two- and three-engine aircraft and new technology aircraft.

I want to emphasize that the FAA noise limits in this so-called stage 3 category are established so as to permit a variety of aircraft to be introduced into the system, and I am pointing out that they include not only the real new technology aircraft, but some aircraft that are just modified current aircraft. And you may remember that the EPA suggested to the FAA noise limits for this period, about 4 decibels lower than the ones which the FAA implemented. And I think this is a very important point in connection with cost-effectiveness of the implementation under your bill, and the bill presented by the House.

S. 3064 could become the Aircraft Noise Reduction and Fuel Economy Act of 1978 by providing financial assistance to the airlines and incentives for the development and use of quiet, economical replacement aircraft. Such a bill must include the following:

1. Financial assistance to extend to January 1, 1990.

2. This assistance should apply only to programs leading to the purchase of new technology aircraft meeting the stage 3 minus about 4 decibel limits.

I want to emphasize that this makes them cost-effective.

If this assistance is applied to older technology aircraft as well, there would be no more incentive for airlines to buy new technology aircraft than there is now.

3. There could be two types of programs: (a) The direct purchase of new technology aircraft meeting the stage 3 minus about 4 decibel limits; and (b) Financial assistance in covering the cost of retrofit on the FAA fleet noise rule schedule. This requirement can be met with a small increase in cost per seat-mile assuming there is significant life left in the aircraft.

And without having had your interpretation which I got from you this morning by listening to earlier discussions, you will note that I am supporting your concept.

The CHAIRMAN. I was just saying the more you talk, the more I like what you are saying. You are getting pretty close to what we are trying to get at and I just wish you would have suggested the name of the title before because I like the title that you have better than I have in this bill. I accept your title for it. I think that is a better one.

Mr. TYLER. Mr. Chairman, the idea of a possibility of a 50-percent reduction in fuel consumption in an era where energy, particularly aviation fuel, is of great concern to us, this should really raise the flag and say let's get on with this particular part of the program.

Financial assistance should be available to provide an incentive for these retrofitted aircraft to be replaced with new technology aircraft.

I am in complete agreement with you on that. This means the development of prop-fan or other new high bypass ratio new tech-

nology engines to be used in these new technology aircraft in the 1985 to 1990 period.

The important point in this program is that any financial assistance in the purchase of other than new technology aircraft meeting the stage 3 minus about 4 decibel limits would eliminate the incentives and defeat the purpose of the bill, in my opinion.

Now there are some other points and other interests not discussed here this morning that I would just like to raise. The first one has to do with noise measurements. It would make for inefficiency and delay if the FAA had to determine a system of noise measurement or rating of noise impact on people. And this was in title I. And title I explained that there were a proliferation of measurements already. The EPA had been authorized by the Noise Control Act of 1972 to set a single standard for measuring all types of noise which they did, and now this bill is saying let's set another standard for measuring aircraft noise. And I don't think this makes sense. Aircraft noise should be measured in the same manner with the same limits as factory noise, highway noise, any other kind of noise. And I think you will agree with that when you look into it.

Airport compliance incentives. I think this is a very important point. Making airports immune from lawsuits if they draw maps showing aircraft noise/land use incompatibilities is a complete disincentive for the airport to go any further than drawing the map. Instead, immunity should be granted the airport operator after he follows through to implement a meaningful plan. The submittal of a plan with a lack of incentive to follow through could defeat the purpose of the program. And I understand the reason why this was put in the bill. This is to persuade airport operators to cooperate in the drawing of such plans. But knowing the manner in which some of the airport operators cooperate with communities, I know perfectly well that they would take advantage of this opportunity, draw the plan, throw it in the wastebasket and say, OK, we are immune from any furthur action.

Now State coordination of airport purchase of land. The use of ADAP funds for land use change makes sense. However, the funds should be managed by HUD working with State agencies which have been given the authority to negotiate and implement plans with their airports and surrounding communities. Thus the land would stay on the local tax lists and be used productively.

Now I think we are all aware of the fact, and you have mentioned it this morning, that the zoning commissions in communities near airports have not been cooperative with the airport operator in zoning land to be compatible with operations of the airport.

Now I am particularly familiar with the situation around O'Hare, where the airport operator refused to indicate to the communities around the airport what his plans would be for airport operations because he felt if he did, then this would identify certain areas where there would be ground tracks, in other words, the airplanes would be flying over this area, and other areas where there would not be ground tracks. If he entered into such an agreement, this would mean that the communities could perfectly well develop the land where there were not ground tracks and the airport operator said in his submittal to the PEDC Committee in

1966, we don't want them to do that. We want the option of putting airplanes out over any particular area around our airport. And when the airport operator takes that position, the communities have absolutely nothing to go on for zoning purposes.

Now, unfortunately the Federal Government cannot step into that situation and tell the airport operators and communities to cooperate. However, the States can, and some States have, as you have heard this morning.

I think the funds that are to be used to change land use in areas where there are incompatibilities made available by the Federal Government, should be made available to State agencies which will compel this kind of cooperation.

In that case, you will have effective aircraft noise-land-use compatibility.

Now, "The goal." The land use change program should be coordinated with aircraft noise reduction so that by the year 2000 the land use change working from the airport outward meets the shrinking 65 Ldn/30 NEF contour coming inward.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Mr. Tyler.

Thank both of you for very fine, helpful statements.

I want to say, Mr. Tyler, it seems that you agree with me, at least in the point that retrofit of the two- and three-engine aircraft is not a very effective noise control measure, and to me it seems if we spend hundreds of millions of dollars to retrofit planes that will have to be replaced 2 or 3 years later, it is not a very economic way to move.

You have provided, I think, a very sensible approach.

Mr. TYLER. I hope I won't be misinterpreted. I would like to make a comment with regard to this question of what is a meaningful noise reduction and there has been quite a little discussion about this subject, both today and yesterday. I would like to point out that there are two benchmark levels of noise impact.

One is 30 NEF or 65 Ldn.

The other is 40 NEF or 75 Ldn, using the two standard methods of rating noise impact.

Now, noise levels above the 75 Ldn or the 40 NEF are described by both the EPA and the FAA in their documents on this subject, and you are probably familiar with the DOT–FAA aviation noise abatement policy that came out November 1976. It is a very comprehensive and very good statement of their policy in this connection. And they say that noise above this particular level is critical, demanding immediate remedial action.

Now, 10 decibels lower, the noise impact is acceptable for residential use, which is one of the most sensitive uses of land around airports.

Now here is a 10-decibel spread. If every airplane in the fleet were changed by 10 decibels you would go from the 40 NEF down to the 30 NEF.

We also hear that a 5-decibel change is, one expression is "not meaningful" or "barely discernible." Now you have two barely discernible or not meaningful changes from 0 to 10. One of 5 decibels where nobody can tell the difference plus another of 5 decibels where nobody can tell the difference, and that takes going

from something completely acceptable to something completely unacceptable. On these two benchmarks there is no argument. Those are very well based in the technology.

With regard to standing out in a field, looking up at airplanes some distance away and hearing two airplanes go by, let me point out that even a single airplane flies by, if you listen to it continuously, you will find that the noise level varies from second to second, particularly if there is any turbulence in the atmosphere. And the turbulence determines the refraction of the sound as it progresses from the airplane to the particular location where you are standing.

Now if you were able to distribute microphones under the whole area under the airplane, you would find that where the noise level receded for your particular position, it would increase for some other position. So that on that whole flyby, if somebody said, OK, what is the noise, what is your reaction now, you would have a particular reaction. Three seconds later it would be a little different. And the human system is not capable of integrating over a period of 15 or 20 seconds just how much impact there is. But if you have people living there, and Paul Borsky's work, which was discussed here this morning by two or three witnesses, was with witnesses who live in the area just west of Kennedy Airport who have lived there for many years. They are quite familiar with all the details of airplanes going over their homes. And they can give you a little better reaction because if they are on the phone and an airplane goes over, they say, wait a minute. Airplane going by. They wait until it's gone by, then they pick up the conversation. They do this, you know, as a normal reaction.

If the TV is on and an airplane approaches, they reach over and turn it up a little bit so they can hear it through the airplane flyby.

Now all of these things they adapt to, get used to. Maybe they don't like them. but in Paul's laboratory where he plays tapes, he has living rooms and people doing all their normal chores sitting in his laboratory, and there he can get very accurate reactions to noise exposures. People go in and they spend maybe 1 hour, 2 hours in a situation where the pattern increases and decreases by 1, 2, or 3 decibels. And if you have enough people exposed to this particular situation, you get very accurate measurements of the noise impact on those people. So don't let anybody confuse you by saying 5 decibels is not meaningful.

The CHAIRMAN. Thank you very much, gentlemen. We appreciate you being here.

[The statements follow:]

STATEMENT OF ROBERT P. ADELBERG REPRESENTING LOUISVILLE, (KY.) MAYOR WILLIAM STANSBURY AND JEFFERSON COUNTY (KY.) EXECUTIVE MITCH MCCONNELL

Mr. Chairman and members of the committee, I am Robert P. Adelberg of Louisville, Ky. I am testifying today in behalf of Louisville Mayor William Stansbury and Jefferson County judge and chief executive Mitch McConnell. Jefferson County, Ky., has about 733,000 citizens. About 130,000 live under the impact of flight corridors to the air carrier airport, Standiford Field. Standiford's two most populated corridors are occupied by neighborhoods which were essentially established before the airport was built. The present population of these corridors is about 89,000 people.

I am a director of N.O.I.S.E.—National Organization to Insure a Sound-controlled Environment. N.O.I.S.E.'s goal is the elimination of all noise which is unnecessary to the safe, efficient operation of transport aircraft.

I have been a member of the Louisville and Jefferson County Air Board since October 1974 and a charter director of the Kentucky Aviation Association. My views expressed in this testimony do not necessarily represent those of either organization.

Thank you for the opportunity to comment on legislation addressing aviation's foremost obstacle to the fulfillment of its role as a leader of the national destiny. The Doolittle report issued in 1952 signaled a 26-year discussion that has warmed to debate intensity. I accept your theme sounded earlier in the week, Mr. Chairman, "End the debate this year!" But these 26 years must lead us to a substantial achievement for aviation with significant positive consequences for the Nation. Specifically we would support the availability of funds induced by this legislation which would stimulate the production of new technology (stage 3 reduced by about 4 dB), fuel efficient aircraft with present FAR part 36 standards prevailing. The manufacture of this new technology which we'll refer to as "stage 3 plus" offers energy efficiency, improved safety, noise reduction, advancement of the aircraft manufacturing industry including balance of payment benefits and increased employment. Whatever the funding mechanism, it should create the incentives to produce the most cost effective solution—stage 3 plus technology.

During my testimony I will touch on other aspects of S. 3064, sponsored by you and Senator Pearson; S. 747, offered by Senator Javits: and H.R. 11986, Developed by the House of Representatives Public Works and Transportation Committee.

LAND USE CONVERSION COST INEFFECTIVENESS

While the reduction of noise at the source through the development of new "Stage 3 Plus" technology is most cost effective in meeting the aircraft noise reduction act's objectives, the conversion of improved land impacted and incompatible with airport operations by airport purchase is cost ineffective. In addition to the massive sums of money necessary to purchase the land and convert the property to airport compatible use, reduction of aircraft noise at the source would serve to shrink noise contours and allow hundreds of square miles to continue in its present use. This keeps productive property of the tax rolls and avoids the less desirable alternative of purchase by the public sector.

MAINTAIN 2 AND 3 ENGINE COMPLIANCE DEADLINES

The tone of S. 3064 has been sullied with the proposal to extend compliance deadlines to 1990. Many aircraft noise impacted communities have seen FAR 36 as the only anchor in an ever muddy sea of vicissitude. A lifting of the existing deadline would taint the atmosphere in which aviation interests are striving to broaden their base of support in order to accommodate the growth of the industry. There has been too much momemtum building before the issuance of compliance deadlines in December 1976 to avoid substantial negative consequence if these deadlines were now reset. Total conservative cost ertimates to retrofit the fleet at $400,000 would indicate that relative to the adverse consequence of other options, the interests of aviation and the Nation would be best served if retrofit compliance went forward as schedule.

Because 2 and 3 engine carrier aircraft comprise over 80 percent of the fleet operations at our Nation's airports, the benefits can be substantial on a cumulative basis. At Louisville's Standiford Field, 2 and 3 engine narrow body daily operations comprise 96 percent of the total. For the four air carrier airports in Kentucky 94 percent of the daily operations are 2 and 3 engine aircraft. Because of the scope and significance of their impact we urge that 2 and 3 engine retrofit deadlines remain in place.

SECTION 306—TITLE III "WAIVER FOR CAUSE"

The tone of this section weakens the bill for it overemphasises the potential for non-compliance by listing possible causes. We suggest that language granting discretionary authority to the secretaty replace the proposed section. This would give the bill adequate flexibility without casting the shadow of doubt concerning the need for unnecessary waiver emphasis in the legislation.

Mr. Chairman and members of the committee, thank you for your consideration.

STATEMENT OF JOHN M. TYLER, EXECUTIVE DIRECTOR, NATIONAL ORGANIZATION TO INSURE A SOUND-CONTROLLED ENVIRONMENT

Mr. Chairman and members of the subcommittee, my name is John M. Tyler. I am presenting testimony of behalf of N.O.I.S.E., an organization of cities and towns near large airports which are disturbed by aircraft noise. I speak as an expert on aircraft noise abatement technology having been in charge of aircraft engine noise abatement research and development at Pratt and Whitney Aircraft from 1955 to 1970. During that time I received the SAE Wright Brothers' Award and the Manley Award twice for research in this field.

Mr. chairman, I support the principle of financial incentives for aircraft retrofit, reengining and replacement through the 1980's to 1990. This statement is based on the fact that incentives seem to be needed to accomplish both the noise abatement and the other purposes of the bill. Let me explain.

First, it is important to note that noise abatement and aircraft efficiency go together rather than work against each other as they appeared to do years ago. It is true that each new power plant design must be developed using the newest noise abatement technology. However, the most efficient new aircraft can also be the quietest by a significant margin.

Second, while we have new technology, efficient, quiet engines available for 707 and DC-8 replacement aircraft, a type where replacements are badly needed because these aircraft went out of production several years ago, we do not have such new technology engines available in other sizes, particularly smaller sizes. For example, a prop-fan powerplant has been explored by NASA which promises to use 50 percent less fuel than the present 2 and 3 engine aircraft. It would also produce still less noise than the 707 and DC-8 replacements. This power plant which is now visualized as going into service in the 1990s could be available for replacement of these 2 and 3 engine aircraft in the 1980s if Congress developed incentives for a more rapid development program in this airport and aircraft noise reduction act of 1978.

Third, whereas aircraft with strictly new technology, high bypass ratio engines can meet noise limits about 4 dB below the FAA stage 3 limits, the modified old technology engines such as those powering the DC-9-80 can only meet FAA stage 3 noise limits. The efficiency of the modified old technology engine aircraft as well as their noise emissions are between that of present 2 and 3 engine aircraft and new technology aircraft.

S. 3064 could become the aircraft noise reduction and fuel economy act of 1978 by providing financial assistance to the airlines and incentives for the development and use of quiet, economical replacement aircraft. Such a bill must include the following:

1. Financial assistance to extend to January 1, 1990.

2. This assistance should apply only to programs leading to the purchase of new technology aircraft meeting the stage 3 minus about 4 dB limits. If this assistance is applied to older technology aircraft as well, there would be no more incentive for airlines to buy new technology aircraft than there is now.

3. There could be two types of programs: (*a*) The direct purchase of new technology aircraft meeting the stage 3 minus about 4 dB limits; and (*b*) Financial assistance in covering the cost of retrofit on the FAA fleet noise rule schedule. This requirement can be met with a small increase in cost per seat-mile assuming there is significant life left in the aircraft.

Financial assistance should be available to provide an incentive for these retrofitted aircraft to be replaced with new technology aircraft. This means the development of prop-fan or other new high bypass ratio new technology engines to be used in these new technology aircraft in the period 1985 to 1990.

The important point in this program is that any financial assistance in the purchase of other than new technology aircraft meeting the stage 3 minus about 4 dB limits would eliminate the incentives and defeat the purpose of the bill.

Other points to be mentioned are:

A. *Noise measurements.*—It would make for inefficiency and delay if the FAA had to determine a system of noise measurement or rating of noise impact on people. A pollution control agency (EPA) which performed this task on instructions from congress in the 1972 Noise Control Act has ample data and expertise to efficiently promulgate a noise measurement standard.

B. *Airport compliance incentives.*—Making airports immune from lawsuits if they draw maps showing aircraft noise/land use incompatibilities is a complete disincentive for the airport to go any further than drawing the map. Instead immunity should be granted the airport operator after he follows through to implement a

meaningful plan. The submittal of a plan with a lack of incentive to follow through coud defeat the purpose of the program.

C. *State coordination of airport purchase of land.*—The use of ADAP funds for land use change makes sense. However, the funds should be managed by HUD working with State agencies which have been given the authority to negotiate and implement plans with their airports and surrounding communities. Thus the land would stay on the local tax lists and be used productively.

Goal: The land use change program should be coordinated with aircraft noise reduction so that by the year 2000 the land use change working from the airport outward meets the shrinking 65 Ldn/30 NEF contour coming inward.

Thank you, Mr. Chairman, for this opportunity to acquaint you with some of the airport neighbors problems.

The CHAIRMAN. That concludes the hearings today. The next hearing will be on June 13, at 9:30.

[Whereupon, at 12 noon, the hearing was adjourned, to reconvene at 9:30 a.m., June 13, 1978.]

AIRCRAFT AND AIRPORT NOISE REDUCTION

TUESDAY, JUNE 13, 1978

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE ON AVIATION,
Washington, D.C.

The subcommittee met at 9:40 a.m. in room 235, Russell Senate Office Building, Hon. Howard W. Cannon (chairman of the committee) presiding.

OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN. The hearing will come to order.

Today begins the second round of hearings on S. 3064, S. 747, and H.R. 8729, the aircraft and airport noise reduction bills pending before the Congress. The hearing today and tomorrow will conclude the committee's hearings schedule with respect to individual presentations.

On Saturday, June 17, the committee will conduct a field hearing at Dulles International Airport to witness a flyover demonstration of retrofitted and nonretrofitted Boeing 727 aircraft and with the new technology aircraft represented by the A-300. All those interested in attending the flyover demonstration are asked to be at the Pan Am Airways ticket counter by 8:15 Saturday morning.

Our first group of witnesses today is the Aerospace Industries Association of America.

Gentlemen, you may proceed.

STATEMENTS OF KARL G. HARR, JR., PRESIDENT, AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.; ACCOMPANIED BY H. W. WITHINGTON, VICE PRESIDENT, ENGINEERING, BOEING COMMERCIAL AIRPLANE CO.; VAUGHN L. BLUMENTHAL, DIRECTOR OF NOISE EMISSION AND ENERGY MANAGEMENT, BOEING COMMERCIAL AIRPLANE CO.; WILLIAM L. RODENBAUGH, STRATEGIC PLANNING OPERATION, AIRCRAFT ENGINE GROUP, GENERAL ELECTRIC CO.; JOSEPH SCHWARTZ, MANAGER, MARKET DEVELOPMENT DIVISION, LOCKHEED CALIFORNIA CO.; JIM THOMPSON, ACOUSTICAL ENGINEER, LOCKHEED CALIFORNIA CO.; A. L. McPIKE, DIRECTOR OF INDUSTRY ASSOCIATION ACTIVITIES, McDONNELL DOUGLAS CORP.; AND E. R. MONTANY, DIRECTOR, STRATEGIC PLANNING, PRATT & WHITNEY AIRCRAFT GROUP, UNITED TECHNOLOGIES CORP.

Mr. HARR. Thank you, Mr. Chairman.

It might be useful in setting the stage for our testimony if I read a brief statement.

The CHAIRMAN. You may proceed.

Mr. HARR. Thank you.

I'm Karl G. Harr, Jr., president of the Aerospace Industries Association of America, Inc. I appreciate the opportunity to be here today to comment on various proposals aimed at reducing noise at the Nation's airports.

The Aerospace Industries Association represents 48 of the Nation's major manufacturers of aircraft, spacecraft, and related equipment and services. Included in our membership are the three major commercial airframe and two major engine manufacturers which, along with their suppliers and subcontractors, would be most closely affected by implementation of any of the noise proposals before us. Their representatives here with me today are: Mr. H. W. Withington, vice president of engineering, Boeing Commercial Airplane Co.; Mr. Vaughn L. Blumenthal, director of noise emission and energy management, Boeing Commercial Airplane Co.; Mr. William L. Rodenbaugh, Strategic Planning Operation, Aircraft Engine Group, General Electric Co.; Mr. Joseph Schwartz, manager, Market Development Division, and Mr. James Thompson, acoustical engineer, Lockheed California Co.; Mr. A. L. McPike, director of industry association activities, McDonnell Douglas Corp.; and Mr. E. R. Montany, director of strategic planning, Pratt & Whitney Aircraft Group, United Technologies Corp.

As many of you are aware——

The CHAIRMAN. You're not mad at the one you didn't introduce, are you?

Mr. HARR. Where is he?

The CHAIRMAN. Over here.

Mr. HARR. I'm sorry. I didn't mean to skip you.

Mr. THOMPSON. I was mentioned.

Mr. HARR. As many of you are aware from personal experience with your constituents, aircraft noise has been an increasing problem over the past 25 years. It is estimated that up to 7 million Americans may be affected by aviation-related noise. Federal agency action on aircraft noise, to date, has concentrated on controlling noise at the source, meaning the aircraft. Part 36 of the Federal Aviation regulations, prescribing noise levels for civil turbojet aircraft over 75,000 pounds was promulgated in 1969. From then on, no new aircraft could go into production unless they met these regulations. Since 1969 there have been nine amendments to part 36, extending its applicability to additional categories of aircraft and lowering the allowable noise levels. In short, the rules have been changed rapidly. While this may be proper and understandable from the standpoint of promoting the public well-being, such actions constitute, for the operators and manufacturers, a severely challenging and often confusing framework in which to conduct their business. I should interject here that despite these difficulties the manufacturing industry intends to work to satisfy those demands and we have made considerable progress toward

that end already. Most widebody transports currently in use are already performing at the stage 3 noise limits.[1]

Derivatives of today's standard body and widebody airplanes will be equally quiet, and all new model airplanes now being designed will meet the limits. But there are economic limits to the degree to which these changes can be absorbed.

When the FAA passed its rule requiring that the operators bring their aircraft into compliance with FAR 36 by 1985, three-fourths of the U.S. fleet was affected. That is, 1,643 out of a total of 2,193 airplanes in the U.S. fleet do not meet FAR 36 and will now have to be retrofitted, re-engined, or replaced to meet the FAA's fleet noise rule. Bringing three-fourths of the fleet into compliance will be expensive, regardless of method. It has been estimated that retrofitting the 1,600 noncompliant airplanes would cost in excess of $2 billion, though retrofitting is the least desirable solution. It has also been estimated that the optimal solution, replacement of those 1,600 airplanes, would cost in excess of $22 billion, making replacement the most expensive solution. Obviously, U.S. carriers will pursue neither the most nor the least expensive solution. Instead, they will choose a combination of retrofit, re-engining, and replacement, depending on their individual market needs and financial resources.

The question is: Where is the money going to come from? As this subcommittee is well aware, during the period 1970 through 1976, airline earnings were disappointing. Because of poor earnings, the carriers were unable to replace older airplanes on their normal retirement schedules, not to mention being unable to purchase aircraft to accommodate growth. The total equipment requirements of the trunks and Pan American, apart from those generated by the new noise regulations, have been estimated at from $25 billion to $30 billion between 1978 and 1987, in constant 1977 dollars. Depreciation and sales of used aircraft will probably generate only $15 billion of that amount, leaving $7 to $15 billion to be financed through earnings and other sources. The FAA's fleet noise rule exacerbates the problem by requiring accelerated retirement, retrofit, or re-engining. The ability of the airlines to comply will depend on their earnings and although there have been very recent substantial increases in airline traffic, these are likey to be significantly offset by discount pricing and thus airline earnings will still be wholly inadequate to underwrite compliance with the noise rule by the 1985 deadline.[2]

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[1] The stages of aircraft noise levels were established by amendments 7 and 8 to part 36 of the FAR.

Stage 3 represents the required performance of new aircraft for which the type certificate application is made on or after November 5, 1975. This represents the highest available state-of-the-art for noise reduction.

Stage 2 is the performance established by the original Part 36 FAR which was effective on December 1, 1969. Additionally, Stage 2 applies to those aircraft which were originally exempt but have continued to be manufactured. Such aircraft which were not flown prior to December 1, 1973, or December 1, 1974, depending on special conditions, must meet these requirements.

Stage 1 aircraft are those which do not meet the requirements of either stages 2 or 3.

[2] Such earnings should be put into proper perspective. In 1977, the trunks and Pan American earned over $580 million. In an earlier high-earning year, 1967, they earned just over $410 million. A 41 percent increase in earnings over a 10-year period is, at first glance, impressive. However, during this same time period, inflation (the GNP deflator) went up 79 percent. In real terms, 1977 earnings were 21 percent below 1967 earnings. Put another way, 1977 earnings were less than $320 million measured in 1967 dollars. In addition, the airlines have expanded their capacity since 1967 by 72 percent. If 1977 earnings in 1967 dollars are expressed in terms of

(Continued)

For this reason, various proposals have been advanced to help the airlines meet the extraordinary, one-time expense of achieving noise compliance. Taking them in logical order, I begin with your bill, Mr. Chairman, S. 3064, providing up to $20 billion in loan guarantees to assist the airlines in obtaining money to replace their older, noisier airplanes. Simply stated, there are parts of it we like and parts of it we do not like. For example, your bill will provide the carriers with fewer dollars than the Corman bill and with no front-end money whatsoever. The Corman bill would generate approximately $2.1 billion in constant 1977 dollars during the 5-year collection period. That $2.1 billion, of course, would be taxable as ordinary income, making the usuable total $1.9 billion. If we assume, on the other hand, that the loan guarantee program would save the carriers on an average of one point in interest industrywide, the total savings would be slightly more than $1 billion, distributed over the life of the loan, making it substantially less in 1977 dollars. Therefore, it is evident that your proposal will provide less money, which will inevitably slow the pace and reduce the effectiveness with which the airlines bring their fleets into compliance with Federal standards.

Perhaps more importantly, the loan guarantee approach will not provide the airlines with the up to $2 billion in downpayments and progress payments which are so vitally important to the manufacturing industry. The airlines will have to borrow such funds, further increasing their indebtedness. We see this as a very serious defect and one which does not arise under the excise tax method of financing.

We also note that re-engining and retrofit were dropped from the list of airline options which would qualify for guaranteed financing, leaving replacement as the only guaranteed option. We can all agree that replacement is the most desirable course to take. Indeed, were there not extraneous reasons for an accelerated schedule, all noncomplying aircraft would in time be replaced. The 5-year rollback on replacement would go a long way toward making this a nonproblem. However, so long as the present arbitrary circumstances do exist, we feel the airlines must have flexibility to exercise all their options. Therefore, we feel strongly the re-engining should be included as a guaranteed option, particularly as it applies to DC–8's and 707's. Re-engining will bring such uniquely serviceable aircraft into compliance with the noise regulations at levels approximating stage 3 replacement aircraft, in addition to improving fuel efficiency and decreasing gaseous emissions. Re-engining can be done at about one-half to one-third the cost of replacement and would be a most useful option for airplanes having a large portion of structural life remaining.

Under the current schedule, moreover, retrofit remains the only option airlines have to bring certain two- and three-engine planes into compliance with FAR 36. While all can agree that retrofit is a less than ideal solution, that simply is the fact. Therefore, we

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capital investment and productivity provided in 1967, 1977 earnings would be further reduced to about $190 million. In short, the airlines are not earning record profits to draw upon to meet the capital costs associated with FAR 91–136. Looked at another way, setting aside the effects of inflation and fleet expansion, the $580 million actual results would have had to exceed $800 million for the airlines to achieve a 12 percent rate of return in 1977.

believe that retrofit should also be treated as a guaranteed option under S. 3064.

Turning now to the things we like about your bill, Mr. Chairman, I will start with section 306, providing the Secretary of Transportation with flexibility to waive some of the intermal milestones for retrofit and re-engining, as well as replacement, under the present schedule for compliance with FAR 36. Almost 2 years have passed since the FAA issued its fleet noise curtailment rule, yet sources of financing to achieve compliance with that rule are still uncertain. The uncertainty as to what Congress will do has inhibited both the airlines and the manufacturers in pressing forward with retrofit, re-engining, or replacement for strictly noise purposes.

One effect of this delay has been that the manufacturers are not in a position to supply sufficient numbers of retrofit kits or replacement engines in time to meet the earlier compliance due dates. They may be able to meet the final dates if orders for such equipment are timely. Therefore, we applaud the inclusion of flexibility in your bill and the original Anderson bill. As you know, such a provision did not find its way into the Corman bill. However, we feel that it provides needed relief at no ultimate cost in noise reduction and should be retained in the final legislation.

The 5-year rollback for replacement has been more controversial. The advantages of such a rollback are obviously enormous. As things stand now, the carriers may retrofit or replace a large portion of their two- and three-engine fleets. If given the opportunity, they will replace the remainder. The stage 3 airplanes available today, however, tend to be too large to replace the relatively small airplanes now in service. Because of load factors and characteristics of the routes on which they would be used, many carriers may want to wait for the smaller, 135 to 200-seat, stage 3 airplanes.

The first stage 3 airplane, the DC–9–80, will not be available until about March of 1980. Lockheed's shortened L–1011–400 will be available in 1981, and Boeing's 757, 767, and 777 airplanes will be ready in the 1982–84 time period. In short, suitably sized stage 3 airplanes will not be available in sufficient quantity to meet the FAA's timetable. The choice is simple: Do we rigidly adhere to the FAA's timetable and force the carriers to retrofit the 727's, 737's, and DC–9's they would otherwise replace? Or do we slip the deadlines a little so the carriers can buy smaller stage 3 aircraft which will be substantially quieter than retrofitted aircraft? We feel that in including the provision for rollback you have taken the farsighted view, Mr. Chairman, and one which will result in the greatest possible reduction in noise.

On the other hand, some airport and environmental people profess to have serious problems with the concept of a rollback. Therefore, because it is terribly important that some legislation be passed this year, because it is imperative that the airlines industry be relieved of the delays and uncertainties thus far attendant upon implementation of the noise regulations, it is clear that a political judgment must be made.

Before concluding my remarks on S. 3064, I would like to make two short comments. First, we note that because of the method of financing relief contained in S. 3064, the foreign carriers are not

affected. While we would not be in a position to recommend how they might be involved in the loan guarantee approach, we do feel that inclusion of foreign carriers in the Corman bill, and therefore the requirement that they adhere to ambient U.S. noise standards, will result in greater relief for those plagued by aircraft noise.

Last, we would urge that the final legislation contain a provision defining eligible noncomplying aircraft as those in service on January 24, 1977, the effective date of the FAA regulation, in order to include under the program replacement aircraft which have already been purchased in good faith.

Now I would like to turn to the two other bills before the subcommittee; first, the Javits bill, S. 747. While we welcome Senator Javits' longstanding interest in noise control and appreciate his introduction of this rather early Ford administration proposal, we feel it has been eclipsed somewhat by the House bills and your own proposal. As you know, the Javits bill takes the ticket tax approach, mandating waybill and ticket tax reductions of two percentage points with an accompanying 2 percent noise reduction surcharge to be imposed by the CAB. The CAB would then establish a method of distributing revenues, although not more than a third of the cost of replacement could come from this source. Grants of up to $300 million would be made from the aviation trust fund for retrofit of two- and three-engine aircraft, retrofit of about 50 747's and retrofit of about 75 stretch DC–8's. The retrofit grants, of course, involve cross subsidies, which, understandably, are much opposed by the airlines. The Government would also be rather heavily involved in certain airline equipment decisions, which is also seen as less than desirable. The problem of foreign flag carriers was not even addressed.

Therefore, we would prefer to focus in our discussions on the lead House bill, H.R. 11986, which is title III of Representative Glenn Anderson's bill, H.R. 8729, as amended in the Ways and Means Committee under the sponsorship of Representative James Corman. We support this bill for a number of reasons. Foremost among the reasons for our support is the fact that we feel that the underlying philosophy of the bill accurately reflects the unique situation in which the airlines find themselves with respect to the noise regulations. The airlines bought equipment which conformed to Government specifications at the time and bought it in good faith. Subsequently, the rules were changed, and changed retroactively, but this highly regulated and financially pressed industry was not allowed to pass along the cost of complying with these retroactive rules in the form of increased fares—admittedly, an incomplete solution, at best. Manifestly, therefore, the Government has created something of a dilemma to which we are trying to find the best solution. In our view, the simplest and best solution is to collect money, appropriately from the users of the system, and allocate it on a weighted basis to the airlines to bring their fleets into compliance, as is done under H.R. 11986.

However, our view is essentially a pragmatic one. We feel it is imperative that the airlines and the manufacturing industry get their marching orders as soon as possible so that the present uncertainty is dispelled. We want to see a bill passed this year, and we will do anything within our power to assist you or the other

members of your subcommittee, the full committee, the full Senate and the House to come to some agreement as to how this best can be done.

My colleagues and I will now try to answer any questions you might have, Mr. Chairman.

The CHAIRMAN. You say the manufacturers are not in the position to meet the two- and three-engine retrofit compliance date. What percentage of the noncompliant fleet can be retrofitted by 1981–1982?

Mr. HARR. I'm going to turn to the horse's mouth for numbers on that, Mr. Chairman.

Before I do that, the general problem is that uncertainty over the past 2 years has delayed preparation of kits. Manufacturers haven't known how many, if any, would be ordered. Airlines haven't known how many, if any, they would need to buy.

So, the general answer, as I said, until I get the numbers from the gentleman here, is that until there is certainty, allowing airline management to make decisions as to what percentage of the fleet they will retrofit, the game can't really get seriously started.

The CHAIRMAN. Let me ask you about one part of that.

You said that you don't know, really, how many aircraft must comply according to the figures. I thought it was pretty well established the figure for airplanes powered by the JT 8–D is 1,119. Is there any confusion about that?

Mr. HARR. No, that is the figure. Actually, we cited in our statement approximately 1,100 two- and three-engine aircraft. There are two- and three-engine aircraft coming into the fleets now, stage 2 aircraft, which would not need to be retrofitted. I have to check with my colleagues here to see if they have the exact numbers on hand.

There is still considerable hope on our part that there will be a rollback possibility that will allow natural retirement and replacement to take effect.

The CHAIRMAN. If the retrofit kit orders began being placed tomorrow, how many years would it take to physically produce and retrofit those 1,100 aircraft?

Mr. HARR. An awfully long time.

Do you want to take care of that one?

Mr. BLUMENTHAL. If we start out with an assumption that the financing bill would be effective by the end of the year and that at the first of 1979 airline orders could be placed, we could meet the 50 percent kit deliveries for the two- and three-engine airplanes by 1 January of 1981, and 100 percent by 1 January 1983.

However, as stated in your version of the bill, if the airlines are given 1 year to decide what they want to do in the placement of orders and we do not begin kit production until 1 year later, the first of 1980, then we cannot meet the 50 percent kit deliveries by the first of 1981. We can meet the 100 percent deliveries by the first of 1983 for the two- and three-engine airplanes.

The CHAIRMAN. Now, we had testimony before, saying the manufacturers could not meet those compliance dates of 50 percent by January 1, 1981 and the other 50 percent by January 1, 1983.

Are you saying now that if a decision is made by January of next year, 1979, those compliance dates can be met; is that correct?

Mr. BLUMENTHAL. I make one major assumption, and that is that no foreign orders for retrofit kits would be placed. On that basis, we can meet the 50-percent and 100-percent dates.

The CHAIRMAN. You're saying you can meet that for the U.S. carriers, but if the foreign airplanes are required to meet the compliance dates, that they couldn't be retrofitted.

Mr. BLUMENTHAL. That's correct.

I make one further assumption. I'm speaking only of the parts that Boeing makes. Pratt & Whitney should speak to the engine part of the problem.

Mr. HARR. Mr. Montany.

Mr. MONTANY. The number of JT 8-D engines in those 1,100 airplanes are about 3,200. Because of the longer lead time on engines, we have instituted a program. We currently have on order about 200 engine kits. In order to meet this, we would have to come up with 3,200 kits by January 1, 1981, including some lead time for installation in the aircraft.

We are progressing with making capital investment now to produce these kits at this rate. With timely orders beginning in July of this year, we will be protecting this, but we will need orders relatively soon. We will be able to have half the kits in the hands of the airlines before the 1981 date. We don't think we have lead time enough to have all aircraft in compliance by January 1981, but we're fairly close. We have time after that to get the kits for the other 1,600 engines in the hands of the airlines before the January 1983 date, so they will probably have time to install them.

The CHAIRMAN. Let me see if I understand you correctly here. Are you saying, then, if you don't get the orders by before January of 1979, that you could not meet the 1981 compliance dates for 50 percent of those aircraft.

Mr. MONTANY. We would like to see orders start coming in in July at a reasonable rate.

The CHAIRMAN. I know what you would like to see, but I'm trying to get an answer to a specific question, in light of the association's testimony that says one effect of this delay has been that the manufacturers are not in a position to supply sufficient numbers of retrofit kits or replacement engines in time to meet the earlier compliance due dates.

Mr. HARR. Fleetwide.

The CHAIRMAN. Pardon?

Mr. HARR. Fleetwide, sir. Across the board, fleetwide.

The CHAIRMAN. Compliance due dates means 50 percent by January 1, 1981, and that's what you're referring to?

Mr. HARR. That's right.

The CHAIRMAN. Now, do you want to take another try at it?

Mr. MONTANY. I don't have a production schedule that would tell me exactly when we have to have these orders. But since we're making the investment to protect this rate, the orders would have to come in at a rate at which we would not have a delay for procuring the material.

So, I can only say that if the orders start coming in in July and come at a reasonable rate, we will have the kits available. If they delay, then there will be a materials and manufacturing delay; and

I would say after a couple of months we would be in a month-to-month slip.

The CHAIRMAN. You know the orders aren't going to start coming in in substantial numbers in July because you won't have legislation by July. The best you could hope for is that you would have legislation by the end of this year that would let you know what to plan on. And I think that's about the most optimistic we can look at.

So, what I'm asking you is, in line with the testimony here, if the orders start coming in in January of 1979, can you meet the compliance dates of 50 percent by January of 1981?

Mr. MONTANY. No, sir, I do not think so.

The CHAIRMAN. Can you give me a figure of what percentage of compliance you think you could meet? I know you would have to do it off the top of your head.

Mr. MONTANY. I'll just take a stab at 90 percent.

The CHAIRMAN. About 90 percent. Well, that's fairly substantial.

Now, who were the people who have ordered the 200 kits so far?

Mr. MONTANY. I'm sorry, I didn't bring that with me. I can send that.

The CHAIRMAN. Would you supply that for the record? Can you tell us the biggest carrier who has ordered the most of those kits up to the present?

Mr. MONTANY. No, I'm sorry, I can't. I don't know whether any of my colleagues in back know.

No. I can also supply that information.

The CHAIRMAN. Supply us that for the record, showing the kits that have been ordered, the dates that they've been ordered, and the estimated delivery dates, if you can.

[The following information was subsequently received for the record:]

JT8D ENGINE RETROFIT KITS

Airline	Retrofit kits ordered [1]	Order dates	Kit delivery schedules				
			1977	1978	1979	1980	1981–82
Allegheny	33	November 1977, March 1978	.....	15	18	.....	.....
Delta	37	March 1975, June 1976	37	.....	.....	.....	.....
Eastern	12	March and December 1977	7	5	.....	.....	.....
Federal Express	46	December 1976, December 1977, April 1978	9	28	9	.....	.....
Hughes Airwest	50	May and September 1977, June 1978	6	33	11	.....	.....
North Central	1	August 1977	1	.....	.....	.....	.....
Northwest	3	February 1978	.....	3	.....	.....	.....
Piedmont	63	April 1978	.....	6	24	24	9
PSA	51	January, July, September 1977	12	12	27	.....	.....
TWA	1	March 1977	1	.....	.....	.....	.....
United	16	August 1977	.....	6	10	.....	.....
Western	5	June and September 1977	1	4	.....	.....	.....
Overhaul shops	7	May, July and October 1977	6	1	.....	.....	.....
Totals	325		80	113	99	24	9

[1] For delivery after January 1, 1977.

The CHAIRMAN. Now, supporting the rollback of retrofit compliance deadlines, Mr. Harr cited the availability of some manufacturers' planned aircraft in the 150-seat range. He stated that a

number of carriers have said that they needed a new technology, 100- to 125-seat airplane, because that meets the market size presently being serviced by the 1,100 two- and three-engine noncompliant aircraft.

Let me ask the aircraft manufacturers if such a new airplane is a foreseeable product, can you accomplish it before 1988?

Mr. HARR. Let me ask Withington, of the Boeing Co.

Mr. WITHINGTON. Could you repeat that exactly? I think you said 1988.

The CHAIRMAN. Yes. I said I'd like to ask the manufacturers if such a new airplane is a foreseeable product to the company before 1988? If so, give us an estimate as to when.

Mr. WITHINGTON. I think, by 1988 it may well be a foreseeable product. It is not one that we are actively involved in at this time. We're concentrating our efforts in the 150- to 200-passenger size class.

However, I'm sure there's enough time between now and 1988. If that requirement did develop, we would work on it.

The CHAIRMAN. What would your normal time lag be? About 5 years?

Mr. WITHINGTON. Yes. For essentially a new airplane, that's a good number.

The CHAIRMAN. Do you have an airplane in that category in the design stage at this time?

Mr. WITHINGTON. No, we do not.

Mr. HARR. Mr. Chairman, I wonder if you would allow Mr. McPike to address this.

Mr. MCPIKE. Yes, Mr. Chairman, we currently have an active program, the DC–9 Super 80, which is providing an aircraft slightly above the size that you discussed. It will have first flight approximately 1 year from today. It is a natural follow-on to an aircraft of this type, to have either a longer or a shorter version, and we are looking very seriously at the prospect of developing a shorter version similar to Super 80, which, incidentally, is a stage 3 type aircraft, and could have such an aircraft available for marketing probably in the near future, certainly well ahead of the 1988 date that you suggest.

The CHAIRMAN. What would be your estimate as to the date that would be available?

Mr. MCPIKE. Well, if the market were to develop for that aircraft, I'm sure that we could market it during the next year and, therefore, have it available for delivery within the next 3 to 4 years. So, in the very early part of the 1980 decade, such an aircraft could, and may well, be available.

The CHAIRMAN. Do you think that a biased deadline rollback would provide the necessary incentive to open up that particular market?

Mr. MCPIKE. In my opinion, yes, sir, I believe it would.

Mr. HARR. Yes, I think that's the general consensus, Mr. Chairman. Of course, it's speculative to a degree, because these are all hypotheses that won't become fact until after the firm schedules are known, given the realities of where the very large segment of the noncompliance fleet, the two- and three-engine aircraft, stands now, and given the time frame and the economic projections of both the airlines and the manufactures. Although it wouldn't solve

the problem 100 percent, it would certainly be a major incentive to producing the kind of aircraft that are not only of the stage 3 order in terms of noise reduction, but also incorporate the most modern technology and all the other important fuel-conservation and other advantages.

The CHAIRMAN. As you know, the airport, and the community groups have strongly objected to the compliance date changes in S. 3064 and you have noted in your testimony the political nature of this issue.

If we changed the current provision to require a written contract by 1983, for aircraft to be replaced by 1988, and provided that those replacements must meet the most stringent FAR 36 stage 3 requirements, would the extension still provide a realistic opportunity for accelerated replacement?

Mr. HARR. I am going to say it very definitely would be helpful.

I'd welcome any input from the people who have been on the firing line on this. Any controversy about that?

Mr. THOMPSON. No.

The CHAIRMAN. Will the Boeing, the Douglas, and the Lockheed aircraft planned for the 1980's meet FAR 36 stage 3 minus 4 EPNdB?

Mr. SCHWARTZ. Speaking for Lockheed, our existing airplanes will meet that requirement.

Mr. THOMPSON. I'm sorry, I understood that to be below the existing stage 3 limits.

The CHAIRMAN. Stage 3 minus 4.

Mr. THOMPSON. No, sir.

The CHAIRMAN. That's the most stringent requirement that was put on the nighttime curfew at National on stage 3, as I understand it.

Your answer is no?

Mr. THOMPSON. That's correct.

The CHAIRMAN. The aircraft plans for the 1980's will not reach that level. What about Douglas?

Mr. MCPIKE. Yes, sir. May I say that the requirements for these aircraft are such that taking stage 3 levels minus 4, we would find that some of the lighter gross weight versions of these aircraft might, in fact, meet stage 3 minus 4. However, the total family, including the intercontinental versions, would have no possibility of meeting the stage 3 minus 4 levels that you propose.

The CHAIRMAN. But they would be able to meet the stage 3?

Mr. MCPIKE. Yes, sir.

The CHAIRMAN. All of them would be able to meet the stage 3; is that correct?

Mr. MCPIKE. Yes, sir.

Mr. HARR. That's correct.

The CHAIRMAN. Now, Mr. Harr, your testimony describes airline earnings as wholly inadequate to allow the airlines to meet the noise regulation requirements.

Considering the optimistic economic forecasts of most industry analysts, how do you determine that the airlines' future earnings will be inadequate?

Mr. HARR. Well, of course there has been fairly extensive expert testimony before this subcommittee on a subject which I would not presume to qualify to comment on.

The CHAIRMAN. You know, the expert testimony has already been proven wrong, because they didn't forecast that the airlines would be doing as well as they really are.

Mr. HARR. That's true, but they also didn't forecast that the airlines would be doing as badly as they did from 1970 to 1976. And one year's good earnings, in terms of whether these recent traffic increases would result in substantially improved earnings is an awfully thin reed to bet on, given the history of the last decade in which the airlines had very poor earnings.

Now, with the discount fare schedules that have been coming out and taking into account a lot of factors that may affect the relationship between traffic increase and earnings, even at the optimum levels, we feel there would not be enough money coming out of aircraft earnings to assure financing. The gap is much too great. There's going to have to be a lot of borrowing. There's going to have to be a lot of borrowing, anyway, under any of these plans.

But if it's realistic to assume—and we have to; I don't know of any better formula—if it's realistic to assume about $7½ billion as the net we're talking about for compliance, a large proportion of that, in terms of airline purchasing ability, has to be up-front money, not just because they need to spend it, but also because they need it to get the manufacturers underway in the development of these aircraft.

The CHAIRMAN. I wasn't suggesting, by my question, that they would have to do it out of future earnings with no borrowing. Obviously, that could not be done. But their future earnings are set at such a level that they could do their own borrowing and handle their own financing. That was really what I was trying to get at.

Mr. HARR. I think even the most optimistic projections that have any reality to them, based on proven evaluation of the airlines, much less the financial institutions, would leave it terribly short.

The CHAIRMAN. The committee has received a variety of opinions and numbers regarding the results of retrofitting. On a 727 and DC-9, what are the decibel differences created by retrofit kits? And, in your experience, is that difference going to be perceivable to the ordinary person around the airport?

If you want to take that in two parts that will be all right.

Mr. HARR. I defer to the experts, but I want to say a couple of points can be made on retrofit. It's obviously the worst of all possible worlds in a lot of respects. The merit of retrofit, as far as I'm concerned, the only merit of retrofit, is to produce compliance with arbitrary noise standards which will allow an airplane to be used that otherwise would not be able to be used.

By the time you get through factoring in the other factors that impact on perceived noise—gross weight, operational techniques, the weather, whether you're talking about approach, side noise or takeoff, how hot the day is, and so forth—you have a cumulative effect.

It's pretty hard to make a case in terms of the perceived benefits. But if the compliance is necessary, and if the choice is to leave that expensive airplane back up against the fence rather than fly it, it would be worth retrofitting in many cases.

If you want numbers——

The CHAIRMAN. Let me get the numbers.

Mr. BLUMENTHAL. The 727 and 737 noise reduction with the quiet nacelle at the takeoff condition is on the order of zero to 2 EPNdB. You will not be able to hear that difference.

The CHAIRMAN. Zero to 2 EPNdB. And you won't be able to perceive that difference?

Mr. BLUMENTHAL. That's correct. On approach the noise reductions will range between 6½ and 8 EPNdB, and I believe that I can tell the difference.

The CHAIRMAN. And you're an expert in the field?

Mr. BLUMENTHAL. Yes.

The CHAIRMAN. I'm glad to see that you're that optimistic. All right.

How about the sideline measurement?

Mr. BLUMENTHAL. Sideline numbers are essentially the same as the takeoff. You won't be able to note much difference.

The CHAIRMAN. So, what you're really saying is that on approach it makes enough of a difference that you might be able to tell the difference. You're a man who's been in this field all your life, I take it.

Do you think that Senator Goldwater, who doesn't know a thing about it, would be able to tell the difference?

Mr. BLUMENTHAL. I believe he'll be able to tell which one has the treatment.

The CHAIRMAN. OK. All right.

Mr. MCPIKE. Yes, sir. In the case of a DC–9 our numbers are similar though slightly less. We've seen, perhaps zero to 1 on takeoff, zero on the sideline, and 4 to 4½ on approach, and the numbers that we're providing are at the part 36 measurement locations.

In the case of approach, that's very close to the aircraft. It's 1 nautical mile from the threshhold, where the aircraft goes over at an altitude of 370 feet. As one gets farther away from the aircraft, where most of the neighbors live, the reductions are smaller than that.

The CHAIRMAN. So, what you're really saying then, is that on the DC–9, with the nacelle treatment, you won't be able to tell any difference on takeoff; you won't be able to tell any difference on sideline, and if you're a little better hearing then the gentlemen over here, you might be able to tell a little difference on approach, 4 to 4½.

In other words, your noise reduction will be less on the DC–9 than it would on the 727 or 737?

Mr. MCPIKE. That's what our data indicate. Yes, sir.

The CHAIRMAN. And the cost of retrofit then, is estimated at how much for all the noncompliant two- and three-engine aircraft?

Mr. HARR. $400 million.

The CHAIRMAN. Senator Stevens?

Senator STEVENS. Barry has been sitting here. Barry, go ahead.

Senator GOLDWATER. I'd just like to get that same question on the 707, because that's noisy.

Mr. BLUMENTHAL. The 707 noise reductions on takeoff would range between about 3 and 11 EPNdB, depending on the way the aircraft is flown. On approach the number is on the order of 12 to 13 EPNdB.

In both cases the noise reduction is easily discernible.

The CHAIRMAN. We don't get involved in either the 707 or DC–8, in this committee.

Senator GOLDWATER. Those are the rascals. I don't think it does much good to quiet the quiet ones that are already operating pretty close to acceptable limits.

Maybe you're not the group to ask, but you're pretty close to it: If the airlines aren't making money now, am I right in saying they're never going to make money?

Mr. HARR. They are making money now.

Senator GOLDWATER. Yes, making quite a bit of money.

Mr. HARR. They're making money right now.

Senator GOLDWATER. With the trend in fares continuing the way they have been, and that seemingly is being responsible for the filled airplanes that one observes, is there any reason to think that this profit is going to decrease in the coming years?

Mr. HARR. Well, hopefully not, Senator, but in the past we have been caught by surprise by the tremendous leverage effect of rises and falls in the economy on air travel.

In 1969 and so forth when there was a softness in the national economy, when everyone was caught——

Senator GOLDWATER. But you also had rather high fares at that time. I'm thinking of the situation——

Mr. HARR. Hopefully you're right, sir, but I would have to say that no one seems to know. There's an air of optimism. There's no question about it. However, there's also a wait and see attitude among the airlines.

I'm sure I can't speak for—but, there's some optimism that this will continue. Yes, the fares have something to do with it.

Senator GOLDWATER. While we're in a period right now of relative economic goodness, it's also pretty generally accepted that the upswing in the total economy is not likely to continue. Yet airline use continues to be on the upgrade as far as I can see, and I don't think anybody flies airlines more than I do.

It's amazed me to see that even in the immediate past, during periods of slight recession, the increase of airline use continued. I think that's due to great discrepancies in fares. I just might point out that I can't go home on Tuesdays and come back on Tuesdays. It costs me $500 to go home on weekends, while it only costs me $200 to go home on Tuesday and come back Tuesday.

So, as long as the airlines keep up that kind of foolishness, you've got to handle the ones that are going to pay through the nose, just because we happen to be in an inflexible position.

What I'm getting at is from all this retrofitting we're talking about, is the use of Federal money going to be absolutely necessary?

Mr. HARR. Yes.

Senator GOLDWATER. You think so?

Mr. HARR. No question about it, Senator.

Senator GOLDWATER. Let me get to the next question.

Mr. HARR. Not Federal money. It's users' money.

Senator GOLDWATER. It's coming out of the taxpayers' pocket through us back to you.

Mr. HARR. It's coming out of the users' pocket through you back to us.

Senator GOLDWATER. Well, the same way. By the middle of the 1980's, if my figures are right, most of the present airline fleet,

with the exception of the new ones, will have to be replaced. Am I right?

Mr. HARR. We figure there are 1,600 noncomplying aircrafts now out of 2,100. So, that's three-quarters of the fleet.

Senator GOLDWATER. Where are you going to get the money to buy those new airplanes?

Mr. HARR. Well, that's what we're all trying to work out, Senator. I think we figure that the optimum compromise solution in terms of accommodating the political factors and the FAA rules and the various forms of legislation together with the size of the nut that has to be swallowed in terms of expenditures, in one form or another, on noise components, coupled with the technological realities of new aircraft coming along the lines, the best formula that could be worked out is, we believe, in the form of this Corman bill. That is the House bill now.

It has up front money coming out of excise taxes on the users allocated according to a weighted formula. I think about the best ball park figure we could get is that $2 billion will be forthcoming there for downpayment and progress payment of the $7½ billion total bill.

Senator GOLDWATER. You're talking about $85 billion to replace the air fleets of America. Is that right?

Mr. HARR. No. We think—of the figures I've seen, sir, the largest one has been that by 1990 there might be a need to spend—the airlines might spend up to $70 billion.

Senator GOLDWATER. It's in that general ball park.

Mr. HARR. Yes, before the period to 1985, normal replacement would be about $26 billion.

Senator GOLDWATER. Is your retrofit going to come to around $3 billion?

Mr. HARR. No. If we were to retrofit the whole fleet, we would estimate a figure of $2 billion. But for an estimate of what the retrofit would cost on the percentage of the fleet required to comply and not re-engined and not replaced, we figure about $400 million.

Senator GOLDWATER. Does that include the cost to the airlines of installing the retrofit?

Mr. HARR. Total cost; yes.

Senator GOLDWATER. With these two dates coming so close together, the need for total replacement, not necessarily because of obsolescence but because you now have to get into the wide-bodied-type jet. I am just wondering whether we are wise in requiring retrofit at about the same time you fellows have to be supplying new airplanes to the airlines.

Mr. HARR. We subscribe to those sentiments.

Senator GOLDWATER. Well, Mr. Chairman, we of course have this problem of noise all over the country. You've got it in Las Vegas. I've got it in Phoenix, Tucson, and Scottsdale. I don't quite see the sense in requiring noise abatement that's going to achieve, as we hear from experts, practically nothing.

While we're looking forward to 10 years from now when the airlines of America will have to have new airplanes, I think we should someplace along the line argue whether or not retrofit is indeed a wise approach, even though the total expense involved is not great if you compare it to the total expense of a new aircraft.

It still doesn't seem wise to me to retrofit two- and three-engine aircraft, particularly when you're not talking about the two worst offenders. I don't think this is anyplace to bring it up.

If the Chairman and I went to the most desolate part of Nevada or Arizona or even Alaska, because I guess we have the three most desolate States, and built an airport, in 5 years we'd have a hell of a lot of noise being made about the need for aircraft noise reduction, because people would build houses under the runway if we let them.

That's all I have. I just don't have a lot of sympathy with these people who complain about noise.

Senator STEVENS. Let me ask just a couple of questions following that up.

You made the point about re-engining and retrofit having been dropped from the list of airline options which would qualify for guaranteed financing. You said replacement is the only guaranteed option left. Can you put a cost figure on the difference in financing for re-engining and retrofit as a result of that change?

Mr. HARR. Well, our argument—it was addressed to the bill that Senator Cannon and Senator Pearson introduced—did not have a guaranteed loan option on re-engining and retrofit. Insofar as retrofit is concerned, we use a ball park figure of $250,000 per unit, and we say that because the value—the market value and the future value—of a piece of equipment, such as a two-engine or three-engine airplane is at the multimillion dollar level.

But, if the difference between complying and noncomplying aircraft can be solved by retrofit, it's going to be economically necessary for the airline to have the option of retrofitting. I'll try to get closer to answering your question.

Re-engining has, I think, very positive and constructive applications for certain airplanes, and the ball park cost figure on re-engining is one-third to one-half the cost of replacement.

With some particular aircraft—the DC–8s come to mind—re-engining would be very economic and efficient and would also produce some of the other benefits of replacement aircraft, such as improved gas emissions and fuel conservation.

But, the total figure on retrofitting that portion of the fleet that the model would suggest would be retrofitted is $400 million, and I can't give you the figure out of my head on re-engining against that model. It would be substantially more.

Senator STEVENS. If those two were included in the guaranteed financing options, would the $2 billion be reduced?

Mr. HARR. That $2 billion figure was total retrofit of 1,100 aircraft, which is not ever going to happen.

Senator STEVENS. I see.

Mr. HARR. Nor are they all going to be replaced. There'll be a variety of remedies. So, at one extreme end of the spectrum, if you retrofit them all or replace them all, $2 billion and $22 billion figures would apply, but some formula in between is undoubtedly going to happen.

As a matter of fact, it's happening every day.

Yes, the $2 billion is too high.

Senator STEVENS. Is there another option whereby these noncomplying aircraft could be scheduled only into the airports where the noise problem would be less of a factor? I have the opinion that going into Los Angeles and landing in the middle of that city or

LaGuardia or some of these other places, that the noise factor is a lot more of a problem than in going into Fairbanks.

Mr. HARR. That's true, Senator, but there's another side to that issue as well. The noisiest aircraft, the old four-engine aircraft, on the whole go into a small number of airports, the major hub airports. This is another reason why the two- and three-engine aircraft present the greatest problem.

In the first place, there are a lot more of them. In the second place, they are the ones that fly on shorter legs and go into a great many more airports and therefore have the potential for disturbing a great many more communities. Even though they are on the whole much quieter than the old four-engine aircraft, they cover a much wider swath of America, and they're going to be around a lot longer. One of the problems, of course, is the feeling of local airport owners, and others, that this must be solved in one way or another, including local options or local rulemaking with respect to how much noise their airport will tolerate.

If that ever comes to pass, we'll no longer have a national air transportation system.

Senator STEVENS. As I understand it, the deadlines are already in part 36.

Mr. HARR. Yes.

Senator STEVENS. You say you want marching orders? Aren't they already there?

Mr. HARR. Marching orders have to be paid for. We have several bills——

Senator STEVENS. If you contemplate $80 billion by 1990, how much would you say by 1985? $70 billion? I don't see why you can't contemplate $2 billion in the next 4 years.

Mr. HARR. Well, these are over and above the normal replacement and growth financing requirements of the airlines. In other words, the figures you were just talking about are projections based on what normal replacement cycles would total industrywide in terms of aircraft meeting airline requirements.

The point here is that you have a substantial increase in those projections requiring acceleration—rescheduling of your schedules—and requiring arbitrary choices to be made by the airlines that are not based on the economics of airline operation, but are based on arbitrary time deadlines sent down for another purpose. This is a very expensive additional increment to their requirements.

Senator STEVENS. I can understand that, but we had the same problem with automobiles.

Mr. HARR. The requirements on automobiles are all prospective, not retroactive. In other words, the real crunch that the airlines find themselves in now is that, unlike automobile owners or anybody else, they have bought equipment in good faith that conformed to Government regulations, and then, retroactively, new regulations were imposed on their equipment, declaring them noncomplying.

That's the problem.

Senator STEVENS. Well, you know, I'm not disagreeing with the bill particularly, but it just seems to me that if we put this kind of money into retrofitting and re-engining, what we're really doing is extending the life of the existing fleet, aren't we?

Mr. HARR. Yes, sir.

Senator STEVENS. And it's going to extend the time frame for replacement of the fleet.

Mr. HARR. Well, to some extent, yes; that retrofitting decision will be made in some cases.

Senator STEVENS. If the financing option is not made easier, won't more airlines replace the existing fleet sooner?

Mr. HARR. Well, it's hard to speak in a general sense about that. The availability of financing of this magnitude is a very serious question. The relationship between the airline purchaser and the manufacturers who must commit to a program of development of the aircraft involves a commitment on the airlines' side that must be backed by financing, including a substantial downpayment and progress payments between order date and delivery date, of considerable magnitude. It's a very "iffy" proposition.

The success or failure of the airlines is directly related to inventory purchase decisions, and this is how they either survive or don't survive. It's not something that would be done lightly or casually, without serious effects.

Noise abatement introduces an artificial element into a cycle of development that would ordinarily take place and would ordinarily take care of the noise compliance regulations in time. This is squeezing the time down. When you squeeze the time down, you interject all kinds of artificial elements into the model which perhaps produce economically inefficient remedies—and retrofit is probably one of them.

But if it must be done, I think it will be done, to some degree.

Senator STEVENS. You think, unless a bill similar to this one or the one in the House is passed, that the hardware is not going to be available in time to meet the deadline set under part 36?

Mr. HARR. All the hardware will not be available. We're obviously, as Senator Cannon's question elicited, sailing close to the wind now. In fact, it's not just a case of kits for retrofit, it's a case of when will the new stage 3 aircraft come on line in sufficient quantity to permit replacement?

We showed you in our statement, they are coming in during 1980, 1981, and in the 1982 to 1984 period, but that's not enough to replace the noncomplying aircraft.

Senator STEVENS. Thank you very much.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, gentlemen. We appreciate your statements.

Mr. HARR. Thank you.

The CHAIRMAN. The next witness is Mr. Alan Sagner, chairman of the Port Authority of New York and New Jersey.

[No response.]

The CHAIRMAN. Mr. Reporter, will you indicate that Mr. Sagner is not here. His testimony will be made a part of the record.

[The statement follows:]

STATEMENT OF ALAN SAGNER, CHAIRMAN, THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

The Port Authority of New York and New Jersey has an important stake in the aircraft noise legislation hearings that are being conducted by the Senate Aviation Subcommittee. It is the agency with responsibility for promoting the commerce of

the bistate metropolitan region. The airport system we manage is a vital component of our operations and a major contributor to the economy of the area. It is also the locus of a noise problem of considerable proportions.

We have been denied the opportunity to be heard by the Subcommittee,[1] although our statement represents not only our views but those of Governor Byrne of New Jersey and Governor Carey of New York, speaking in behalf of tens of thousands of people in the region whose lives are burdened by aircraft noise effects. Community people are here with me. Some of them also have been rejected in their attempts to testify on a matter that has deep import on the quality of the conditions of their everyday lives. The technical side of the argument has been thoroughly explored; the "people side" has been under-represented in the days of testimony.

The Port Authority's message is this: Our region is fighting economic decline. We believe it is essential that air transportation remain free of crippling restraints and retain the potential for growth in order to aid our recovery. We also want our neighbors to have the noise relief—in the near future—that technology can bring them so that they can live in more peaceful surroundings. We will then have a real opportunity to work out remaining difficulties between airport and community.

The plus side of the air transportation picture is this. We estimate that the air transportation industry is the source of employment for some 160,000 people in the New York/New Jersey metropolitan area and generates almost $4.5 billion in direct and indirect spending in the region. As impressive as these figures are, however, they are only a small part of the story. Kennedy International, Newark International and LaGuardia Airports served more than 45 million air passengers last year.

The real measure of air transportation's worth to our region is its value as a stimulant to commerce and industry. It is one of our most intensively used services and air travel related activities permeate almost every aspect of our economic life. Our region's position as the world's center of business, finance, entertainment and culture is tied directly to this resource.

The debit side of the picture is the noise impact of air transportation on residents of communities around these airports. The Federal Aviation Administration's assessment is that aircraft noise and vibration cause discomfort, ranging from considerable annoyance to severe disturbance, to hundreds of thousands of persons around each airport. There is a pressing demand from many of the citizens for quieter neighborhoods even if it is at the expense of our air transportation system.

This is familiar ground. This same situation exists at most busy airports. Nationally there are 6 to 7 million people adversely affected by aircraft noise. These citizens are appalled at the slow progress that has been made in responding to a problem that for many goes back to the start of the jet age or earlier. It is this issue that accounts for the atmosphere of antagonism that often characterizes relations between community and airport across the country and which has been the major stumbling block in the way of new airport development.

With these considerations in mind, we wish to make clear what is and what is not acceptable in the way of noise legislation.

A key initiative in the fight against noise was issuance in December 1976 by the FAA-Department of Transportation of its retrofit/replacement regulation covering subsonic jet aircraft. The regulation ordered the changeover to a fleet which complies with federal noise standards by January 1, 1983, for two and three engine aircraft and by January 1, 1985 for four engine airplanes.

The Port Authority started down the road to supporting special funding to assist the airlines as a result of public testimony presented at Secretary Coleman's hearing on noise financing on December 1, 1976. A convincing case was made to the effect that accelerated entry of more fuel-efficient replacement aircraft into the fleet was worth the temporary diversion of certain charges that go into the Aviation Trust Fund. Financial assistance would also encourage the development of newer technology aircraft capable of meeting FAA's more stringent noise criteria.

We welcomed the introduction of H.R. 8729, the Airport and Aircraft Noise Reduction Act, because it appeared to foster these and other socially desirable purposes, such as creation of aerospace jobs and advancing American technology. The measure would make the FAA's stated intention of broadening coverage to international carriers a matter of statute. This is especially important to us as the

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[1] The committee would like to note that the statement appearing in the second paragraph of Mr. Sagner's testimony is inaccurate. Mr. Sagner was afforded the opportunity to read his statement before the subcommittee. On May 25, 1978, Mr. Caesar Pattarini, director of aviation of the Port Authority of New York and New Jersey, gave testimony before the subcommittee as a part of the Airport Operators Council International, Inc. On June 13, Mr. Alan Sagner, chairman of the Port Authority of New York and New Jersey, showed up unannounced and unscheduled before the subcommittee requesting time to testify on the aircraft noise legislation. Following the panel of airframe manufacturers represented by the Aerospace Industries Association, the first panel of witnesses on the 13th of June, Chairman Cannon called for Mr. Sagner to appear as a witness before the subcommittee. Mr. Sagner did not respeond to the call of the Chairman, and the hearing proceeded as scheduled.

operator of two international airports. The bill also takes a comprehensive approach to the problem by encouraging land use planning to deal with residual noise problems. Finally, providing financial assistance helps to insure that the requirement of a quieter fleet of two and three engine aircraft by 1983 and four engine aircraft by 1985 will not easily be set aside under pressure from nonconforming airlines. The funding mechanism of the bill was changed by Ways and Means and is now known as H.R. 11986, the Noisy Aircraft Revenue and Credit Act. The Port Authority is supporting these measures as are many of our communities and public officials.

The House bills will improve on the noise conditions that would result from enforcement of the present retrofit/replacement rule within the established time frame. The Senate version would not. It would, instead, rollback deadlines for two and three engine aircraft for a full seven years as long as a contract for a replacement aircraft is signed by 1985.

We are unwilling to go along with this. The retrofit/replacement regulation is our baseline and we are opposed to any legislation that does not improve on it. We believe our communities will agree that bartering away a 1983 compliance deadline for one in 1990 is not a good bet.

Our analyses tell us that as long as the dates now in effect remain unchanged, we will have more than 50 percent fewer people in noise impacted areas (NEF 30) at LaGuardia in 1983. The same would hold true at Kennedy by 1985, where, additionally, the people in the severe noise impact zone (NEF 40) would be reduced from more than 100,000 to about 30,000. Corresponding noise benefits will result at Newark International which is served by a mix of four-engine and two and three-engine aircraft.

LaGuardia Airport, which is served exclusively by two and three engine aircraft, provides a good example of the very real benefits that will result if we hold to present deadlines.

Our studies indicate that the communities, which surround LaGuardia Airport, will receive material benefits in the form of less annoyance from overflying aircraft if the FAA retrofit deadlines for two and three-engine aircraft are kept to. More than 200,000 people in the South Bronx and uptown Manhattan, 30,000 people in the East Bronx and City Island, 150,000 people in Flushing and Bayside, and approximately 15,000 people in Jackson Heights and Woodside, all of whom are affected by airplane noise, will benefit. These residents, including some 30 percent who fall into the category of "highly annoyed," will experience a significant reduction in their feelings of disturbance if the FAA deadlines are preserved.

This means to us that substantial relief is in sight at LaGuardia, as well as at Kennedy, Newark and every other noise impacted airport in the nation. A postponement of a critical noise deadline for seven years to increase the percentage of replacement aircraft is simply not worth the wait. It must be remembered that these two and three engine aircraft—powered by JT8D engines—account for about eighty per cent of all air carrier operations in the country.

In essence, the elements of a noise legislation the Port Authority considers essential in order to warrant its support are: (1) Holding to present deadlines for the changeover to a quieter fleet; and (2) the inclusion of international carriers. Public airport operators across the nation, in behalf of the hundreds of thousands of citizens in the urbanized area surrounding their facilities, are in agreement with us on these points.

We have campaigned actively and openly in our communities and with our legislators for legislation that meets these requirements, as the House bills do. We will campaign just as vigorously against any measure that does not.

This is our message to the Senate Subcommittee. We respectfully hope it gets through.

The CHAIRMAN. I would like to make a couple of comments. Mr. Sagner indicates in his written testimony that he believes that retrofit would provide substantial relief to the people around the New York airports.

I would like to have told him that we're going to have a flyover on Saturday morning, and if the flyover shows a substantial benefit for retrofit, that I might be willing to change my mind. I would have liked to ask him the same question: If the flyover did not show a substantial difference, would he be willing to change his position?

I would also point out for my colleagues here that we've been talking about the two- and three-engine aircraft, because those are the ones that have to comply by 1981 and 1983. The four-engine, which are really the offenders, are the aircraft that are given until 1985 to comply. Those are the airplanes that fly into the big hubs principally, that is, into New York, into Chicago, into Los Angeles, as well as many other places around the country. That is where the big noise offenders are and there will be no relief from them under the present noise requirements before 1985 unless the carrier voluntarily replaces them.

In the meantime, the two- and three-engine aircraft that are not the noisiest offenders, even though there are more of them and they fly more places, are the ones that have to meet the earlier deadline. It is likely that we will go down this route of retrofit without any extension, requiring the carriers to make a substantial capital investment to retrofit these aircraft in order to meet the 1981 and 1983 deadlines. But we do have an alternative and that is to extend the deadline to permit them to replace those aircraft with airplanes that can do more than meet the FAR-36 requirement deadlines coming up, that would meet instead the most advanced requirements that are now on the books.

That's my comment, in response to Mr. Sagner's statement.

With that, we'll move on to the next witness. Next is the Financial Committee of Transportation Association of America, represented by Mr. Bert Fingerhut, Oppenheimer & Co.; John Bliven, first vice president of Bankers Trust Co.; James C. Goodridge, assistant secretary, Bond Department, Connecticut General Life Insurance Co.

I named three of you gentlemen; one, I didn't.

STATEMENTS OF BERT FINGERHUT, OPPENHEIMER & CO, INC.; ACCOMPANIED BY JOHN S. BLIVEN, FIRST VICE PRESIDENT, BANKERS TRUST CO.; STEPHEN McCURDY, BANKERS TRUST CO.; AND JAMES C. GOODRIDGE, ASSISTANT SECRETARY, BOND DEPARTMENT, CONNECTICUT GENERAL LIFE INSURANCE CO.

Mr. BLIVEN. Steve McCurdy. He's one of my associates.

The CHAIRMAN. Gentlemen, you may proceed.

Mr. FINGERHUT. Shall we go in the order in which you introduced us? OK.

I am Bert Fingerhut and I'm with Oppenheimer & Co., Inc. I have followed the airline industry for over 13 years for Oppenheimer's client base. As opposed to the other gentlemen on this panel, Oppenheimer basically advises equity investors, which differentiates ourselves somewhat from these gentlemen in that we are not, to the extent they are, longer term investors. Our investments can be very short-term. In fact, if the investment environment changes, we don't have to be airline investors—whereas, these other gentlemen make investments of a much longer term nature.

To that extent, their opinions and positions may be quite fixed as opposed to the opinions we have which can be quite fluid at times.

We are currently quite optimistic about the fundamental outlook for the industry and the outlook for equity investments in the industry.

Just briefly, to touch on a couple of the points:

No. 1, we like much more the revised legislative proposal as it relates to regulatory reform, as opposed to some of the initial ones which had some very substantial antioligopoly antilarge carrier provisions.

No. 2, we're very happy with the manner in which the Board is pursuing the transition to more marketplace regulation.

Demand-stimulation in the industry because of promotional pricing has been much greater than most people had earlier envisioned, and we're seeing it's not a one-dimensional factor.

Restructuring has provided a major economic benefit to many of the carriers, and produced a more entrepreneurial industry; we think this will improve the profit returns of the industry.

To sum it up, we think 1978 will see strong net income for the trunk industry. We had previously looked for about $700 million as compared to $611 million last year. It now looks closer to $800 million. And, barring an economic recession next year, industry will increase next year also.

Initially my thinking on proposed noise legislation sort of echoed what Senator Cannon had said in his Aero Club speech recently on private interest group legislation—I've come around a little bit on that kind of thinking, however.

I was sort of reticent to testify: No. 1, because of that intellectual background. No. 2, because we have recommended substantial equity investments in the industry at the current time and we didn't want to cloud the issues.

However, I now think the situation is a little bit different. The reason I think it is different is that a normal industry would cope with Government mandated public interest capital changes to meet changing requirements via the marketplace, via price changes.

The airlines haven't been able to recoup those future costs vis-a-vis price mechanism. The DPFI doesn't allow anticipatory costs in the rate base.

If fares were freed up we would have a very different position.

As a result, we believe the industry makes a good case for receivers aid to finance noise requirement.

That's really all the remarks that I have.

[The statement follows:]

STATEMENT OF BERT FINGERHUT, VICE PRESIDENT, OPPENHEIMER & CO., INC.

THE AIRLINE INDUSTRY—A REVIEW OF OPPENHEIMER'S INVESTMENT POSTURE AND OUR OUTLOOK FOR THE TRUNK INDUSTRY

Legislative regulatory reform and stuctural change in the airline industry is something we have been writing about since late 1974. Up until late 1977, as it related to the larger trunk carriers, we had been quite negative about the whole thing.

Initially, we did not think the stock market and airline managements had given the subject enough attention. We worried about a more competitive environment, an industry shakeout (the problems of a bad transition period), the problems of new entrants who would become specialists in certain markets (cream skimming) and also have important cost advantages (higher labor productivity, equipment uniquely suited for a specific market, etc.). We worried about whether certain larger trunk carriers would be "lingering dinosaurs" in a more competitive era.

We worried most, however, from the standpoint of the larger trunk carriers, about a bad bill from Congress—a bill that would be politically and small carrier motivated: easy entry and difficult exit provisions (so that small communities wouldn't lose service and new entrants could produce new, low fare services quickly), limited upside pricing provisions but large downside room, skewed (against the larger carriers) automatic entry provisions, and other anti-oligopoly provisions.

By late 1977 many things had changed:

1. The stock market and the airline industry community had become quite aware (to differing degrees, however) of the problems we foresaw and much had been done to change some of the really negative provisions contained in the earlier legislative drafts.

2. The Civil Aeronautics Board's actions during the transition have been quite rational (partially because of Chairman Kahn) relative to the mission they feel they are mandated to pursue and the transition is proceeding quite slowly. The Board is, to a large extent, also aware that sound managements are entitled to earn adequate rates of return.

Gradualness is the key from the standpoint of the larger scheduled carriers because it is allowing, for those who want to, time to rationalize and restructure their existing systems to be better able to survive the more competitive era that is approaching.

3. The perversity of gradual structural change to date, without accompanying legislative change, has favored scheduled carriers at the expense of supplemental carriers.

We had originally thought the likely initial beneficiaries of structural change would have been supplementals—the new entrants. Pricing, however, has been freed up much quicker (the way in which the scheduled carriers were battling and beating the supplementals) than new entry could come in (a much longer regulatory process). This has helped the scheduled trunk industry strongly.

The advantage of this perversity should shortly start to tip the other way as the "new entry" procedures and process continue and as the Board takes bolder steps to give supplementals more close to scheduled carrier pricing authority. Without a new legislative Act some of what the Board is doing might be invalidated by the Courts; however, we expect a new Act.

4. In the meantime, partially in response to fears about major structural changes, the carriers were quite reticent about ordering lots of new capacity. (Of course, low rates of return on existing equipment, the memory of the last recession, the knowledge that a new generation of equipment will be coming in the early 1980's, etc. also has contributed to small capacity additions.) Simultaneously, load factors are rising as demand has been stimulated by both the economy and promotional fares.

5. During most of this period, the stocks of the trunk carriers did little.

The stocks were selling relative to the market at lower price to book value relationships than at anytime over the last 20 years, while relative return on equity was rising. Furthermore, the replacement value of stated book was and is well below market value, a very different situation from the case in the early 1960's when book primarily represented obsolete piston aircraft.

Against this backdrop, we developed a very favorable industry posture as it related to the near term fundamental outlook.

1. We believed traffic would grow more than most expect in 1978 and possibly in 1979. This was not only because of the economy but also because promotional fares were much more stimulative than most had earlier expected.

2. Overall capacity additions are, as we just discussed, limited, and

3. The Board has liberalized its fare formula regarding general fare increases (forward costing).

In total, we believed 1978 would produce up earnings for the trunk industry. We also believed this expectation was higher than the consensus. In short, we became bullish about airline securities.

Current industry environment

In late 1977 we revised upward our longstanding 1978 domestic trunk scheduled traffic growth estimate of 5.5 percent to 8 percent. (We had, however, previously indicated that our 5.5 percent projection appeared too low.)

In early April 1978 we raised that estimate to 10 percent plus. With the stronger than anticipated April and May, a better full year growth estimate now looks like 12 percent to 14 percent. Furthermore, at this time, a reasonable case can be made that industry traffic will grow 15 percent in 1978. And, given our economic framework and the airline industry environment we envision next year, traffic growth could easily be double-digit again in 1979.

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Our relatively longstanding 1978 trunk industry earnings forecast of $700 plus million, compared with $611 million in 1977, now looks quite conservative, and $800 million looks like a better forecast.

We can identify six factors that we believe are playing a part in the strong, and stronger than anticipated, scheduled truck industry traffic growth. Here they are, in no particular order:

1. Impact on the charter markets.—I previously mentioned the impact of scheduled carrier discount fares on tour operators and supplemental carriers.

2. Promotional fares are proving very stimulative.—Promotional fares are generating new demand (as opposed to charter diversion) from other modes (autos, bus, etc.) and from people who would not have travelled at all. (The advertising itself is creating demand even though many of the fares are not available when desired. The idea to vacation by air gets planted in people's heads and they sometimes travel even if the low fare isn't available.)

3. Favorable economic growth.—Real disposable personal income and real wages have been growing strongly since June 1977.

4. Some durables are not doing well.—To the extent that certain high ticket durables are slowing in growth rate (auto sales, housing, appliances, etc.) and total DPI growth remains good, more money is available for airline travel.

5. The later stages of the economic cycle favor more business spending.—Historically, as corporate profits cyclically increase, so does business spending (i.e., capital spending, advertising, etc.). Full-fare traffic is currently very strong.

6. Monetization of increased home values.—Historically, analysts have usually looked at consumer income statement changes to project consumer demand. However, over the last several years, individual balance sheets and liquidity have improved dramatically. Townsend-Greenspan & Co. estimates that nearly a 5 percent increase in purchasing power was created by the increase in home values that was monitized last year.

1979 and beyond

A critical question, as it relates to the outlook beyond 1978, is the impact of what we believe will be continuing selective discount pricing on longer term demand growth:

1. Is it a one-shot—moving to a higher base—phenomenon and then (a) more "normal" growth recommences, or (b) we flatten as we catch up to the inflated base, or

2. A continuing phenomenon that increases the growth rate of traffic on a secular basis.

We believe the answer is number 2.

The measurable change in the growth rate (looking at seasonally adjusted traffic) that began in June 1977 has not slowed yet.

The experience of the scheduled carriers in the 1962–1968 period, when average real fares were declining, was for annual traffic growth of 17.3 percent per year.

Southwest's pricing stimulation impact in the Dallas-Houston market, to use a recent example, was not a one-shot phenomenon. In fact for the five years ended 1976, Southwest's growth in this market has been 38 percent per year and most of this has been new traffic, not cannibalization.

1980 to 1985

Based primarily on the industry capacity cycle we mentioned earlier, but also based on a reasonable economic framework and less economic regulation by Washington, we envision a healthy airline industry in the first half of the 1980's.

Noise financing

As it relates to the interests of the airline industry, speaking as a representative of equity investors, we favor legislation that will ease the financial burdens of the industry to meet FAR 36 requirements.

The CHAIRMAN. All right. Mr. Bliven?

Mr. BLIVEN. Good Morning.

I'm not sure, Mr. Fingerhut, that my investments are sunk costs. I sincerely hope you're wrong on that point.

I am glad to accept your invitation, sir, to appear here today on behalf of the Transportation Association of America where I am a member of the air liaison team.

My name is John Bliven. I am a first vice president of Bankers Trust Co. in New York where, among other things, I am responsible for our loans and commitments to the airline, airframe, and aerospace industries.

I am also an officer and director of the National Defense Transportation Association. My associate's name is Stephen McCurdy. I have appeared before the Secretary of Transportation and committees of the House of Representatives on the subject of retrofit, and have delivered other papers on the airline industry, its financial future, and its place as an integral part of our national defense.

I have taken the liberty of attaching to today's presentation my previous testimony before the House on the subject of airline noise regulation. At that time, I discussed the reasons for my belief in the need for significant financial assistance for the carriers in their attempts to comply with federally mandated noise requirements. I noted then that compliance with FAR-36 created a multibillion dollar problem which the carriers were ill-equipped to handle. Nothing has occurred during the past year which would cause me to change my position. Therefore, I shall limit my formal remarks today to the two recommendations before us: The use of a Government loan guarantee versus a user charge to provide the needed assistance.

While one might consider the advisability of developing additional alternatives, I do not believe, in the light of work done to date, such an exercise would be worthwhile—particularly as such an exploration could only cause additional delay which would be regrettable. In order to place our recommendation in proper perspective, perhaps I should outline an overview of the environment from a banker's standpoint.

During past equipment cycles, lenders to the airlines have permitted leverage in excess of that allowed other industries. This was attributed to the airlines possessing substantial assets in the form of route certificates which were not carried on their balance sheets. Because of the current regulatory attitude and pending legislation, one can no longer attribute substantial value to these certificates and lenders must use leverage guidelines found in other industries of 1 to 1 or less.

The industry today has a debt burden of some $6 billion and an equity base of $5 billion. The cost of retrofit or retrofit/replacement will be some $7 billion, which will be over and above the $21 billion needed for scheduled replacement and added lift to meet passenger demand. If we optimistically assume profits will remain at their present level which are high in relation to past performance, external funds of some $17 billion will be needed between now and 1985. If one further assumes this could be financed by debt, whether or not guaranteed, the debt/equity ratio or leverage ratio it would exceed 2 to 1 and therefore be anacceptable.

Setting aside the technical banking picture for a moment, let us look at the availability of new aircraft. In the United States, they are the 9's, 10's, 1011's, 727's, 37's, and 47's. While there has been much talk of a new generation of aircraft, nothing has been announced since the widebodies. Factors contributing to the present situation have been the confusion and delays caused by retrofit, deregulation, unsatisfactory airline earnings, as well as the inabil-

ity of manufacturers to recoup expenditures for the development of the widebodies.

While we have thus floundered, our friends overseas have not. I'm sure you are well informed on the introduction of foreign-manufactured aircraft into this country. This, in and of itself, would not be so alarming, were it not for what it portends in the world market and the implied threat to our already shaken balance of payments. Add to this matter the matter I believe critical, the lack of an adequate reserve air fleet, and you have a strong case to move promptly and affirmatively on appropriate legislation.

After reviewing both proposed methods, we strongly favor the user charge, despite the obvious fact it would no doubt decrease the profit opportunities for the banking industry. The first reason is that debt, whether guaranteed or otherwise, is still debt. At its current equity level the industry will require more debt than should be judiciously loaned, unless one assumes that the carriers could go to the equity market for amounts sufficient to about double their present net worth. The user charge method, instead of increasing the debt burden, would enable a substantial part of the funds to flow to net worth.

The ability of a carrier to acquire new equipment is dependent on its capital base and leverage restraints, rather than upon the amount of guaranteed debt available to it. Unless the Government is prepared to guarantee all of the debt of the carrier. To me this means the number of aircraft that the industry will purchase would be less under the guarantee method and could result in a burden to the traveling public of overcrowding or limited flights.

Let's look at a hypothetical carrier which has borrowed $300 million. Past and future earnings forecasts indicate it can service that amount of debt. The company's contract with its lenders specifies that it will not exceed this debt amount. FAR–36 requires the airlines to spend, say, $60 million to replace nonconforming aircraft, and the carrier wishes to incur guaranteed debt for this amount.

The lenders, on the other hand, do not believe the additional debt to be within the ability of the carrier to pay and, therefore, are unwilling to grant the needed consent.

What would be the Government's position? Would it guarantee the $300 million? Would it guarantee equity? Will it make the needed loan itself? I doubt it.

How does the Government intend to protect its guarantee? If it intends to prefer itself over other creditors, I would have grave difficulty giving any required consent.

Much has been said about the amount of Govenment interference in the industry under the two methods. Under the user charge method, funds are proportionately allocated to carriers and the involvement of the Government ceases. Under the guarantee method the Government is involved for a period yet to be defined, but one has to assume at least some 10 years from the date of each commitment. It must negotiate loan agreements, give or refuse requested consents, including requests to borrow funds to purchase additional aircraft and approve mergers. In the future, the Government could be called upon to purchase loans of a weak carrier who experienced difficulty because of actions of its own management or

circumstances beyond the management's control. These potential problems and conflicts must be carefully considered.

We believe, Senator, that by the user charge method, or forced savings plan, as I prefer to call it, you have an opportunity to again be a leader in worthwhile legislation affecting the traveling public, the airlines, and the aerospace companies so essential to this Nation in peace and critical in time of conflict.

I believe this landmark experiment may well serve as a backlog for future studies to put this industry in such a position that it may adequately perform its public obligation without becoming a potential burden to the taxpayers that our passenger railroads have become.

I thank you.

The CHAIRMAN. Thank you. Mr. Goodridge?

Mr. GOODRIDGE. My name is James C. Goodridge and I'm the investment officer at Connecticut General Life Insurance Co. responsible for airline lending activity.

I'm grateful to Senator Cannon and the subcommittee for the opportunity to share my views on aircraft noise reduction financing.

The Transportation Association of America is to be commended for its efforts in establishing communication channels between the airline industry investors and Congress. Congress and the financial community, including members of this panel, view the challenges facing the airlines from very different perspectives. Only through sessions such as this can each involved party gain insight as to how others view the industry and thus, better work to achieve solutions to the challenges facing an industry with such tremendous common carrier responsibilities to the U.S. public.

Since the 1960's, my associates and I at Connecticut General have enthusiastically recommended the purchase of a wide variety of airline debt securities that today total $225 million. The issuers of these debt securities include all of the major trunk carriers, five of the local service carriers, one interstate carrier, and one all-cargo carrier.

Today, we continue to view airline debt securities as attractive vehicles to fund Connecticut General's contractual obligations to 550,000 individuals receiving or anticipating the receipt of pension benefits, 600,000 individual life insurance policyholders, and 8.5 million employees of various companies, institution and labor union members covered by health plans.

Our confidence in the airline industry continues, despite the traumas it has experienced in the 1970's, including two economic recessions, the energy or fuel prices, and the bankruptcy of one of the largest common carriers in the United States financed by private investors, the Penn Central.

Frank Smith of the Transportation Association of America tells me that you are interested in our views of the aircraft noise retrofit financial vehicles proposed by the Cannon-Pearson bill, now before the committee, and also the Anderson bill, as reported out of the Public Works and Transportation and Ways and Means Committee of the House.

I understand that your interest extends to alternatives to these bills, including changes in the CAB fare policies and greater industry flexibility in ratemaking.

Such alternatives might equally permit the airlines to finance their capital needs imposed by the Federal aircraft noise standard regulations.

First, with my airline investor hat clearly visible, I would like to present my views on the principles which should guide legislation designed to promote capital investment by airlines. Then I will address the specific financing proposals contained in the two bills. Finally, I will discuss the attractiveness of the U.S. Government guaranteed securities proposed in the Cannon-Pearson bill to purchasers of Government securities.

I would, however, like to emphasize that my comments are being made by a representative of an institution which has a sizable investment with the airline industry and which desires to see private capital's rule continue.

The burden of obtaining the funds necessary for modernization of the Nation's aircraft fleet, including noise reduction, falls to the managements of airlines who are experts in equipment investment decision fare design, and so on.

Legislation proffering financial assistance to the airline industry should not deprive those managers of needed flexibility and freedom of action.

Also, if the airlines are to remain financiable private enterprise companies, the bulk of the funds necessary for fleet modernization must be generated through airline revenues or, stated in another way, by the consumers of air transport through fares.

To continue to be attractive to investors, industrial companies have traditionally funded their assets using up to 40 percent debt borrowed from institutions such as ourselves and the balance from their equity resources, primarily capital obtained through the retention of revenues after operating expenses.

For the airline industry, lenders have historically permitted a ratio of roughly 60 percent debt and 40 percent equity. The financing task facing the airline industry is projected at $60 billion through 1990. That's a projection, then, by the Air Transport Association. Therefore, the airline industry, using the 60–40 guideline, needs $24 billion generated from earnings.

Because the burden of obtaining this capital rests with the airline managements, I believe these organizations should be allowed flexibility to design fares that will generate the necessary earnings to meet their capital requirements.

Having presented this view of the industry as an airline investor, I will now comment on the specifics of the financial assistance alternatives proposed in the aircraft noise reduction legislation before Congress.

Although the excise tax—refund financing mechanism contemplated by H.R. 8729 has its faults, the proposal does permit carriers facing noise reduction expenditures to accumulate capital from a revenue source.

This scheme also permits airline managers the flexibility to opt for either retrofit or new aircraft purchases, depending on the specific needs of individual airlines.

The negatives, in my view, are: (1) The fixed schedule time and tax credit refunds to a specific noise reduction action, and (2) the windfall nature of the refunds for the carrier with substantial noise reduction needs, compared to the carrier which already has upgraded its fleet.

The guaranteed loan trust fund proposal embodied in S. 3064 would provide a new type of debt capital to the industry. This alternative does not meet the carrier's needs for capital from a revenue source, however. Incremental debt obligations of any type incurred by individual carriers would have the negative effect of limiting future borrowing capacity.

Also, the airlines would have to meet restrictions of a Federal agency overseeing the program, again restricting their flexibility.

Fairly recent rail legislation authorized Federal assistance to railroads, but to date only minimal grants have actually been received by the railroads other than ConRail.

This delay is an example of the problems that might face the industry under a federally administered loan assistance program.

From our own viewpoint as a major source of airline financing, a sizable program such as the guaranteed loan/trust fund plan would constitute material competition from the U.S. Government. In weighing the two alternatives, I would opt for the noise tax credit refund as the more desirable for the industry. This approach provides a sorely needed permanent addition of funds to airline balance sheets, as opposed to further reliance on debt, which must eventually be repaid to investors.

This would allow the industry to meet its equipment obligations and also attract additional debt financing from airline investors such as ourselves.

I would also like to mention some of the difficulties of Government guaranteed loans for engine retrofits.

A sizable percentage of the U.S. aircraft fleet is under a mortgage or similar lien serving as collateral to lenders. A further proportion was financed by the airline industry using leases, which normally involve mortgage financing.

Present airline security lenders and lessors would properly object to any type of Government lien on aircraft securing their obligations.

From the perspective of an investor purchasing Government guaranteed obligations, the securities envisioned by the Cannon-Pearson bill would be considered the equivalent of title XI ship obligations, FHA mortgage obligations, and similar securities.

A 90 percent, 10 percent slip between guaranteed or nonguaranteed would be detrimental to their marketability to institutional investors. Also, the exact mechanics of the aviation trust fund backing would affect the market attractiveness of the securities.

On balance, the excise tax refund approach of the House bill is the preferred.

Thank you.

The CHAIRMAN. Thank you very much.

Mr. Fingerhut, in terms of leverage for borrowing, how much is the $3 billion in up-front money that the House bill would provide, worth to the airlines?

Mr. FINGERHUT. I would think that it would probably be a factor of 3 to 3½ to 1. It might entail $8 to $10 billion, if you want to really push it on one side.

The CHAIRMAN. Based on your economic projections for the industry, do you foresee any disastrous consequences if no-noise legislation were passed?

Mr. FINGERHUT. I think there are a couple of things that you'd see happen. No. 1, you'd see more retrofit and re-engining rather than going out and purchasing new aircraft. And we've all been over a number of times that that's not the most economic thing. On an overall basis, there would be more aircraft on the ground that wouldn't meet the requirements. There also would not be enough capacity to meet growth in the marketplace, which would put the industry and the consumer in a very difficult position in terms of shortage of capacity. The industry would have a very difficult time coping.

The CHAIRMAN. What do you see as the relative worth to the industry's capital needs of a 2 percent excise tax vis-a-vis a $20 billion loan guarantee program, versus normal fare adjustments to cover the cost.

Mr. FINGERHUT. I would coincide with everyone on the panel here that the worth to the industry is much more on the House proposal than it would be the case on the Senate proposal.

Obviously, with the House proposal you get it up front on the equity side, where it can then be borrowed against making it easier for you to go out and make those capital expenditures. It doesn't solve the problem of changing those equity ratios.

The problem with the fare adjustments would have to be how it's done in terms of changing the rate base. Would it be included in and under the current fare investigation standards, et cetera?

The CHAIRMAN. Mr. Goodridge, your testimony with respect to the loan guaranty program assumes that such a program would necessarily result in an increase on the debt side of the debt equity ratio and effectively limit future borrowing capability.

Could you explain your reasoning in light of the large capital needs of the carriers through 1990 and the fact that much of this will have to be externally financed anyway?

Mr. GOODRIDGE. To borrow or leverage their balance sheet the airlines require an equity base. The House bill provides an additional boost to that equity base that therefore can be used to borrow against. Your bill provides debt but not encouragement to the building of the equity base needed prior to additional debt financing.

The CHAIRMAN. You stated that financing legislation to aid carriers in complying with the Federal noise standards should give airline managers flexibility and freedom of action. In that respect, you point to the fact that the loan guarantee program doesn't provide needed capital from revenue sources, and the excise tax refund proposal of the House bill would result in a windfall for some carriers.

Doesn't that lead to the conclusion that the best answer might be a fare mechanism allowing carriers the freedom to adjust fares to account for noise reduction expenditures?

Mr. GOODRIDGE. Yes, I would agree. The consumer is going to have to pay directly through fares for a good part of the noise retrofit burden. Encouragement to the airlines to build their equity base would provide additional debt borrowing capability to meet their overall capital financing burden.

The CHAIRMAN. In you statement you pointed out that a sizable percent of the U.S. aircraft fleet is under mortgage or similar lien serving as collateral to lenders, and you said present airline secured lessors would probably object to any type of Government lien on aircraft securing their obligations.

Let's look for a moment at the alternatives. If they don't meet those requirements—and they can't meet them under the present economic situation without some financial assistance—then those airplanes are going to be sitting on the ground. Now, would a lender rather be in a secondary position to a Government lien, or would they rather see the airplane sitting on the ground because it can't meet the noise requirements?

Mr. GOODRIDGE. I'm pretty sure we'd prefer seeing them flying and earning cash to pay us back.

The CHAIRMAN. You wouldn't want to be in the airline business particularly, if they couldn't meet the noise requirements.

Mr. GOODRIDGE. That's right.

The CHAIRMAN. Mr. Bliven, you've stated that given a continuation of current high profits, there will still be an industry need for $17 billion in external financing between now and 1985. Since most of this represents the normal reequipment cycle rather than noise compliance, presumably a capital need of something near this magnitude would have existed in any case.

In the absence of Federal assistance, how would this need be met?

Mr. BLIVEN. Would you repeat that, sir.

The CHAIRMAN. Yes.

You said that given a continuation of current high profits, there would still be a need in the industry for $17 billion in external financing between now and 1985. Now, most of that represents the normal reequipment cycle rather than noise compliance, so presumably a capital need of somewhere near that magnitude would have existed in any case, absent any noise problem at all.

Now, I'm just asking you, in the absence of Federal assistance, how would the carriers meet that requirement?

Mr. BLIVEN. Let me start by noting, I don't believe I said high profits; I said high in relation to past profits.

The basic problem the industry has in facing this massive reequipment program is its lack of profits in the past. You said the $17 billion shortfall of needed funds represented mostly equipment for growth and for reequipment. yet if you net the $7 billion required for retrofit replacement out of your $17 billion, you have reduced that shortfall almost in half. If I don't have to fund this program, then I begin to get within a range that might be manageable, assuming we have some good earnings—something I'm not all together convinced we'll see.

I think the question of earnings came up a bit ago in one of Senator Goldwater's remarks and it seemed to me then that someone should suggest that one of the reasons for the earnings that

we're seeing at present is that we are in a phase. The industry's traffic, and therefore its earnings, have historically been quite cyclical. Today we are at the peak of one of those cycles, traffic has been increasing nicely, and we're filling up the existing equipment. As traffic increases, we see an increase in load factors, more seats on the aircraft and crowded airplanes. As we come down from this cycle and as we try to carry this traffic, particularly this deep discount traffic, I am not at all sure that we will continue to see the earnings that we're presently seeing. I'm not at all sure as the scenario is played out, that we will be able to handle the reequipment program unless we have a far more stable industry than we've seen in the past few years.

I hope that answers your question.

The CHAIRMAN. Well, it got me a little confused anyway.

You talked of past equipment cycles and pointed out that the leverage had been in excess of that allowed other industries because of the value of the monopoly licenses granted by the Government. Now, wasn't that very fact partly responsible for the disastrous capacity overpurchase of the late 1960's, the fact that you were willing to grant more leverage to this type of an operation and encouraged carriers to go out and overpurchase equipment and almost broke a lot of them?

Mr. BLIVEN. I suppose one could make that argument, Senator. However, the traffic forecasts that airlines had, as I recall, forecast traffic increases in the area of 17 percent, and as you know, when one orders an aircraft, particularly a new generation aircraft, it is a very long leadtime item. The orders placed for that equipment were based on that forecast. When the traffic did not materialize, that is when they ran into capacity problems.

The CHAIRMAN. Do you think, in light of that experience, that the lenders in the future would be more prudent as airline profits again start to increase, or are we likely to run into that type of a situation again?

Mr. BLIVEN. Am I assuming that it's the lender's fault that they overbought?

The CHAIRMAN. No, but if they hadn't been able to get the credit, they wouldn't have overbought.

Mr. BLIVEN. I would like to say that lenders and the airlines and everybody else would be very, very prudent in the future. Unfortunately, the industry has been cyclical in the past, and I have no reason to believe that it won't be cyclical in the future.

The CHAIRMAN. Senator Goldwater.

Senator GOLDWATER. Mr. Bliven, you make a comment about the implied threat to our already shaken balance of payments in your statement.

I may be wrong—I don't think I am—but the aircraft industry, the airframe, avionics, and engine industry has been a major factor in our relative balance of payments. Whenever we have led in the balance of payments, it's been due to the fact that we have supplied as high as 90 percent of the airline needs of the world.

Now, that has diminished today. I don't know the exact figure, but I think it's below 75 percent.

I make that preliminary statement because back when we canceled the SST, I represented the President at the Paris Air Show

immediately afterward, and talking to my friends in the aircraft, avionics, and engine industries in Europe. They were shocked that we would stop development on anything advanced and predicted the consequences and said that they were going after our aircraft industry.

Immediately following that the A-300 came out.

Now, my point is that whenever this country gives up on the advancement in any of its sciences or technologies, we don't get the spinoff from those advancements.

So what we're faced with today, in my opinion, is another one of those situations where we have people from large communities representing people who live around airports who are understandably concerned about the noise wanting to put the aircraft industry further back, in my opinion, by saying, let's get into the business of retrofitting by the middle of the 1980's when we ought to be getting into the business of new aircraft.

I think we're going to find the airlines of America buying more A-300-type aircraft. Even though that aircraft is about one-third American equipment, it still represents a rather sizable investment of American money going overseas.

If I were an aircraft manufacturer—Boeing, Lockheed, or Douglas—and I was having to face the middle 1980's without selling a new airplane to American Airlines, TWA, United, or any of the others, I don't think I would be putting any R. & D. money in new designs.

I know that's more of a speech than a question, but it's bothered me. And frankly, as I said to the chairman earlier, I think we ought to be discussing very seriously doing away with any required compliance with FAR-36 by the middle of the 1980's and get along with the task of providing new aircraft that will handle today's and tomorrow's passengers, the schedules they asked and the quantity of passengers that we have to provide.

Mr. Chairman, I don't have a question on this except what I've expressed. The more I hear about this noise problem, the madder it makes me, because I've lived through it since the very beginning of aviation. We have it all over my State now. We have it to the point where communities are even willing to give up $160 to $200 million a year income from military establishments just to get them out of Arizona and into Texas. I don't know what they've got against Texas—I could give them some ideas—but that's beside the point.

So while I can understand how I would feel with an airliner flying over my house, if I built that house under an airliner and my knowing it would be there, it's my fault. It's not the fault of the aircraft industry, the local airport authority, the lending institutions, or anyone else.

So while I like Senator Cannon's bill to provide the money to do what I'm suggesting, buy new aircraft, not the engines, but buy the new engines on the new aircraft, I'd like to see maybe a change in the whole thrust of this financing to that end and not necessarily to the end of being able to say by the middle 1980's, well, we've knocked 2 decibels off the takeoff noise, or 6 decibels off the approach noise.

Mr. BLIVEN. I share your concern, Senator, and I believe you're expanding a little on the last paragraph of my speech.

Senator GOLDWATER. Well, I didn't mark it because I always like to feel that a Senator has something left to say. But some of you fellows come in here and say it all.

Mr. BLIVEN. The only thing I thought of, Senator, if we go the fare increase route, the way we increase fares in this day and age, that is increase the cost to regular passengers, and cut the cost to tourists, you'd probably end up paying it all yourself on your weekend trips to Arizona.

Senator GOLDWATER. Well, we do already.

Mr. BLIVEN. That's the way fare increases work.

Senator GOLDWATER. If we could get the Congress to recess from Thursday to Tuesday and not just let us go home on Friday night, Senator Cannon and I would wind up saving the Government maybe $50,000 a year. That's saving you, saving me, saving all the taxpayers. This fare business is getting to be rather silly. But the carriers are making money.

That's all I have.

The CHAIRMAN. Mr. Bliven, you talked about the $17 billion need up through 1985 which you said $7 billion could be knocked off, making it a $10 billion requirement.

I'm looking here now at a chart in Air Transport World in March 1978, and it shows that the carriers, the 11 carriers that have an investment capacity of $82 billion and investment needs of $69.4 billion—that's from 1976 to 1990—in other words, it shows that they would have a surplus of $12.6 billion in borrowing capacity.

Do you happen to have seen that?

Mr. BLIVEN. I have not seen that figure.

You're going through 1990?

The CHAIRMAN. This is up to 1990. Your figure is 1985.

Mr. BLIVEN. Mine is 1985, yes.

Any forecast you read, Senator, as you take it out in time begins to get away from you.

I don't know how they built that forecast, but that's one of the problems with forecasting over a long period of time. The depreciation accounts keep going up as you go out in time, and the industry acquires more equipment. I don't know what they used in there for profit forecasts. They probably assumed a constant increase year after year. And when you assume a multiplier like that, as you get out into the late years, those figures start to move very, very fast.

The CHAIRMAN. It shows that four of the carriers would have a shortfall in investment capacity, but the other seven would have a surplus, and the net effect was suplus of $12.6 billion.

Mr. BLIVEN. The figures that I used, I've checked with the ATA—Boeing, Lockheed, McDonnell Douglas, and the majority of the airlines—all their figures come in very close to the figures that I quoted you.

Now, there are different ways of getting to the final numbers each formulea gives and takes in different places, but I think that the figures through 1985 have been pretty carefully worked out, and I don't know anyone who is in disagreement as to the basic figures now.

The CHAIRMAN. Thank you very much, gentlemen. We appreciate you being here to assist us.

The next witness is Dr. R. R. Shaw, assistant director general of the International Air Transport Association accompanied by Howson Johnston, ATA, and J. Kenneth Kilcarr, senior vice president of finance for Pan Am.

All right, gentlemen.

STATEMENTS OF DR. R. R. SHAW, ASSISTANT DIRECTOR GENERAL, INTERNATIONAL AIR TRANSPORT ASSOCIATION; ACCOMPANIED BY HOWSON JOHNSTON, AIR TRANSPORT DIRECTOR; AND J. KENNETH KILCARR, SENIOR VICE PRESIDENT OF FINANCE, PAN AMERICAN WORLD AIRWAYS

Dr. SHAW. First, Mr. Chairman, I want to thank you for inviting IATA to present its views on the very important legislation you're considering. I would also like to introduce my colleagues who are here at the table with me. On my left, Mr. Ken Kilcarr, who is the senior vice president of finance at Pan American, and who also is the chairman of our air equipment group.

On my right is Mr. Howson Johnston, air transport director of IATA. I draw your attention to the slight error on the witness list.

Mr. Chairman, I prepared a fairly long statement, which I would request your permission to be made part of the record in full.

The CHAIRMAN. All right, it will be made part of the public record in full, and you may summarize.

Dr. SHAW. In accordance to your invitation I've prepared a summary, and I'd like to present that now.

Basically our statement is complementary to and in support of that delivered to the subcommittee by Mr. Paul Ignatius a few days ago.

Since IATA's concern is solely with international operations and particularly the foreign carriers, our emphasis is a little different, but we have no difference of substance.

IATA recognizes the serious social problems created by aircraft noise and the consequent need for systematic action to alleviate the problem. We also strongly feel that, to the maximum extent possible, the alleviation should come through the replacement of the older airplanes rather than their retrofit modification.

Such a wholesale replacement poses severe financial problems for the airlines. We, therefore, strongly support the overall financial thrust of the various bills under consideration. I have to say that the system of guaranteed loans proposed in the Cannon-Pearson bill, S. 3064, although a useful concept in the absence of any other, does not attract us nearly as much as the tax surcharge concept embodied in the Anderson-Corman bills, developed in the House.

ATA has already pointed out that guaranteed loans would not provide the front-end money for progress payments on new aircraft and would leave the airlines with the severe financial problem of servicing a very large absolute debt load.

In addition to these points we do not believe that a loan guarantee program, even if it were possible to make it available, would help the foreign carriers to any significant degree.

I therefore propose to confine the substance of my remarks to the Anderson-Corman bills, particularly title III of those two bills.

Taking a broad overall view, these draft bills seem reasonable and fair from our perspective; however, there are a few suggestions we would like to make, only one of which we believe is in the nature of a policy suggestion, and the remainder are on matters of detail, which we hope will not be contentious but which are of considerable importance to IATA.

We note with appreciation that a number of commentators on these bills, including yourself, Mr. Chairman, when you introduced S. 3064, have recognized that further attention should be given to the impact on the foreign carriers.

Our first suggestion is the one which may have some policy importance. The period for the collection of taxes or surcharges on international flights was originally for 10 years and was amended to 5 years in the Corman version. We urge that it be restored to 10 years. We find that collections over a 5-year period would generate funds which are very inadequate to support the capital investment requirements of the major international carriers.

The airlines are anxious to reduce noise, but lack the capital to do so at an early date. We are aware, of course, of the possibility that in 3 or 4 years time Congress may extend the program; however, such an uncertain prospect is not an adequate base for the heavy contract commitments which the international carriers will have to make in the next few years.

Our next point concerns the basis for the foreign carriers to draw back funds from taxes collected. Overall, the section in H.R. 11986 dealing with the foreign carriers endeavors to treat them fairly. Thus, most foreign airlines would be entitled to receive repayment of all the taxes they collect. However, depending on how this section of the bill is administered, there is a possibility that some of the foreign carriers would not be entitled to any drawbacks at all, and this would be of concern to the foreign governments directly involved and to IATA. Of course, it would obviously be of great concern to the individual airlines which might be so affected.

The real danger here is that even if a few foreign carriers have to collect tax money and are not entitled to receive any money back, some foreign governments would be encouraged to impose noise taxes on the airlines, including the U.S. internationals, which would pass directly into the country's general revenue and would not be used for noise abatement purposes.

This may seem a farfetched possibility, but in fact, it is not. There are some foreign governments who are actively thinking along these lines, and we are very anxious indeed that the U.S. Congress does not set a precedent which they could copy.

From the United States point of view, this is a very small issue; certainly less than 5 percent of the potential collection by the foreign carriers might be involved, and about 2½ percent of all collections from international services.

My next point concerns the provisions in the Corman bill, whereby the foreign carriers are entitled only to a single lump sum payment. Since the taxes collected are held without interest, this could lead to a large loss of real value over a 5- or 10-year period. We would, therefore, request that consideration be given to making

provisions for progress payments to foreign carriers along the lines similar to those made to U.S. carriers.

Next, we have some concern about the formula for the international passenger tax, which is basically $2 per ticket up to $99.99 and $10 for $100 tickets and above. There is no problem with this for long-range services, but the formula leads to some rather capricious variations in tax level for flights transborder and to the Caribbean.

It is suggested that flights to foreign contiguous territory or adjacent islands, be charged a flat $2 tax, irrespective of ticket value, and that the general rule apply elsewhere.

We have also suggested that in respect to the cargo tax, some fixed dollar amount per 100 pounds of cargo be put as an upper limit to the 5-percent tax. This would avoid the levying of heavy taxes on cargo shipments which travel our very long distances.

In addition to the specifics I have outlined already, we have two more general points.

First, we strongly support the concept embodied in S. 3064 with respect to the treatment of two- and three-engined jet aircraft. We believe that giving the airlines the option of an extended compliance date in return for a firm contract commitment to replace the two- and three-engined aircraft will lead to a more effective reduction in noise nuisance at an earlier date.

Such a program in our view is eminently sensible and very much in the public interest.

Second, our statement makes a plea that the final legislation does not in itself set an end date for aircraft operated by foreign carriers which do not comply with part 36. We feel that such a unilateral action by the United States is to a degree incompatible with your country's obligations to the International Civil Aviation Organization (ICAO), and we would urge that ICAO first be given a chance to develop international standards on this matter. The current FAA regulations bearing on this subject, that is part 91, subpart E, together with the preamble to the regulations published in the Federal Register, deal with this issue in a very acceptable way, and we suggest that this is all that needs to be done at this time by the United States on this particular point.

That completes my summary, Mr. Chairman. I'll be very happy to answer any questions you may have.

The CHAIRMAN. Thank you very much, Dr. Shaw.

Let me get the record straight here. It is correct, is it not, that under the current FAA regulations aircraft used in foreign air commerce are not required to comply with FAR-36?

Dr. SHAW. That's so. That's the way the regulation reads, but the preamble makes it quite clear that if it's adopted by 1980—I believe that's the date——

The CHAIRMAN. If there's no agreement, no ICAO agreement by 1980, then FAR-36 will apply to foreign countries only if the FAA enacts another regulation.

I'm sorry the gentleman from New York isn't here, but all the foreign carriers that fly from foreign points into New York City have no requirement to meet the noise regulations as the law now stands. And they are principally flying the noisy airplanes, the 707's and DC-8's. Is that correct?

Dr. SHAW. Yes, sir. If I may comment on your remarks a little. The preamble to that part 91 regulation dealing with the foreign carriers is rather more emphatic than you've stated just now.

If I may, I'll read just a few lines. "If such agreeement"—and that's the ICAO agreement—"is not reached by January 1, 1980, the FAA will take regulatory action to require all airplanes engaged in foreign air commerce to comply with part 36."

And it goes on to say——

The CHAIRMAN. If they took that action at that time, obviously they would have to provide some time for compliance. Is that correct?

Dr. SHAW. I perhaps shouldn't have stopped where I did. "During the period ending on January 1, 1985." So, the intention here is that they will take action by the same end date as the law covering domestic flights.

The CHAIRMAN. January 1985 for the noisy foreign airplanes?

Dr. SHAW. Yes.

The CHAIRMAN. At the present time the bulk of the foreign carriers, IATA carriers, now flying 707's, DC–8's, DC–10's, the wide bodied class, the 1011, and the 747's. That's the bulk of the fleet.

Dr. SHAW. Well, if you look at the long range carriers, that's true, sir. But, there are very considerable operations by Canadian carriers and Mexican carriers, with the two- and three-engined airplanes.

The CHAIRMAN. So that they would be affected by the two- and three-engine decision?

Dr. SHAW. Yes, sir.

The CHAIRMAN. But the wide-body aircraft basically already comply.

Dr. SHAW. Yes, sir.

The CHAIRMAN. The 707's and the DC–8's have until 1985 to meet compliance in any event, no matter what.

Now, you suggest in the fee arrangement that all of the carriers share in that reimbursement program, and that some carriers that only have 747's for example already comply. And some other carriers have a mixture of wide bodies, so that they have none of the noisy type aircraft. Why should they share in the fee that's set aside to meet the noise requirements?

Dr. SHAW. No, sir. I don't believe that any of our members—I can only speak for IATA members—those carriers which do have some wide-bodied aircraft, be they 747's or DC–10's, do not also have substantial fleets of DC–8's and 707's as well.

So, to the extent that they need to plan for future operations to the United States, they would have to, to some degree at least, replace or retrofit—the retrofit option is a real one for 707's—at least some of the four-engine jet fleets. You have to bear in mind for the future that they might want to operate supplementary service, additional division of their main flights. They almost certainly will go out and get these new gateways under the current administration's policy of opening new gateways.

They will have to provide for the use of that supplementary fleet of 707's and DC–8 types to the United States by, as I say, at least partially replacing them.

The CHAIRMAN. Why did you say then that some of the carriers would get no money back under the Anderson bill?

Dr. SHAW. The carriers—we find there's some degree of uncertainty about, and it is no more than that—are those carriers who at the moment are operating only wide-bodied aircraft to the United States and are using their 707, DC–8 fleets elsewhere in the world.

We feel or hope that the intention of the bill is to extend to the carrier aids to replace those 707, DC–8's for future expansion in the United States.

But this would come within the scope of the bill, entitlement to refunds, but the language to us is not as clear as we would like, and we were hoping that either the bill could be a little bit clarified on this point, or, perhaps, if indeed the Congress intends that these carriers could draw back money, that the legislative record might make that point clear.

We feel a little uncertain in 5 or 10 years time about going to the Treasury and trying to use the words in the bill to cover that contingency.

The CHAIRMAN. You indicated that you thought there were none of the IATA carriers that were in full compliance. I'm told that IATA has told our staff that Swissair and Air India have all of their U.S. traveling planes in compliance. Is that correct?

Dr. SHAW. Those are the two carriers who at the moment are only operating wide-bodied jets. Air India has nine 707's which they don't use to the States at the moment. Swissair has six DC–8's which they don't use to the States at the moment.

There's perhaps a little confusion of what we mean.

The CHAIRMAN. But, they're in full compliance now with the airplanes they fly to the States? What you're saying then is that they would get a rebate to help them retrofit their planes that don't even fly to the States, and if they flew to the States, they wouldn't have to be retrofitted until 1985?

Dr. SHAW. Put it this way, Mr. Chairman. Absent any noise regulation or legislation, there's no doubt that some time in the future those two airlines will wish to use their 707's and DC–8's to fly services to the United States. I'm thinking particularly if you say Swissair got a new gateway where the traffic was relatively low, they would obviously in the absence of a noise regulation wish to put on a DC–8 rather than a 747, because the traffic wouldn't justify a 747.

The CHAIRMAN. Since mandatory compliance with FAR–36 for international operators is at least not until 1985, should we wait until those rules apply to foreign carriers before providing any financial assistance?

Dr. SHAW. I think the way it would work—this raises the question, of course, of the progress on this—but I would think that on a lump sum refund basis, then most of the foreign carriers would wait until the end date of the program before filing a claim; a claim once filed, they would be repaid; they would lengthen it up to that point in time; and any more taxes they collected after the filing of the claim presumably would go into the ADAP funds and be lost.

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So most carriers would not be filing claims under the current single payment system until the end of the program.

The CHAIRMAN. Can you tell us where the noise issue stands in ICAO at the present time and give us your prognosis for an agreement?

Dr. SHAW. Yes, sir. There's the sort of detailed technical work that ICAO has done in the Committee on Aircraft Noise. The next meeting will be in April 1979. We believe this problem will be addressed in detail at that time.

I wouldn't like to mislead you, Senator. The process of finally getting an international agreement is a long one. It involves some very formal processes, but I would think substantial progress will be made by 1980 and that the end will be in sight.

I don't think I can honestly say that the task will be finished by 1980, but the direction ICAO will be going will be very clear by then.

The CHAIRMAN. Do you know whether or not any other countries are adopting noise regulations as comprehensive as our FAR-36?

Dr. SHAW. Not as comprehensive as yours, sir; no.

Japan has adopted a very similar regulation, but it applies only to, basically, their domestic carriers, not to foreign carriers at all.

The CHAIRMAN. Not to foreign carriers?

Dr. SHAW. The Europeans, the so-called ECAC, European Civil Aviation Conference, which is the body of European civil aviation directors, are developing a program which initially will only apply to airplanes registered in Europe. They are looking to a date somewhere a year or two later than the United States date—1986-87—for forcing compliance there. But that's not yet a matter of law, it's a matter of proposal at the moment.

The CHAIRMAN. Are either the Japanese or the European countries that are moving in that direction providing any funding mechanism for the carriers?

Dr. SHAW. No, sir, they're not.

The CHAIRMAN. Now, if a U.S. carrier is encouraged to replace two- and three-engine aircraft, rather than retrofit, a major question is, what will happen to the planes once they're replaced? One possibility is that they could be sold abroad where compliance is not required. Can you briefly describe the world market for these aircraft outside the United States?

As a point of reference, I might say there are 616 noncompliant 727's, 326 noncomplaint DC-9's, and 145 noncompliant 737's. How many of those could non-U.S. carriers absorb?

Dr. SHAW. On the assumption that the European legislation goes through and they will not be eligible to come on the register in Europe, I would expect Japan might well—well, they've already legislated that. I would expect countries like Australia to develop slowly in the same direction. So, you'd really be looking at certain developing countries in South America, Africa, and the Far East as a potential market, and I don't think, sir, that you could expect to sell more than 20 or 30 percent of them.

The CHAIRMAN. Would it be fair to say, from what you've told us here, that as far as you know, none of the countries are looking at the kind of compliance dates—early compliance dates—that we're

talking about insofar as the two- and three-engine airplanes are concerned?

Dr. SHAW. The Europeans are inclined to say that it's not worthwhile to retrofit those airplanes, and they'll probably give them a longer life, perhaps as long as the one proposed in your bill, sir.

The CHAIRMAN. Mr. Johnston, do you have anything to add?

Mr. JOHNSTON. Thank you, sir. I think he did very well.

The CHAIRMAN. Mr. Kilcarr?

Mr. KILCARR. I think there's one other point I would like to make, Senator. That is to stress the need of the international carriers for a 10-year program, rather than the 5-year program which is now in the House bill.

As you will recall, the original bill called for 10 years, and then, for some reason I'm not too sure of, it was changed to 5 years—we believe at the Treasury's request.

In order for the international carriers to obtain about the equivalent amount of funds that the domestic U.S. carriers would obtain over 5-year program, the international carriers really need the bill to be changed back to the 10-year program, Senator.

The CHAIRMAN. Would Pan Am comply or be considered an international carrier for the purpose of this legislation now, or would it depend on whether you used some of those airplanes point to point in the United States?

Mr. KILCARR. With our present route structure, Senator, we would be considered primarily an international carrier. Certainly, we do hope that we will obtain some of the domestic routes we have applied for.

The CHAIRMAN. You hope that you'll be able to qualify as a domestic carrier?

Mr. KILCARR. That's right. In that case, we would draw the 2 percent tax over a 5-year period for domestic travel, rather than the $10 head tax.

The CHAIRMAN. Senator Stevens?

Mr. STEVENS. I don't have any questions. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, gentlemen. We appreciate your being here.

Dr. SHAW. Thank you, Senator.

[The statement follows:]

STATEMENT OF DR. R. R. SHAW, ASSISTANT DIRECTOR GENERAL, INTERNATIONAL AIR TRANSPORT ASSOCIATION

Mr. Chairman, my name is R. Richard Shaw and I am Assistant Director General—Technical of the International Air Transport Association (IATA). IATA is an Association of 106 scheduled airlines operating throughout the world. I appear today specifically on behalf of those of our members who operate international services to and from this country, and particularly on behalf of the approximately 40 IATA members who operate here and are foreign to the United States. I should like to add that IATA's views on this subject have been fully coordinated with those of ATA earlier presented to this committee and my statement is therefore complementary and supportive to that of ATA. Any difference is therefore purely a matter of emphasis rather than of substance.

Let me start by saying that IATA recognizes the serious social problems created by aircraft noise in many parts of the world and the consequent need for systematic and decisive action to alleviate the problem through the modification or replacement of the older, noisier airplanes. However, both the United States and foreign carriers face severe financial problems in embarking on such a program in a timely

way. Absent the noise problem, there are a considerable number of aircraft, which do not comply with the noise regulations, which could usefully serve both the U.S. and foreign carriers for many decades to come. Some routes do not require wide-body jets but would be suitable for operation by existing narrow-body jets which may not comply with the noise regulations. Moreover many airports, in the U. S. and abroad, may not be particularly noise sensitive.

Thus, for the airlines to undertake a wholesale replacement of their noisier aircraft—which in the long run is the most effective way of resolving the noise problem—capital expenditure is required which the present level of earnings cannot support. Accordingly, the financial measures included in the various versions of draft legislation are, in our view, an essential part of any effective noise abatement program.

We have studied the proposal set forth in the Cannon-Pearson bill S. 3064 to deal with this financial issue through a system of guaranteed loans. We note that when you introduced this bill, Mr. Chairman, you were at pains to say that "this is merely another alternative that I would like to explore during the Aviation Subcommittee's Hearings".

I regret to have to say that we share the views of ATA on this loan guarantee concept. While a useful proposal in the absence of any other, it nevertheless suffers from some serious deficiencies when compared to the surcharge-tax proposals embodied in the two House Bills. ATA has already pointed out that a guaranteed loan program would not provide "front-end money" for the progress payments on new aircraft and would leave the airlines with the severe financial problems of servicing a very large absolute debt load.

In addition to these points, we do not believe that a loan guarantee program, even if it were made available, would help the foreign carriers to any significant degree. Foreign carriers already have access to substantial loans at favourable interest rates through the Export-Import Bank and many of them are already in the position of being able to arrange for their own central banks to guarantee loans for aircraft purchases.

Consequently I propose to confine the substance of my statement to the so-called Anderson Bill (H.R. 8729), as amended by the House Committee on Ways and Means with respect to Title III (H.R. 11986).

Generally the draft House legislation appears reasonable and fair from the IATA perspective. However, there are a few points of importance to international relations which we urge be addressed even though none of these represents any major policy changes in the drafts and can be readily fixed by drafting changes. Parenthetically, we note that in the statements made to this subcommittee by Mr. Langhorne Bond on May 24, by Mr. Ignatious of ATA on the same day, and in the speech which you, Mr. Chairman, made in introducing S. 3064, there is a clear recognition of the need for further attention to be given to the foreign carrier problem.

H.R. 8729 provided for the collection of surcharges for a period of ten years with respect to international operations but H.R. 11986 reduced the period to five years. Collections over five years would produce sums which are quite inadequate to support the international carriers' capital investment necessary to solve this noise problem. The airlines are anxious to reduce noise but lack the capital to do so at an early date. We urge that the collection period be re-extended to 10 years. We are aware of the possibility that in 3 or 4 years' time Congress might extend the program; however, such a somewhat uncertain prospect is not an adequate base for the heavy financial commitments which many of the international carriers will have to make in the next few years.

IATA supports the basic concept (in the U.S. context) of the collection of a noise surcharge or tax and the proceeds being made available to the collecting airlines to (partially) offset the cost of modifying or replacing their noisy aircraft. However, we are deeply concerned to ensure that in the case of foreign carriers, the whole of the monies are returned to the collecting carriers for noise abatement purposes.

We fear that if this is not done many foreign governments will impose noise taxes on all international carriers (including U.S. carriers) without any return to the airlines of the money collected. There is a temper in certain other countries to impose such a tax and we would hope that U.S. legislation does not set a precedent for such a step in other countries.

As H.R. 11986 now stands, in the section dealing with foreign carriers (pp. 18 and 19), overall the foreign carriers are treated fairly and almost all will definitely be entitled to receive payment of all the taxes they collect. However, as now drafted, there is a possibility that a few foreign carriers could get nothing back at all and this situation would be a matter of great concern to the foreign governments directly concerned.

Financially, the issue is a small one in the context of the billions of dollars involved in the overall program. Of the foreign IATA members who operate to the United States we are currently aware of only a very few who may be in this position. Of the estimated collection (over a ten-year period) by all the foreign carriers of $995 million, the amount which may not be available for return to the collecting carriers would be less than 5 percent. The resolution of this problem, if indeed it exists, is vitally important as a matter of good international relations and yet is quite unimportant in its impact on the United States. It is, however, important to the airlines directly concerned.

H.R. 11986 provides for a single lump sum payment to foreign carriers after their fleet is certified to be in compliance. Since taxes collected are paid to the Secretary of the Treasury, and held without interest, this could lead to a large loss of real value over a 5- or 10-year period. Consideration should be given to making a provision for progress payments to foreign carriers along similar lines to those made to U.S. carriers. Consideration should also be given for the refund of further taxes collected after a foreign carrier completes its noise abatement program to the extent that the foreign carrier's entitlements are in excess of the refunds it has already received.

The provisions in both H.R. 8729 and H.R. 11986 are that the international passenger tax-surcharge be $2 per ticket up to $100, and $10 above that figure. This is fine for long-range services out of the United States but leads to some rather capricious variations in tax level for flights transborder and to the Caribbean. It is suggested that flights to "foreign contiguous territory or adjacent islands" (which has a specific meaning in U.S. legislation), be charged a flat $2 tax, and that the general rule apply elsewhere.

Cargo tax-surcharge.—The 5 percent surcharge on the cargo air waybill for foreign transport inherently involves distance of transportation as well as weight. Distance is irrelevant to noise problems in the United States. It is suggested that this element be changed to 5 percent of the air waybill, with a maximum dollar amount per 100 lbs. of cargo.

In addition to the specific proposals I have outlined above, I should like to make two more comments along more general lines.

First, we strongly support the concept embodied in the Cannon bill S. 3064 with respect to the treatment of two- and three-engined jet aircraft. Without entering into the debate on whether the effect of retrofit modification of this class of aircraft gives a significant or even a perceptible reduction in noise, it is a matter of no dispute that the replacement of these airplanes will produce a much greater noise reduction than any retrofit program. Thus the concept of giving an extended period of compliance to those airlines which commit themselves to a replacement program is, in our view, eminently sensible and very much in the public interest.

Finally, let me say just a few words on the general subject of unilateral regulation by the United States of foreign carriers with respect to noise. We know that a section with this effect did appear in the original Anderson bill (section 305) and was omitted from the Ways and Means Committee version of title III. My advice is that this omission might have been inadvertent and that the Section may be restored in the subsequent processing of the bill. I would strongly urge that this restoration not be made.

The orderly development of international civil aviation demands that regulations or legislation of this sort applicable to foreign carriers should first be negotiated through the International Civil Aviation Organization (ICAO) and subsequently be applied by each State to its own aircraft. IATA argued this point at length before an earlier hearing held by the Aviation Subcommittee of the House Committee on Public Works and Transportation. IATA's position given on that occasion is attached thereto and it is requested that this be made part of our current statement.

The current FAA Regulations bearing on this subject (14 CFR part 91, subpart E) deal with this issue in a very acceptable way and we would suggest that this is all that need be done at this time by the United States.

This completes my statement and I stand ready to answer any questions which the subcommittee may have.

The CHAIRMAN. Next, Mr. Walter Rockenstein, chairperson, National League of Cities Environmental Steering Committee, in Minneapolis, and on behalf of the National League of Cities and National Association of Counties.

Mr. Rockenstein?

STATEMENT OF WALTER H. ROCKENSTEIN II, COUNCILMAN FOR THE CITY OF MINNEAPOLIS, MINN.; ACCOMPANIED BY TOM TATUM, DEPUTY DIRECTOR OF THE OFFICE OF FEDERAL RELATIONS OF THE NATIONAL LEAGUE OF CITIES; AND TOM BOLGER, NATIONAL LEGISLATIVE REPRESENTATIVE FOR THE NATIONAL ASSOCIATION OF COUNTIES

Mr. ROCKENSTEIN. Mr. Chairman and members of the committee, my name is Walter Rockenstein, and I am a city councilman elected by residents of the 11th ward in Minneapolis, Minn. This ward and my home are under the approach and takeoff corridors of the Minneapolis-St. Paul International Airport.

I'm here today representing the National League of Cities, of whose environmental quality committee I am chairman, and the National Association of Counties.

With me today are Mr. Tom Tatum, deputy director of the Office of Federal Relations of the National League of Cities, and Mr. Tom Bolger, the national legislative representative for the National Association of Counties.

I and my locally elected colleagues throughout the country view the improvement of the environment within cities as a vital priority. A key step in improving that environment is the reduction of aircraft noise. Thus, we appreciate this opportunity to present our views on the proposed Airport and Aircraft Noise Reduction Act, S. 3064.

The National Association of Counties (NAC), is also pleased to present its views on S. 3064. County governments share your concerns with all aspects of the problems associated with aircraft noise. As you are aware, counties have a dual role to consider in addressing this important issue: (1) As airport operators, counties are responsible for maintaining the economic viability of local air service, (2) as local governments, counties are responsible for the health and welfare of our citizens.

TITLE I—UNIFORM METHODOLOGY AND MINIMUM STANDARDS

The National League of Cities and the National Association of Counties supports the need for uniform noise-measuring methodology and minimum airport noise standards at the Federal level for the protection of public health, safety, and welfare.

Consequently, we support section 102 of S. 3064, which provides for establishing, by regulation: (1) A single Federal noise-measuring system; (2) a single Federal system for determining noise impacts on individuals; and (3) Federal designation of land uses which are compatible and incompatible with various aircraft-generated noise levels.

To speak of Federal minimum standards implies power for someone to set stricter standards. The National League of Cities and the National Association of Counties maintain that, in the environmental area, the Federal Government should set minimum standards and leave to State and local governments the option to impose stricter standards. This is, in fact, the pattern which has evolved in air and water pollution legislation. The same approach should be followed for aircraft noise pollution.

State and local governments should have the power to impose noise standards around airports more stringent than Federal minimums, unless they substantially interfere with interstate commerce. To this end, section 102 should be amended to make clear that State and local governments can adopt stricter noise standards and can use other airport noise-measuring and enforcement systems as a supplement to the systems adopted by the Federal Government. Further, State and local governments should be able to improve their protection from noise of any land use by redesignating it as compatible with a lower level of noise impact on individuals than set at the Federal level.

Let me use two examples to clarify this point. If the Federal Government decides that the LdN noise measuring methodology most precisely defines the noise impact on individuals around airports, this would be a valuable planning and implementation tool for nationwide use. However, since this system depends on a full year's data to establish the contours around airports, it would have limited effectiveness for day-to-day enforcement purposes. The Minnesota Pollution Control Agency, which has adopted a system based on L_{10} and L_{50} dba levels measured over any 1-hour period, should be able to use their regulations as a day-to-day enforcement tool in Minnesota.

Let us assume that the Federal Government adopts the NEF system of noise-impact measurement and decides that apartment buildings are incompatible within the 35 NEF contour and above, but compatible within the 30 NEF contour and below. The State or local government should be free to decide that apartment buildings should also be incompatible within the 30 NEF zone, but compatible within the 25 NEF zone and below.

Our repeated experience in the air and water pollution fields with minimum Federal standards and a State or local option for more stringent standards shows that the approach works. With due regard for avoiding substantial burdens on interstate commerce, it will work for aircraft noise, as well.

We come now to our point of disagreement with section 102. The National League of Cities has seen the repeated failure of the Federal Aviation Administration to aggressively pursue noise abatement. Consequently, our policy calls for the Environmental Protection Agency to be the agency which adopts noise standards. This bill would be significantly strengthened if section 102 designated the Administrator of the Environmental Protection Agency as the authority to issue the regulations on selecting the airport noise measuring systems, selecting the system which determines airport noise impacts on individuals, and designating the land uses compatible with various noise levels generated around airports.

TITLE I—THE AIRPORT NOISE COMPATIBILITY PROCESS

Turning to the airport noise compatibility process, the National League of Cities and the National Association of Counties support the requirements for airport noise impact analysis contained in section 103 of S. 3064. Major airports must determine their current noise contours, current noncompatible land uses, future operations,

and the effect of these future operations on noise contours and land use. Section 103 would accomplish these goals.

The league and the association also support the voluntary development of airport noise compatibility programs as provided by section 104. Airport operators must begin to address noise reduction comprehensively through restrictions on aircraft using the airport, flight procedures, runway controls, and the use of barriers and acoustical shielding, and land use and land acquisition.

Since this process directly involves local governments, we wish to address it in detail. First, we have a major suggestion for strengthening the process. While we are pleased that section 104(a) requires consultation with local governments in developing a noise compatibility program, this consultation should also occur as the operator develops the current noise contours and underlying land use map, the projected 1985 operations, and the 1985 contours and land use map required by section 103(a).

Mandatory local consultation throughout the entire planning process will educate local governments about airport operations and aircraft noise problems, foster trust and understanding of the noise compatibility process, and promote reasoned land use decisions and zoning code modifications by affected local governments. Cutting local governments out of any part of the process will foster suspicion and decrease cooperation.

In the Twin Cities area, the very process suggested by title I is being carried out cooperatively by local governments, the regional planning body, and our Metropolitan Airports Commission. A key factor in our success has been the early and constant involvement of local governments which today we urge be included in this legislation. We see no reason why the Minnesota experience cannot be repeated at other airports across the country.

While we recognize the need to address the problems of residual noise that will exist even with less noisy aircraft engines, we want the responsibility shared properly. Additionally, we cannot imagine a successful planning program without joint cooperation between airport operators and local governments. We need language which will assure the eligibility of local governments for planning grants.

Second, we also have a point of strong disagreement with section 104. As we read subsections (c) and (d), taken together, they remove from the local airport operator any power (1) to control noise by restricting the type of aircraft using his airport, including the SST, or (2) to implement any preferential runway system, or (3) to enter into agreements on flight procedures, curfew, et cetera, to control the operation of aircraft around the airport, unless the Secretary of Transportation has approved a noise compatibility plan. As a matter of fact, many operators, including Minneapolis, Boston, and Los Angeles, currently exercise these powers to reduce noise around their airports. As the bill now reads, if the Secretary of Transportation were to disapprove a noise compatibility program submitted by any of these airports, their entire noise program would be illegal and could not be continued.

The National League of Cities and the National Association of Counties cannot support this approach. Instead, S. 3064 should make clear that disapproval by the Secretary of Transportation of

the program being submitted does not invalidate the existing noise control programs in use at the submitting airport.

Finally, the National League of Cities and the National Association of Counties strongly support the use of airport and airway trust fund moneys for both the planning and the implementation of the airport noise compatibility program. Specifically, we support section 103(b), which provides $15 million for airport noise compatibility planning. As to the funding for implementation provided by section 104, we believe the figure provided in S. 3064 is not sufficient. We support the $500 million authorization included in H.R. 8729.

TITLE III—THE AIRCRAFT NOISE ABATEMENT PROGRAM

We now turn to title III of S. 3064, which presumably is intended to promote noise reduction at the source—the aircraft. While we understand this portion of the bill was introduced for discussion purposes, the National League of Cities and the National Association of Counties are disappointed by the provisions and must oppose them. Basically, this is an airline-reequipment title, not a source-noise reduction program.

Let me expand our objections and offer an alternative approach which focuses on aircraft noise reduction.

First, section 303 provides loan guarantees for the replacement of aircraft which do not comply with FAR 36 regulations in effect on January 1, 1977. In short, a Federal incentive is offered the airlines to buy what they had to purchase anyway to meet the 1985 compliance deadline set by the FAA. Nothing in this bill encourages airlines to buy the quieter aircraft now available or proposed.

The National League of Cities and the National Association of Counties favor a quite different approach. Our policy calls for Federal incentives to aircraft operators to retrofit, re-engine, or replace aircraft which do not comply with the January 1, 1977, FAR 36 regulations only when the retrofitted, re-engined, or replacement aircraft will comply with the January 1, 1978, FAR 36 regulations.

Further, the league and the association believe this incentive should come in the form of a substantial direct payment to the airline for the cost of retrofitting, re-engining, or replacement, with those funds coming initially from the airport and airway development trust fund or a similar financing mechanism such as the provision in title III of H.R. 11986. The trust fund should then be replenished from trust fund revenues or the surcharges on airline tickets and airfreight waybills.

In short, the National League of Cities and the National Association of Counties favor the use of Federal incentives to assist aircraft operators only where the resulting aircraft meets stage 3 noise regulations. And, we submit, the incentive should be a cash payment substantial enough to encourage the aircraft operator to choose the quieter aircraft over competing alternatives.

Second, section 305 proposes to extend the deadline for two- and three-engine commercial jet aircraft to meet the January 1, 1977, FAR 36 regulations from January 1, 1985, until January 1, 1990, if the operator has entered into a binding contract by January 1,

1985, for the purchase of a replacement aircraft. We strongly oppose this extension of the compliance deadline. The FAA, after 7 years of rulemaking, determined that the 1985 deadline for compliance with the January 1, 1977, FAR 36 regulations was economically reasonable without Federal subsidy and technologically practical. No airline has filed suit against the FAA challenging the regulation as unreasonably or as an abuse of FAA's discretionary authority.

Many communities have begun noise planning in anticipation of a firm 1985 FAR 36 compliance. Any delay of this deadline will throw out this noise planning and impede local action to assist in solving airport and aircraft noise problems.

Further, extension of the noise deadline would tell noise-impacted citizens that the Federal Government is not willing to do all that it is technologically possible and economically reasonable to reduce aircraft noise. This will increase the militancy of people like those I represent and further impede the orderly development of air commerce.

The National League of Cities and the National Association of Counties propose, instead, that S. 3064 should adopt the 1985 deadline and prohibit any waiver of that deadline without further congressional action.

TITLE II—ADAP AUTHORIZATIONS

In the area of ADAP authorizations, cities and counties believe that the increased airport development funding levels contained in the bill should be approved. We recommend the total increases to $260 million for fiscal year 1979 because of the current grant backlog within FAA. Grants totaling $933 million, as of April 30, 1978, are awaiting approval. This figure is comprised of $720 million in air carrier and commuter airports and $213 million for general aviation airports.

We especially support increased ADAP authorizations for the fast-growing commuter segments of our airport system.

CONCLUSION

Let me close with a plea for congressional action to reduce airport and aircraft noise. We know aircraft noise presents a serious problem for the Nation's cities. It threatens the health of our people and disrupts our efforts to preserve residential neighborhoods. We need airport noise compatibility planning and programs like those suggested in title I of S. 3064, with the amendments we have suggested. And we need an aircraft noise abatement program which offers true cash incentives for the purchase of the quietest possible aircraft.

We urge your favorable consideration of this approach to a comprehensive program for airport and aircraft noise reduction.

The CHAIRMAN. Thank you very much, Mr. Rockenstein.

You testified that both the National League of Cities and the National Association of Counties support substituting the EPA administrator for the Secretary of Transportation for the purposes of establishing noise standards. How would the EPA Adminstrator be

able to weigh the safety considerations inherent in the establishment of such standards?

Mr. ROCKENSTEIN. Mr. Chairman, I think that we would use a method which has been suggested, in fact, by the House Government Operations Committee as a result of its oversight hearings, in a document, in fact, that I have with me; and that is, that those kinds of standards would be established, with one exception, that the safety matters would be reviewed by the FAA.

I think it clear that the EPA does not have that capacity, has never claimed that, and we would not put it in that position.

The CHAIRMAN. Well, you said "be reviewed by the FAA." Just simply a review, or would the FAA be able to establish mandatory safety standards, as you envision it? Or would that still be up to EPA?

Mr. ROCKENSTEIN. I guess I would have to go beyond what the policy statement of the National League of Cities is at this point and give you a rather personal viewpoint. I think that if the FAA had a strong safety objection that they should be in a position to go as far as vetoing the portion of the regulation. I have difficulty in the specific area we're talking about, seeing how there would be a safety consideration talking about a system for determining contours. That's simply a choice among the six seven—or maybe a dozen or a hundred, depending upon your viewpoint—competing systems, what are compatible or not compatible. There are no safety considerations there.

There could be that, once you get into the area of operations of an aircraft—I think clearly there the FAA has to be directly involved in the process.

The CHAIRMAN. Would the FAA have the authority, then, to overrule EPA in those situations?

Mr. ROCKENSTEIN. Again, from a personal viewpoint, for operational I would say yes. But the League's policy does not speak to that.

The CHAIRMAN. Don't you think that would really complicate the process, if you had EPA setting noise standards, then FAA having to make a determination as to whether that impacted on safety; and then if they made a determination, say, that impacted safety, therefore the safety standard would have to be met irrespective of the noise standards that had been established?

Mr. ROCKENSTEIN. No. I don't think the process would work in that manner. We're talking about a number of different options or ways that you might achieve a noise standard. From the viewpoint of the cities, in our dealing with the FAA, we have not found it receptive to attacking noise problems straight-on. That conclusion is one that the House Government Operations Committee confirmed in its report. They suggest—and we concur—that the basic noise parameters can be set by the Environmental Protection Agency, and that then the airlines and the airport operators can choose among the various options available to them; and that in most cases the only point where the FAA would have to become involved is on the question of operations. And that certainly is only one factor in the noise abatement question.

Other basic questions, like the source noise emission, I think that's clearly another optional way to solve the problem. And the

aircraft still has to be certified by the Federal Aviation Administration. I don't think that the safety problem presents itself there.

The CHAIRMAN. You stated your support for the $500 million contained in the House bill for title I programs of planning and land acquisitions, but that the amounts contained in the Senate bill, S. 3064, are insufficient. Apparently, the bills you are reading are different from the ones I am reading.

Are you aware that the amounts contained in title I of the Senate bill are identical to those contained in the House bill?

Mr. ROCKENSTEIN. I was not aware of that.

The CHAIRMAN. They are identical.

Mr. ROCKENSTEIN. If the final version is, I'm sorry, Senator. I must have been using a preliminary version. When I compared them, it came out $150 million lower.

The CHAIRMAN. You testified that subsections (c) and (d) of section 104 would prohibit a local airport operator from exercising control over the type of aircraft used at his airport, from implementing any preferential runway system, and from entering into agreements on flight procedures.

Again, apparently you're not reading S. 3064 correctly. Nothing in title I is mandatory, and local governments without approved plans retain their ability to designate noise attenuation procedures.

What language were you referring to that had you make that statement?

Mr. ROCKENSTEIN. Let me give you a specific example, and then turn to the language to which I'm referring, Senator. I'll give you the example from the Minneapolis-St. Paul International Airport in the three parts. My assumption is that that airport will enter into this procedure, since we've already worked with the EPA on the forerunner of that procedure, and my assumption is that we would present several major provisions as part of our proposed compatibility program.

One, it would be our preferential runway system, by which we are able to limit the number of aircraft that fly over the densely-populated, close-in residential neighborhoods which existed before the jet aircraft flew out of that airport. We would be diverting them over undeveloped areas where we have protected the land use from incompatible encroachment.

Second, we would be presenting a voluntary agreement that we have with all of the air carriers operating out of that airport on nighttime curfew, which limits the total number of operations into the airport.

Now, as I read this, if the Secretary of Transportation disapproves of that plan, our preferential runway system is no longer permitted and our voluntary agreement with the airlines is now illegal. and there is no language in there that if the program is submitted and is not approved, our existing programs which we already have are not threatened. It may not be that the language is clear on that point. I would say that it is ambiguous. But to us it is very important, if the Secretary of Transportation turns down a compatiblity program that we turn in, that we be allowed to retail what we already have in operation, and that our existing programs not be declared illegal by the Secretay's action.

I'm not suggesting that the bill——

The CHAIRMAN. Of course, the Secretary obviously has the primary responsibility of determining that it would provide for the continuation of safe flight operations. And in the language here, it's mandatory that the Secretary shall approve or disapprove any program submitted to him pursuant to subsection (a) within 180 days after it's received by him. And that the Secretary shall approve such program. It then goes on to specify under what conditions it should not be approved.

It seems to me to be quite clear there. I don't agree with your analysis as to the concern.

Mr. ROCKENSTEIN. Well, Senator, let us say that he decides not to approve that for any one of the reasons listed on page 7 of the draft that I have.

The CHAIRMAN. You're suggesting that if he makes a determination that it does not provide for the continuation of safe flight operations, you'd want to be able to go ahead and continue that kind of an operation anyway?

Mr. ROCKENSTEIN. All right, let's take that specifically. Let us assume that we submit a plan in four parts, and one of those is that we require a certain flight operation, which our report does not at the moment. We don't require any flight operations. We require certain use of the preferential runway system, if that is in accord with the FAA's regulation in the field.

Let's say that we added in, for our compatibility program and we want everybody to use the Northwest takeoff procedure. Let us assume—which I don't think will happen, because that's an approved procedure—that the Secretary thought that procedure wasn't safe, and so he knocked down the entire plan. Out the window would go our existing preferential runway system, which everybody agrees is safe. Out the window would go our voluntary curfew plan, which all the airlines have signed an agreement to. And the legal status of those would be questioned, and our existing efforts could be jeopardized.

We would like it made clear that the Secretary's disapproval of a given plan, or portion of it, does not eliminate existing programs where we already have agreements.

The CHAIRMAN. I think it's quite clear that it would not. He would disapprove the plan, but any existing procedures that you already have agreements on, that are operating, obviously would not be disapproved.

I'm also confused over your interpretation of title III of S. 3064, when you state that it will not provide a noise-reduction incentive. That's simply inaccurate. S. 3064 provides a loan guaranty only if the carrier is replacing a noncompliant aircraft with a compliant one, or for replacement of a compliant plane with a stage 3 aircraft. The bill maximizes incentives for replacement with the new technology aircraft beyond the present requirements of FAR 36. That was the purpose of the bill in the first place.

I'm not sure that we're talking about the same bill. And if we are, I wonder if you've really read that through carefully.

Mr. ROCKENSTEIN. Senator, I read that through very carefully. And I guess, from the standpoint of the National League and the National Association of Counties, our policy is that in fact, aircraft operating—the goal should be that all aircraft should meet stage 3.

And I guess the best way I can state our position is in the following way:

We don't believe that the airline operators should be given any particular Federal incentive to do what they're already required to do by FAR part 36, which is to meet these stage 1, stage 2 standards.

The CHAIRMAN. So you'd be opposed to the House bill, then, I take it, as well?

Mr. ROCKENSTEIN. We have opposed that portion of the House bill which gives incentives to stage 1. We strongly support the portion of your bill which gives incentives for stage 3 aircraft and the portion of the House bill which gives incentives for stage 3 aircraft.

The CHAIRMAN. I take it that that position is probably based on an agreement with me that a retrofit of existing two- and three-engine airplanes is not going to be perceivable to the people on the ground such as yourself that live under that flight pattern.

Mr. ROCKENSTEIN. Well, Senator, no. I'll try to explain that. It's based on our feeling that even the stage 2 and stage 1 FAR part 36 requirements for aircraft are insufficient to solve the noise problem for people who live under the runway.

Let me give you some examples from Minneapolis-St. Paul: Northwest Airlines has largely, in fact, converted its 727 fleet to complying aircraft by purchasing new aircraft which have the so-called SAM package. It's part of the new aircraft.

The CHAIRMAN. Is the noise really a problem up there right now?

Mr. ROCKENSTEIN. Yes, it is. And if you'd like to come block-walking with me in my ward, Senator, I can show you that it is No. 3, behind taxes and crime. And I consider that a serious problem.

The CHAIRMAN. I thought it was pretty quiet up around your airport now. I didn't realize that you were still having that kind of a noise problem.

Mr. ROCKENSTEIN. I would certainly like to have you come and spend a week in my house, Senator. I think you would see that there is a noise problem.

We are able to detect a difference—and I think most of my constituents are—between the 727's that Northwest flies in, which are all largely now replacement aircraft—they meet stage 2—and those which do not, principally those operated by United and Braniff, which have very few complying aircraft, flying into our airport. We are able to detect that.

There is a substantially greater difference to the DC–10, the L–1011, the 747. Those are the kinds of aircraft that people in my ward believe they can live with. Hence our position that the stage 3 aircraft is what we should be offering the Federal incentives for, and eventually all aircraft should meet stage 3.

We do not agree that the retrofit does not provide relief. We think it does, particularly when it's combined with the Northwest Airlines quiet EPR takeoff procedure. And Northwest has measued decibel reductions of 20 decibels, using the combination of a SAM aircraft and a cutback on takeoff. And we think that there is a substantial benefit to the retrofit.

But we wouldn't pay the airlines for it, we think, with Federal money. They are required to do that under the 1985 ruling. The FAA found that they had the money to do it.

The CHAIRMAN. Let's go back to that. You said "with Federal money." How do you define this as Federal money? This is a user's charge.

Mr. ROCKENSTEIN. I'm sorry, I should have used the phrase "Federal incentive." It is user money, but it's user money obtained either from the airport and airway development trust fund or an excise tax proposal. In that sense, it is a Federal incentive. This is not money that the airlines could tap without Federal action. That is our point, that that Federal incentive should be used only to buy stage 3 aircraft.

The CHAIRMAN. The airlines have got to get the money from someplace. You'll agree on that, wouldn't you? And if they don't get it from the ticket, then they've got to find some other mechanism either a loan guaranty or an excise tax, or some method of getting it, to achieve the end result.

Now, S. 3064 really encourages them to speed up this replacement process by acquisition of a stage 3 aircraft. This is not a band-aid nor a jerry kit to put on these airplanes now. Despite what you say, I think retrofit is not going to make any perceptible change.

And incidentally, I think Northwest is not as a result of retrofit of those airplanes, but as a result of them buying some of the new airplanes that are more compliant. Isn't that correct?

Mr. ROCKENSTEIN. They're buying a 727-200 advance, which has a SAM nacelle. Essentially, the only change from the noise configuration standpoint.

The CHAIRMAN. Senator Stevens?

Senator STEVENS. No, I don't have any questions. Thank you very much.

The CHAIRMAN. Thank you very much, gentlemen. I appreciate you being here.

[The statement follows:]

STATEMENT ON BEHALF OF THE NATIONAL ASSOCIATION OF COUNTIES

The National Association of Counties (NACo),[1] is pleased to present our views on S. 3064, the Airport and Aircraft Noise Reduction Act of 1978. County governments share your concerns with all aspects of the problems associated with aircraft noise. As you are aware, counties have a dual role to consider in addressing this important issue.

1. As airport operators, counties are responsible for maitaining the economic viability of local air service.

2. As local governments, counties are responsible for the health and welfare of our citizens.

Generally, NACo supports the intent of S. 3064. We know—in spite of several specific reservastions we have—that this legislation grew out of concerns you share with us in resolving aircraft noise problems.

Generally, NACo supports titles I (planning) and II (ADAP authorizations) of the bill. We recommend that title III (noise abatement measures) be repealed and the House aircraft retrofit proposal, financed by 2 percent excise tax on air service, be substituted.

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[1] The National Association of Counties is the only national organization representing county government in the United States. Through its membership, urban, suburban and rural counties join together to build effective, responsive county government.

The goals of the organization are to: Improve county governments; serve as the national spokesman for county governments; act as a liaison between the Nation's counties and other levels of government; and achieve public understanding of the role of counties in the Federal system.

We support increased funding for airport development, particularly air carrier and general aviation facilities. We oppose raising the local share for airport development projects from 10 to 20 percent in 1979 because of the tremendous backlog of grant request in FAA in relation to trust fund surpluses.

We strongly oppose extending aircraft noise compliance deadlines to 1990. Accurate noise planning will be impossible unless clear and definite compliance dates are assured. In addition NACo is concerned about how $20 billion as proposed in the legislation will be channeled and distributed to the airlines for noise control. Because of this uncertainty, NACo favors the 2-percent excise tax proposal contained in H.R. 11986.

NACo's specific comments and recommendations are as follows:

PLANNING

NACo supports an active and accelerated airport noise abatement process. To achieve this goal we agree with the need for the planning and implementation grant provisions of the bill. However, we have a number of problems with this process. The most significant is the need to tie implementation of airport noise abatement actions required by title 8 to actual achievement of stringent noise compliance dates set forth in Federal aviation regulation (FAR) part 36.

County experience with implementation of the Clean Air Act provides the scenario which could well occur under this proposed legislation which we oppose. The Clean Air Act imposed deadlines on auto manufacturers to install emission controls in new autos. It also required adoption and implementation of transportation control plans at the local level to restrict use of vehicles in areas with severe air pollution. Deadlines for the automobile industry to achieve the more stringent controls on emissions at the source—the auto engine—have been delayed repeatedly. But deadlines for local government to implement the transportation control plans have not been extended. As a result, we face the possibility of having to take drastic actions, such as turning back new industry, which would be unnecessary if the emissions were reduced at the source.

While we recognize the need to address the problems of residual noise that will exist even with less noisy aircraft engines, we want the responsibility shared properly among private and public bodies. Additionally, we cannot imagine a successful planning program without joint cooperation between airport operators and local governments. We need language which will assure the eligibility of local governments as well as airport operators for planning grants.

We are encouraged with the extent of sensitivity with which the bill handles the complex issues of intergovernmental powers involved in airport operations and solutions to the noise problem. However, if the Secretary of Transportation disapproves any noise plan, an appeal process should be available.

ESTABLISHMENT OF NOISE STANDARDS

The National Association of Counties believes that section 102 of the bill can be significantly strengthened if the Administrator of the Environmental Protection Agency (EPA) was given the authority to determine (1) noise measurement systems; (2) the impact on individuals; and (3) technical information to enable local governments to make their own decisions on which land uses are compatible with various noise levels.

The latter point differs somewhat from out earlier position of granting EPA authority to designate compatible land uses in relation to various noise levels. The purpose of this clarification is to distinguish between Federal designation of compatible land uses and the generation of noise data for use by local governments for the establishment of appropriate land uses.

We believe that the EPA should establish noise measuring methodologies and suggest standards for the protection of health. NACo strongly opposes such standards being translated by the Federal Government into compatible and noncompatible local land uses. In other words, EPA should provide affected and interested local governments with available noise measurement data so that local governments can establish minimum or more stringent land uses in and around airports. In this way, we believe the Federal Government can better assist local governments measure potentially dangerous aircraft noise levels and assist them in implementing appropriate land use controls.

ADAP AUTHORIZATIONS

NACo believes that the increase airport development funding levels contained in the bill should be approved. These increases totaling $260 million just for fiscal year 1979 should be approved because of the current grant request backlog within FAA.

Grants totaling $933 million as of April 30, 1978 are awaiting FAA approval. This figure is comprised of $720 million for air carrier and commuter airports and $213 million for general aviation airports. NACo especially supports increased ADAP authorizations for the fast growing commuter and general aviation segments of our airport system. As previously stated, NACo opposed raising the local share for airport development projects from 10 to 20 percent in 1979 because of the tremendous backlog of grant request to FAA in relation to trust fund surpluses.

SOURCE ABATEMENT

Concerning source abatement measures, our comments and recommendations focus on the following two major areas. First, elimination of required noise reduction for noncompliance aircraft through extension of compliance deadlines through 1990. Second, proposed $20 billion guaranteed Federal loan program for the airlines.

In reviewing the $20 billion loan guarantee aircraft replacement program, NACo believes that this proposal is based on two premises. (1) That retrofit of two and three engine aircraft provides inadequate noise reduction and (2) That the cost of retrofit would be expensive compared to minor noise reductions. NACo disagrees with these two premises and the bill's companion implementation program.

We do believe that the impact of retrofitting two and three engine aircraft will have a substantial impact on noise reduction. According to FAA estimates, these aircraft account for nearly 70 percent of the American air carrier fleet not meeting FAR part 36 requirements. Because of this, we are concerned that 75 percent of the air carrier airports in the country would not receive any noise reduction benefits until 12 years from now. NACo cannot support this delay. Delaying retrofitting for two and three engine aircraft would subject millions of already noise-impacted Americans to continued higher than necessary noise levels for 7 additional years.

In the second premise, that of excessive cost, we find that the cost of retrofitting the entire nonconforming two and three engine aircraft fleet is truly modest relative to potential noise benefits and the number of communities receiving relief. According to the airport operators council international, total retrofitting costs would not exceed $300 million—this averages out of $6.28 per landing of takeoff per retrofitted aircraft through the 1980's. The operating cost of an average haul B–727 flight is about $1,300; increased operating costs resulting from retrofit will be less than 1 percent, therefore, NACo concludes that retrofit provides noise reduction at a reasonable and manageable cost, we urge adoption of this measure.

Concerning financing, NACo believes that Congress should clarify its intentions pertaining to the $20 billion aircraft replacement purchase proposal. NACo believes that financing should not be available to the airlines for aircraft fleet modernization aircraft. Aircraft replacement purchases should continue to be financed from airline resources. Furthermore, the extension of the noise compliance dates linked with the $20 billion guarantee loan program would make it extremely difficult to differentiate between aircraft acquired to meet the demands of noise rules as opposed to aircraft acquired for normal replacement.

In conclusion, NACo cannot support certain sections of S. 3064, especially title III. NACo strongly recommends that H.R. 8729 with NACo's suggested improvements to title I along with FAR part 36 compliance dates be adopted.

The CHAIRMAN. That concludes the hearings today. We will resume at 9:30 tomorrow morning.

[Whereupon, at 12:25 p.m., the hearings were recessed, to reconvene at 9:30 a.m. on June 14, 1978.]

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AIRCRAFT AND AIRPORT NOISE REDUCTION

WEDNESDAY, JUNE 14, 1978

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTE ON AVIATION,
Washington, D.C.

The subcommittee met at 9:40 a.m. in room 235, Russell Senate Office Building, Hon. Howard W. Cannon (chairman of the committee) presiding.

OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN. The committee will come to order.

This morning, we'll conclude the testimony on noise reduction legislation before the Aviation Subcommittee.

As I announced yesterday, there will be one additional day, Saturday, for the flyover demonstration at Dulles.

However, before we begin this morning, I want to respond to some criticism the subcommittee has received from the chairman of the Port Authority of New York and New Jersey, Mr. Alan Sagner. After showing up yesterday morning, unannounced, and requesting time to testify, Mr. Sagner left the hearing and informed the local press in New York and New Jersey that he was not permitted to testify before the subcommittee.

Despite his unusual procedure and as the record will show, I did call for testimony from Mr. Sagner as the witness to appear immediately after the first panel appeared yesterday morning, as I told him I would attempt to do. But he had, unfortunately, left the room, apparently to call some newspapers and press people.

The facts are that the New York and New Jersey Port Authority had already been represented by its director of aviation, Mr. Caesar Pattarni, who submitted testimony on behalf of the port authority, May 25, as part of the AOCI panel. Because of the lack of time available, the subcommittee has not permitted individual airlines or manufacturers or community organizations, States, or airport operators to testify individually, but we have requested that they provide testimony through their appropriate national organizations.

Considering that this requirement was applied evenly, that the New York and New Jersey Port Authority was represented, and that some patience on Mr. Sagner's part would have resulted in a second opportunity to testify, I find his publicity grandstanding at the expense of this committee unconscionable.

The first witness today will be Hon. Alfred E. Kahn, Chairman of the CAB, accompanied by Mr. Arthur Simms, assistant to the chairman.

STATEMENT OF HON. ALFRED E. KAHN, CHAIRMAN, CIVIL AERONAUTICS BOARD; ACCOMPANIED BY ARTHUR SIMMS, ASSISTANT TO THE CHAIRMAN

Mr. KAHN. Good morning, Senator Cannon.

The CHAIRMAN. You may proceed.

Mr. KAHN. I'll be very careful not to grab any publicity.

The CHAIRMAN. All right.

You know, situations like that annoy me, because I explained very carefully to this gentleman, that if he'd be patient and stand by, I'd try to work him in, despite the fact that he was not scheduled. And after we concluded the first panel yesterday, I called his name. There was no response. I called again, and I told the reporter to note that I had called for Mr. Sagner.

I had his statement before me and even responded to some misstatements he had in his testimony for the public record.

I resent that kind of approach. If we're going to try these hearing matters, we will do it in the hearing room and not before the press.

Now, you may proceed.

Mr. KAHN. I can't quarrel with that, Senator.

I'm very happy to appear before you. I'm going to present the views on behalf of the CAB on the question of financial assistance to the airlines to help to bring their aircraft into compliance with FAR part 36.

Incidentally, Senator, I'll try to summarize my remarks.

The CHAIRMAN. We'll make your prepared statement part of the record, in full, and you can summarize for us.

Mr. KAHN. Fine. I should point out that the views that I'm expressing are those of the CAB, only. OMB has not had time to coordinate this testimony with the executive agencies.

While most of my remarks will be directed to the general question of whether the carriers need any Government assistance at all, I will try to compare the merits of the several specific proposals that are before you. These proposals raise some obvious and very important policy questions:

Is Federal financial assistance to the air carriers necessary to achieve the objectives of part 36? Will failure to provide such assistance jeopardize the noise abatement program or the financial stability of the carriers and the rejuvenation of the aerospace industry? What effect will Federal assistance have on competition among the carriers? Will it encourage excess capacity? And if Congress decides to provide assistance, what form should it take?

I'm afraid, you'll discover, the Board has not been able to reach a decisive conclusion on the question of whether such assistance is necessary or desirable. And while I will end up expressing a preference for one of the proposals over the other two, in the event that Congress decides it wants to provide help, we will find it very difficult to predict how it's going to work out in practice, indeed, how much financial assistance it will actually end up providing.

I hope to demonstrate to you that that's not the result of stupidity on our part, but of the uncertainty of making predictions in a

very dynamic situation in which the industry now finds itself. I hope our analysis will be helpful to you.

Does the industry need help? As an economist, I have an initial bias against Government interference in the capital formation process. In a free economy, resources are allocated by the capital market. It's a very competitive market. It has imperfections, but it's also a very effective market. It's the best available mechanism we know for channeling capital funds into the most productive uses.

The inability of a particular firm to raise capital is usually a pretty good sympton that it cannot use the capital as productively as other firms. By the same token, if a firm has a sufficient demand for its goods or services and, therefore, takes in enough revenues to cover its full cost of production and to earn a return on investment at least equal to the cost of capital in the market, then it would usually be able to raise all the capital it needs without Government assistance.

I concede that there are occasions when the market doesn't work perfectly to provide sufficient capital for socially desirable ventures, and we will ask the question whether that may be true in this case.

But the general point I want to make first is simply that when the Government intervenes in that process of allocating capital, it runs the risk of misallocating resources, of making available capital to certain firms, capital that could be more productively employed in other sectors of the economy, and that, therefore, the Government ought to intervene in this way only where it can be demonstrated that it will help offset some of the distortions or is required to serve some special social purpose or to overcome incorrect perceptions of investors.

The airline industry may already be an outstanding example of the distorting effects of this kind of Government intervention in the capital allocation process. It has been one of the chief beneficiaries of the investment tax credit, for example. The reason for this is that the industry is able to use the credit up to the limit that is provided in the law, but, in addition, it obtains the benefit of the credit received from the owner-lessors, of the very large numbers of aircraft that they lease—over 25 percent of their fleets. In other words, they can avail themselves up to the legal limit of the credit against the tax on the planes that they own themselves.

Then, in addition, they benefit by the flowthrough of the investment tax credit in the lease or rental charges on the very large number of craft they lease to others.

In addition, when we regulate airline fares, we are prohibited from taking that investment tax credit into account.

Now, I don't mean to suggest that the result of this is that the airline companies as a whole earn and retain super-normal profits. On the contrary, they are under very considerable pressure to compete those profits away, if not by reducing their prices, then by increasing their scheduling and competing in other cost-inflating ways.

Still, to the extent that this industry benefits by these tax preferences, it means that it is enabled by them to engage in a greater

total amount of investment, to acquire a greater margin of excess capacity than other industries, generally.

Moreover, as you probably know, the economic regulation provisions of the Federal Aviation Act have, in the past, been perceived by investors as providing some unusual degree of protection to their investment. So, that, again, has tended to encourage the flow of capital into this industry.

And so I don't think it was entirely a coincidence that this industry has been plagued, in the past, with massive excess capacity over a protracted period of time.

Now, I realize that there were many factors that contributed to that—the wide-bodied jet revolution, for example; overoptimistic projections of travel growth in the late 1960's and early 1970's. The fact remains that the airline industry has, in the past, been a "beneficiary," and I put that term in quotes, of Government assistance in raising more capital than it could productively and profitably employ.

The question remains: Will they be able to comply with part 36 without Government help?

The House Public Works Committee concluded in the negative. But as we look through that record, there's very little in that record to support that conclusion, except bare assertions by the carriers and a few lenders.

Besides, the economic health of the industry has improved markedly since those hearings, and those hearings in the House were concluded over a year ago. For the trunks, total net income for the 12 months ending March 31, 1978, were 49 percent higher than the corresponding figure the year before. Largely because of these sharply improved earnings, the carriers have made very great strides in reducing their debt/equity ratios. The percentage of long-term debt to their total invested capital has gone down in just 2 years, from 56.4 percent to 43.6 percent. It's a very sharp improvement.

In addition, they have stepped up rapidly their commitments for new aircraft. The trunks and the locals reported property acquisitions of $766 million in 1976, $1.1 billion in 1977; and they project $1.8 billion for 1978.

And if you read the trade press, you'll recognize that there is a general belief now that the outlook for the aerospace industry has very sharply improved. And I supply you with some quotations to that effect.

The people who are pessimistic about the ability of the industry to raise the capital it needs through 1985 stress a spotty earnings history. The history certainly cannot be ignored. Investors won't ignore it. There is not doubt that, by any reasonable standards, the industry's earnings during the past decade were poor. This has been one of the least profitable industries in the economy.

The Board set a standard of 12 percent return on investment as reasonable, a few years ago. As compared with that, in the decade 1968 through 1977, the trunks earned only 5.8 percent, and, in fact, that's pulled up by the very good returns of 1976 and 1977. If you take 1968 through 1975, they earned only 4.9 percent—certainly nothing to write home about.

This poor showing has been blamed, in part, on the unwillingness of the Board to grant sufficient fare relief. I believe, however, that the underlying reason was the more fundamental one to which I have already alluded. In the late 1960's, the carriers, as a whole, invested in far more capacity than proved to be needed. Given the competitive structure of the industry, there was probably no way in which they could have achieved acceptable earnings, so long as that severe overcapacity persisted. Nor should they have.

The low earnings were part of a painful but healthy adjustment process through which demand was brought into line with capacity. It would have been quite wrong for the Board to have granted fare increases sufficient to compensate the companies for the cost of excess capacity. In fact, it probably would have been futile to try to increase fares enough to do that, any more than it is good for the economy for companies to react to declining sales by raising their prices.

The assessment by the capital markets during that period that the airlines industry should not receive additional capital was the correct assessment. It didn't need additional capital.

But, of course, investors commit their capital, not on the basis of past earnings, but on the basis of their estimate of future prospects. And the important fact is that demand is now clearly catching up. Indeed, we're beginning to experience shortages. The load factors of the trunk carriers, which had plunged as low as 48.7 percent in 1971, were nearly 58 percent during the first quarter of 1978. And that was an increase of more than 4 percentage points from the first quarter in 1977. And I should observe that that's the off-peak period.

Their load factors are now running well above the 58 percent level. For exactly that reason, the trunk industry's profits have recovered sharply: Return on investment is now close to 12 percent. That's on an annual basis. I think every evidence is that it's running well above 12 percent on a current basis. And that means returns on equity on the order of 16 percent are now even higher.

This earnings improvement has reflected itself, as I observed, in substantial improvement in the financial condition.

I've already referred to the sharp decline in their debt-to-equity ratios.

As a result of these various trends, the views of the investment community toward airline securities, although surely still tentative, are clearly changing. Investment analysts are recommending the purchase of securities of at least some companies, including some who, just a short time ago, were teetering on the edge of bankruptcy.

I'd like to turn, very briefly, to the question—somewhat more specifically—to the question of what kind of return the industry needs to achieve its capital needs. And second, what are the prospects of achieving it.

Needless to say, there's a good deal of speculativeness in these estimates.

There have been a number of studies of the return on investment that the industry needs to finance its requirements up through 1985. It's remarkable how closely all come to about 10 percent return on investment.

In my written testimony, I cite a study by the Boeing Co., which concludes that 9 to 10 percent on investment will suffice. Another one, by Donaldson, Lufkin & Jenrette Securities Corp., which ends up—it's something like a 9 percent return for most carriers, but that 11 percent, it points out, would be ample and could result in substantial further reductions in debt-equity ratios.

There's a study by the Board's own Bureau of Accounts and Statistics which says 8 percent is the minimum threshold level. But it does recognize that that would make it very hard for some companies.

The ATA, not surprisingly, comes up with the highest estimate, of 12 percent. But if you use the ATA's own figures, they show that at 12 percent the industry could generate almost all of its needs internally, and there's really no reason for the industry not to rely upon—and to supplement its needs, in part, by—internal financing.

So, we have a variety of estimates, ranging between 8 percent on the very low side, and 11 percent—or if you want to include the ATA study, 12 percent—on the high side, as to what the industry would need through 1985.

Next, what is the likelihood that it will achieve these earnings? Of course, we can't be certain. The CAB is, of course, obliged to permit the companies to charge just and resonable rates, which means, by definition, rates giving them returns high enough to enable them to raise the capital they need.

In 1971, after a very long hearing, the Board set 12 percent as the long-term return on investment for domestic purposes. The carriers have not asked for a review of that figure, and in view of the fact that all of the studies that I've cited give you something in the reasonable range of 9 to 11 percent, it seems perfectly clear that 12 percent is at least adequate, provided they earn it.

This is additionally so because, as I've already pointed out, the airlines also enjoy large benefits from the investment tax credit, and, by law, we can't take those into account. In 1977, those credits added no less than 2.6 percentage points to their return on investment.

The problem is, however, that this is not a monopoly. This is not a monopolistic public utility. Even electric, gas, communications companies fell short during the early 1970's on these so-called allowed rates of return. But the airline industry fell even further short because of its competitive nature. And also because of its competitive nature, the dispersion of the different companies around the average was very wide, indeed. I mentioned the 5.8 percent return, rather than the 12 percent return, in the 1968 to 1977 period. However, if you take individual companies, take the trunks, the lowest one, Pan Am, earned only 3.6 percent. The highest one, Delta, earned 12.8 percent. So, you have very wide variations around that.

So, the return that the industry realizes, and even moreso the return enjoyed by individual companies, is inevitably heavily dependent upon market conditions and will vary widely.

The most important reason, by far, why these returns were so far below the standard was that the industry was carrying this unacceptably high burden of excess capacity.

Given the competitive character of the industry, there was simply no way that it could have earned 12 percent or anything like it during this period.

But just as it is true of any competitive industry that, during periods of excess capacity, profits will be subnormal as a result of either price-cutting or service competition or simply because demand is inadequate to generate sufficient revenues to cover its heavy fixed costs, so competitive industries earn very high returns when demand recovers, as capacity becomes comparatively short.

Here again, the airlines are no exception. As I pointed out, capacity is now becoming tight. Load factors have been rising very, very sharply. The 12-percent-return standard that the Board applies is not an absolute limit. It does not prevent the industry from earning markedly more than 12 percent. That's on total investment capital. That means 16 percent and above on equity. That will enable them to make up for the lean years of the early 1970's.

The point is that we permit them to charge fares for standard service at the cost of providing it, including 12 percent, at a 55-percent load factor. What that means, then, is that if their load factors get above 55 percent, they can earn much more than 12 percent. And the investment tax credit can be added to that.

And, of course, since I've come to the Board, we have moved to use the projected costs, so that the costs that apply are not some in the past, but they are reasonably realistic for the period in which the rates are actually in effect.

So there is reason to believe that the market recovery will continue and highly satisfactory returns will continue during the next decade. Consider, for example, the long lead time that is needed to add equipment to their fleets. Consider the fact that the investment community is going to be cautious about financing another profitless capacity war, and that the airline industry itself is likely to be cautious on the basis of its unsatisfactory experience in the preceding decade.

What we have seen, therefore, during the last 10 years and are seeing today, and I believe are likely to see in the future, is a successful functioning of the market process. When capacity is plentiful or excessive, returns are low, even if you have protective regulation, and the ability to attract capital is low. But the need for capital is low. When demand catches up and capacity becomes light, return increases sharply. With that, the ability to raise capital rises sharply, just at the time when the need to raise capital has increased.

I think one could predict with reasonable confidence that this process will work, even when the need for capital is imposed not by the normal operations of the market, but by the imposition of additional Government requirements, such a FAR 36. If, in the short run, some companies are unable immediately to raise the required amounts of capital, their useable capacities will shrink relative to demand; their load factors will go up; their average yields will go up automatically as they sell less discount fares and fill more of their seats with regular fares; and therefore, their realized rates of returns and ability to mobilize the necessary financing will go up. And since it is the function of the capital market to supply funds on the basis of anticipations and expecta-

tions of future profits, I see no inherent reason why this process need not operate effectively.

So my best judgment is that the airline industry as a whole will be able to meet its capital requirements during the next decade without financial assistance. And if returns fall below the necessary levels, it will almost certainly be because demand has failed to increase as much as expected. As a result, capital requirements will be correspondingly limited.

My best judgment, therefore, is that special financial assistance from the Federal Government is probably not only unnecessary, but undesirable, because it will tend to distort the market process.

But as you know, every economist has two hats. I've just given you one of them. I'm going to give you the other hat. I can think of at least three reasons why Congress might feel, legitimately, that it should try to help the industry out.

First of all, it's a simple fact that all predictions like this are risky, and particularly when applied to an industry as dynamic as the airlines, and as subject to the vagaries of economic regulation.

The second thing is that a significant portion of this need for capital has been imposed by the Government to meet the new noise standards. Therefore, it does not arise automatically out of the relationship between fluctuating demand and capacity, the kind of situation that I have described as tending automatically to solve itself by adapting the profits realized to the need for capital.

So you have a kind of an artificial factor here, rather than one that arises out of the recovery of demand, which automatically generates profits, and also the need for capacity, but also the ability to finance it.

Third, this industry is only now emerging from a protectionist cocoon. It happens to be emerging at very propitious time, when the increase in demand, if maintained, will virtually insure its prosperity. In this sense, the burden of complying with FAR 36 could hardly have been imposed at a better time in terms of the probable ability of the industry to handle it.

The fact remains, however, particularly if the economy moves into a recession, that there is an element of additional insecurity and uncertainty for both the industry and capital markets created by the process of regulatory reform itself.

It would not be unreasonable for Congress to feel, in these circumstances, the desire to provide some added measure of assistance and security to ease the transition. This is particularly true in consideration of the fact that the introduction of competition and of FAR 36 will undoubtedly have quite widely varying effects on the fortunes of different individual carriers. Some of them have efficiently integrated route systems, energetic and capable management—don't ask me to identify the ones that don't—good earning histories, low debt ratios, high interest coverage, and perhaps even relativiely new aircraft fleets, a relatively large proportion of which already meet the noise standards. And those companies will be in a good position to adjust to these new developments.

Others will, in greater or lesser degree, be in the opposite situation, and will find the added burdens of FAR 36 troublesome, perhaps highly troublesome, in a period in which they are already being forced to adjust to sharply-intensified competition.

I think it would be understandable if Congress felt a sense of responsibility for the carriers for whom FAR 36 means retrofitting or replacing large portions of their fleet, and who may at the same time be in a comparatively disadvantageous financial position to face the new world of regulatory reform.

Now, to come back a little bit to my original view: This need not be troublesome. It is a normal part of the functioning of the free enterprise system for more efficient carriers to take over a larger share of the market and for less efficient ones to lose out. I have no doubt in this particular case that if a gap is created by some carriers who are unable financially to meet the requirements of FAR 36, it will be filled by other carriers who are more favorably situated. In fact, I think that would be an evidence of an efficient functioning of the market if aircraft that the poor carriers cannot afford to retrofit were to be sold to others who are in a position to make the necessary changes. The public would probably be better served in the end.

There remains a risk, however, that achievement of the noise abatement goals by 1985 could itself be seriously compromised if compliance would cause severe financial hardship to one or more carriers; and that it might also jeopardize the entire program of regulatory reform. Financial assistance by the Federal Government could therefore reduce the likelihood of such unfavorable developments, and so might conceivably be the difference between success or failure in these programs.

I'm sorry that I don't have any special wisdom to offer you to resolve these conflicting considerations. As an economist, I continue to feel it would probably be better if Congress left the financing to the carriers and the financial institutions. This industry is apparently not overtaxed, as compared with others. I believe you have not had a compelling showing that it actually needs Federal assistance. If you give it and it is not needed, it will tend to allocate too many resources to this industry and produce excess capacity. To the extent that it is needed by some carriers and not by others, Federal assistance will tend to unofficially protect the market position of inefficient suppliers and slow down replacement by more efficient ones.

But I could not say you are wrong if you decided to try to ease the transition. That's a political judgment, which is probably yours to make.

Suppose, then, if you do decide to help the carriers in some way, what are the possibilities of doing so? Well, there are three proposals before you, and I'm going to take a look at them and suggest a fourth.

The Javits bill would empower the Board to impose a noise reduction surcharge of up to 2 percent on airline tickets and freight bills for a period of up to 10 years. The revenues would go into a trust fund and the Board would then distribute them, in part or primarily on the basis of need of the various carriers.

Under the House bill, H.R. 8729, a portion of the excise tax that is not levied on passengers and shippers would in effect be transferred back to the carriers through a 5-year period, to be used solely for retrofit, re-engineering, or replacement.

The Cannon-Pearson bill would provide U.S.-guaranteed loans to air carriers for replacement of noisy aircraft.

Of these three bills, on balance, we would prefer the House bill. Senator, no offense, I trust.

Unlike the other two, the Javits bill would, in effect, require some carriers to subsidize others, and so that one is particularly objectionable to us. The funds would be raised on the basis of a revenue tax, but they would be distributed back on the basis of need. So it clearly opens the door to the possibility that carriers that have already purchased aircraft complying with FAR 36 will have to turn more dollars in to the fund than they get back, and carriers with large, noisy fleets will get back more than they or their customers put in.

We also object to the Javits bill because it would require time-consuming, complex administrative proceedings. It tells the Board that it must do all this in 1 year. But there's no assurance that the Board's actions will not be appealed, and the administration of the program could involve continuing litigation. And it seems to me even a 1-year delay could have a very dampening effect on carrier planning and financing.

For all these reasons, we are very much opposed to the Javits bill.

Between the other two, there are several reasons why we prefer the House over the Cannon-Pearson version. The most important one is that it simply represents less of an intrusion of Government into the capital formation process. The House bill would provide approximately $2.5 billion, nominally. I'll get back to the fact that I don't really know whether it's 2.5, 1.2, 0.8, or zero. But nominally, it would provide approximately $2.5 billion in the form of a rebate in the transportation tax.

So it would give the carriers additional cash flows beginning in the early stages of the equipment retrofit and replacement program when, presumably, they will need it most. Or at least it would appear they would need it. I'll explain later why I'm not sure.

In any event, the amounts represent a relatively small portion of the total financing needs, which run in the scores of billions or tens of billions, not 2.5. In contrast, the $20 billion guaranteed loan program provided for in the Cannon bill would cover the vast bulk of their external financing requirements through 1985 by making $20 billion of loans virtually risk-free. It would bypass the function of the capital markets of determining which firms and uses of funds deserve their confidence and which do not.

So, simply, No. 1, the Cannon bill is a more massive intrusion into the capital allocation process. Second, precisely because it does involve much larger amounts of capital, it seems to me the Senate bill involves a much greater interference with the competitive process.

Under both bills, there is a bias in favor of incumbent carriers, as compared to new carriers, because only the incumbents get the benefit; and, second, a bias in favor of incumbent carriers with a relatively large amount of noncomplying aircraft in their fleets, as compared with those incumbent carriers that need the help less, both because of their financial strength and because their fleets

are more modern. Both of them, therefore, involve discrimination in favor of established carriers over new ones, by enabling the former to buy their aircraft more cheaply than the latter. To this extent, both bills make entry into scheduled interstate air transportation by new firms more difficult.

It is worth pointing out that this discrimination works to the competitive handicap of some important intrastate carriers who have a lower percentage of noncomplying aircraft in their fleets than their CAB-certificated scheduled competitors.

But because of the greater size of the program involved, it seems to me that the Senate bill, then, is worse in this respect than the House.

Third, the House bill, I think, comports more fully with the sound economic proposition that the cost of mitigating injuries to the environment should be borne by the consumers of the service that imposes the injury, in this case the users of air transportation. The tax, of course, is levied directly upon the users of air transportation, and this is as it should be.

In the case of the Cannon-Pearson bill, however, the cost of the subsidy will, to some extent, be borne by others. I must remind you that there is no such thing as a free lunch, and if I hear another economist say it I'll throttle him. And Government-guaranteed loans are no exception. If they improve the ability of the airline companies to compete in capital markets, they make capital slightly less available to others, or they increase marginally the interest that the others must pay.

Specifically, to the extent that the U.S. Government-guaranteed loans compete in the market with U.S. Government debt, the effect of providing these guarantees will be to increase slightly the interest costs that are borne by U.S. taxpayers generally.

The House bill involves no such indirect subsidies to users of air transportation.

Finally—and this may have been your purpose—still, from my standpoint, I must point out that the proceeds of the tax that are made available under the House bill may be used for retrofitting or replacement, whereas the Cannon-Pearson bill's guarantees may be used ony for replacement.

Now, it seems to me that the latter biases the investment decision. Efficiency would require that the carriers make a calculation of the comparative costs and benefits of retrofitting existing airplanes or buying new ones. Now, if you provide the financial help only for the latter, then you've warped that decision inefficiently. Although, of course I recognize that that bias may have the purpose of providing a kind of subsidy to the aerospace industry, of which I have no particular opinion.

As I've already suggested several times, however, it really is extremely difficult to be certain how much of the refund to the carriers of the 2-percent ticket tax will really help them. Let me try to explain here, first simply, and then in a slightly more complicated way. I'll just do the simple one here and put the more complicated one in the record.

The House bill, in effect, transfers part of the existing excise tax to each carrier. It clearly contemplates, therefore, that their receipts will be about 2 percent higher than they would otherwise be.

But as we are moving to make air markets more and more competitive, and specifically competitive in price, it becomes highly questionable whether the carriers will in fact be able to keep the additional 2-percent revenues, even if they want to. What is to prevent them from competing it away, just as they might reasonably be expected to compete away a 2-percent reduction in their other costs of doing business?

Obviously, it might be in the interest of the carriers as a group to try to hang on to the 2 percent and use it to reequip their fleets. But some of them are stronger financially than others, and some of them are perfectly capable of raising the necessary capital either out of existing profits or by borrowing. They will clearly be in a position to reduce their rates and fares, and the others competing with them in the same markets will have no choice but to follow.

I've tried to spell it out in a somewhat more complicated way. But I think that's the commonsense of it.

I don't pretend by this very quick discussion to have given you a decisive appraisal of the extent to which the benefits of the House bill would in fact be dissipated and therefore not at all increase the ability of the carriers to reequip or replace their planes. I just want to warn you that the return of the 2 percent of revenues to the carriers that are now taxed—and they will be returned: You'll see the balance. Two percent will go back to them. But that will not be the whole story. How much of the benefit they will be able to retain is not at all clear.

Also, what they will be able to retain will undoubtedly vary from one market to the other. Carriers in competitive markets or in markets that may be threatened by competitive invasion are much more likely to see the dollars competed away. In monopolistic markets, by contrast, they may be able to hold on to a larger portion.

Incidentally, also, the likelihood that the carriers will compete away the proceeds from the ticket surcharge will depend on market conditions in the industry. If traffic falls off in the future while new equipment is being delivered and load factors decline as a result, the likelihood is that the 2 percent will be competed away. It's a very strong likelihood, if only the percentage of discount shares will rise relative to regular normal fares. Therefore, their yields will go down.

On the other hand, if, as is now the case, traffic is increasing more than capacity, then the companies will be in a position to charge the traveling public what the traffic will bear, and yields will rise automatically as the percentage of seats made available at discounts declines. In this last event, the carries will retain a substantial part, if not all, of the surcharge.

But notice the ironic way this works. Carriers will be in the best position to benefit from the return of the surcharge when they are already achieving very high load factors, when their earnings are high, and when, therefore, they don't need the additional revenues because they can raise the capital from the outside. Conversely, they are going to be least able to hold on to those dollars when load factors are declining, when earnings are falling, and when, therefore, in a sense they need the dollars the most.

Perhaps I should confess that these are rather confused ruminations. But they do reflect the inevitable uncertainty of the effectiveness of the House provision. They lead me to suggest rather hesitantly that the committee may wish to consider another arrangement if it wishes to be helpful, and that would be simply to reduce the present ticket tax by 2 percent.

The CHAIRMAN. To do what?

Mr. KAHN. Just reduce the tax by 2 percent. How much this exactly would help consumers, how much it would help the carriers, how much it would help the employees of the suppliers of raw materials to the carriers, is subject to the same uncertainties that I've already described.

But let me just give a simple example. If sales go up only 2 percent because the price has gone down 2 percent, then the elimination of the tax and the resulting reduction in the price to the public will mean no decline in the total revenues that the carriers take. The total price will go down 2 percent, sales go up 2 percent, which is not a very unrealistic estimate. The total amount paid in by the customers will be the same as before, and since the Government is no longer taking its 2 percent, the carriers will get every single dollar of the 2 percent.

It's only if demand were to be totally unresponsive, as the price goes down 2 percent, that the carriers would get no additional dollars. They would not be worse off, but consumers would just pocket the 2-percent saving. But if demand responds at all, the carriers will enjoy an increased cash flow.

Now, as I say, the uncertainties of this, how much it will help the carriers, are just as great as they are in the House bill. But I see some reasons why this simple expedient might be the most attractive of all. First of all, it's the simplest. Second, it would be the action most consistent with the fact that we're all worried about inflation. Just a 2-percent reduction in price, it's the most direct and obvious way of doing it. Third, it would be a direct way of recognizing what seems to be generally conceded, that the ADAP program does not need the 2 percent. Fourth, it would be a step in the direction of reducing Government interference in the market process. And fifth, which really returns to the first, it might be just as effective in accomplishing the congressional intention of providing more dollars to the carriers as the more complicated and cumbersome provisions in the other three bills.

Now, I do honestly mean it when I say I give you this suggestion with a great deal of hesitation. I must admit I have not had time to think it through as carefully as I would like. But it seems to me very appealing and most consistent with the general policies that we are pursuing in the CAB, and that we hope and expect Congress will soon endorse by passing one or another of the regulatory reform bills, namely, a reduction in Government interference in the operation of the free market in an industry in which it appears competition can be entirely effective in serving and protecting the public.

Thank you, sir.

The CHAIRMAN. Thank you very much, Mr. Chairman.

I first want to thank you for a very interesting statement. I believe the Board has done the best job of substantiating their position on this subject of anyone who's testified to date.

Of course, I realize the difficulty of providing facts about prospective profits and costs.

Your analysis of the industry's ability to meet its future capital needs is greatly different from that which we've heard from the airlines, manufacturers, the financial community, and the DOT.

Why do you believe that we should accept the Board's analysis over the views of these other groups?

Mr. KAHN. With typical academic caution, I said so many things that I could pick any one of them.

I can't tell you. You"ll have to look at the quality of the arguments.

Our whole espousal of making this industry more competitive, the whole notion of regulatory reform, is founded on the belief that this industry is capable of prospering just as well as any other industry without having special Government protection.

If we didn't believe that, we would insist on retaining the protectionist cocoon that the industry has been wrapped in for the last 40 years.

Industries out there, in the economy at large, do not have Government price control for the most part. They do not have Government restrictions on competition, and yet they manage to raise the capital that they need, by and large.

I don't see why, nor do most students of the industry who have studied this for many years, nor do all the congressional committees that have been through this whole issue for the last 5 years, see any reason why this industry can't raise the capital it needs.

In addition, I've cited what is in fact happening to the industry now. It would be only if you believed that there's a streak of insanity in these businessmen that will somehow induce them all to commit suicide if we have freedom in the market, that will somehow lead them all like lemmings to plunge over the cliff and pour billions of unneeded dollars into investments and markets and end up with the same kind of mess of overcapacity that they had in the late sixties.

It's only if you believe that there's something crazy about these people—by the way, my experience with them recently suggests maybe that's true.

Why should they need it? If they needed capital, why can't they raise it? And, as I say, read the investment analysts. Look what is happening to profit in the industry. Look at what's happening to load factors. I do point out that you can't be sure, and because it's a period of transition, I would never criticize Congress if they said, well, we're uncertain about it. We are, after all, exposing them to these costs, the noise abatement costs. After all, the House bill puts it on the travelers where it belongs.

So, I truly am not saying in an unqualified way, you're crazy if you do it. My best judgment is that it's unnecessary.

The CHAIRMAN. Well, you certainly presented a very interesting case in any event. I must say that had this kind of a presentation been made a year ago, I would have said there is absolutely no way

the industry could go out into the private financing market and carry their own financing.

But now I'm not entirely sure on that particular point. One of your suggestions is simply to reduce 2 percent of the ticket tax. But this approach wouldn't give the carriers any of that upfront money that they supposedly need.

This is the argument the carriers make to us as to why they prefer the House approach, because they need that upfront money in connection with the financial process. And, if they truly do, then I would think that the reduction on that 2 percent might certainly lead to the possibility of competing away that 2 percent as well in trying to increase their share of a particular market.

With that scenario then, the carriers are not going to able to achieve the purpose that we're trying to get them to achieve.

Mr. KAHN. Could I try it again in a different way, Senator? I'm not certain of this, but I know from talking to some of the people in the airline industry that they've not thought about this at all. At least the ones I've talked to. They see the 2 percent tax there. It's levied on the bills. The Government collects it, and it comes back to them.

And it will continue to be there, and that's what they see. So, they say, gee, the House bill clearly gives us that 2 percent. The fact is that any competitive industry and, you see, all you have to do is read the newspapers and see the signs of price competition all around you—there is absolutely no assurance that given $2 on each sale that they won't compete it away.

So, there's no assurance. Even though they get the 2 percent, the thing to which the 2 percent is added could go down. It doesn't do you any good if you've got $98, and there's a $2 tax on it. And then the Government gives you back the $2 tax. So, you think you've got 100, but then you add the $2 tax to a 96. You've competed away in that way.

You really have to look—and I'd like your staff to think about what is likely to happen when they get those additional $2—so, you can't be sure that a good deal of it won't be competed away.

Now, look at the other one, the one that I've suggested. The Government just says, we have been taking $2 off the top. We were charging $100. From now on we won't charge that. You've been collecting $98 before. You'll collect $98 now. OK?

There's nothing to compete away. There's no additional revenue there. It's only if you give them more, you'll reduce their costs, in effect, that they may compete it away.

But, second, you reduce the price from 100 to 98, because the Government isn't taking it. Now, if there's any response of the public, and the usual estimates are that there is, if not a 2 percent increase that you're going to get—the usual estimates are that you get 1½ or 1¾ percent increase in sales.

Then that will all be gravy to the carriers. That is to say, they will take in additional revenues, and they will end up, therefore, with a larger cash flow. It's only a question if it goes up from the 98 or it goes down from the 100. I honestly don't know. The best thinking I've done about it so far—I honestly don't know which one adds up to more.

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The CHAIRMAN. I think there's one factor that you haven't mentioned here that certainly plays a part in this, and that is the fact that you've got the financial institutions and the manufacturers of the equipment both on the outside looking in.

If the financial community can see that here is a $2 fee that's coming back to the carrier this makes their lending posture a little more desirable; and, it encourages the manufacturer by creating the possibility of making some sales.

Whereas, if there is merely an overall reduction in the ticket tax, then they look again at the airlines' profitability picture in the past and look what the carriers are likely to do in the future. They must ask themselves if they can safely sell this equipment to the carriers and the lender asks if they can safely provide them with a bigger line of credit?

It seems to me that's a carrot in there for the manufacturers and for the lending agencies as well.

What's your response to that?

Mr. KAHN. There's no question, Senator, that the 2 percent is more visible. In other words, under the House proposal, there it is. It's added to the bill. It's collected by the Government. It goes back to the carriers. And, to the extent that the lenders and investors look at it, they see that pool of money. They don't know what's happening to the rest of the money. You don't see that. That's why it's so difficult to predict.

So, I think you're right that the psychological effect, and it may be even the real effect, of the House is more secure. I do confess that.

All I really ever wanted to bring to your attention was the fact that even if you see that 2 percent, and it's graven in stone, there it is. You don't really know that they're going to be 2 percent better off, because there's a really very good chance that they'll give away part of the money.

The CHAIRMAN. Of course, there's an added factor on your approach. If we were to accept the tax reduction, presumably some carriers would justify a fare increase to meet the capital requirements necessary for FAR-36, and of course other carriers not having that requirement is placed in a preferred position competitionwise.

So, I think that's a posibility we have to look at very carefully, because we have, as you say, a situation where some carriers can go out and generate the capital required to do this particular job, but the job is not as big for some of those carriers who are in the best financial position.

Mr. KAHN. I think that's right. The only problem is again that just as it would be very hard for the Board to raise rates by 2 percent in order to present those additional dollars to the carriers, because some carriers don't need it. We're not going to force them to raise their rates.

They'll hold it down. Therefore, the others won't be able to object. But, by the same token, carriers who don't really need it, when we raise it elsewhere, when we give them the $2 back under the House plan, are very likely to use it to reduce prices and put the same pressures on the other carriers.

Nevertheless, Senator, I do agree that 2 percent is more visible, and if only cosmetically, it looks better. It looks as though the Government is really trying. And, possibly they'll keep some of it. That's the best I can do.

The CHAIRMAN. If your analysis of the effect of the 2 percent excise tax on net profits is correct, why is it that the airlines themselves are beating down the doors of Congress to try to get that?

Mr. KAHN. I don't know. The only airline people with whom I've discussed this, when I mentioned that they might reduce the other part of their take from 98 to 96, they came back to me and said, well, wait a minute. The 2 percent is still there.

And, I kept saying, yes; you're looking at the 2 percent, but you're ignoring the thing to which it is added. And, it appeared that they had never thought of it. Now, that's the only explanation I have, but there is the cosmetic effect, and maybe it would work. It is a definite gesture by the Government, and maybe some of the dollars would stay with it.

They can't be worse off.

The CHAIRMAN. My philosophical problem with your proposal is that by letting the market forces work their will, I'm afraid the quick and cheap fix provided by the retrofit would be maximized.

Now, you mentioned in your reference to my bill that this didn't encourage retrofit or re-engining, and that's true. It was specifically designed that way, because I, for one, happen to believe that the advantages of retrofit of the two- and three-engine airplanes are very, very minimal and will never achieve the result that they are designed to achieve, that is, satisfaction of the public living in and around airports after retrofit is completed.

So, my approach was specifically designed to encourage replacement by aircraft which would have a meaningful change in the noise quality and therefore satisfy some of these people in the long run.

Mr. KAHN. I have no quarrel with that at all, Senator. I've not studied that. I'm no expert with respect to the effectiveness of the two.

The CHAIRMAN. Now you criticized S. 3064 for financing only replacement since that distorted the investment decisions, and of course, as I said, it was intended so to do. It was intended to distort the investment decisions so that the carriers would go for replacement rather than for retrofit and re-engining.

But, the House bill provides more assistance for carriers buying new generation aircraft than FAR-36 stage 2 aircraft.

Mr. KAHN. Yes, it has that bias.

The CHAIRMAN. It also finances a greater percentage of the cost for retrofitting aircraft than for re-engining or buying new ones. Wouldn't these same criticisms about distortion of the investment process extend to the House bill?

Mr. KAHN. Yes, they would. I thought that they were less extreme, because the House bill did permit both, though in varying percentages. But, the one thing that I am not an expert on is the comparative effectiveness in meeting the noise limits of the two approaches, and—nor am I an expert on the question of whether we should do any retrofitting.

What are the benefits as compared with the costs?

The CHAIRMAN. By the way, I hope you have somebody from your staff out to witness this flyover Saturday, because I'm looking forward with interest to see what can actually be perceived.

Of the carriers' 1977 profits—approximately $700 million—$175 million came from the sale of used aircraft. Now, do the Board's projections for growth in the carriers' profitability include those profits?

Mr. KAHN. Do you know the answer to that?

You know Mr. Simms, I trust?

The CHAIRMAN. Yes.

Mr. SIMMS. We have not made a projection, an actual dollar projection of profits and revenues into the future. Normally we do not, but the carriers typically, when they replace aircraft, and sell aircraft, they typically have book profits on that. I would expect that will continue.

Mr. KAHN. Yes. The study that we did, and I suppose the studies that the others did—correct me if I'm wrong—all simply talked about what kind of a rate of return carriers would need. Those are the studies that gave you this range.

I'll leave out the 8 and talk about the 9 to 11. That, of course, would include whatever sources—now, given the inflation in aircraft costs, I'm inclined to agree with Mr. Simms that there's every reason to expect that we will continue to get for some substantial period of time these book profits as a result of selling aircraft.

There's a very thriving secondary market, as you know.

The CHAIRMAN. If the carriers compete away the 2 percent tax by lowering fares, would that create the same elasticity response by the public, that is increasing demand and hence increasing revenues to the carrier?

Mr. KAHN. Yes. There will be some elasticity response.

The CHAIRMAN. You indicated, I think, that that might be perhaps 1 to 1½ percent. Is there any rule of thumb that you could give us on that?

Mr. KAHN. Well, the Board has generally—these studies are very, very unreliable. But, the general figure that's been used is an elasticity of 0.7 as a kind of a bottom level, which means that if you have a 10 percent increase in price, you will over time get something like a 7 percent increase in sales.

That's why I said if you had something like a 2 percent increase in price—I used somthing like 1½ as the responsiveness of sales—but, you're quite right. But, to some extent, if you have that elasticity, then to the extent that you go down from $100—you see, my point was that you start with 100, you get back the 2, you end up with $98. And, immediately, you have an elasticity response.

If you start with 100 and then they begin to compete it away, you're down to 99, or whatever. You would get the elasticity response.

I wish I had time to think through the relative reliability in generating additional revenues.

The CHAIRMAN. We'd be glad to have you take that time and come back to us with your comments.

Mr. KAHN. OK.

The CHAIRMAN. Senator Stevens?

Senator STEVENS. That was my problem too, as I looked at your fourth suggestion, whether the existing and previous reductions that we've seen in the past year and the elasticity that's already been shown in demand, whether another 2 percent would really have that reaction that you think it would.

Mr. KAHN. Well, it's awfully difficult. People don't generally perceive the 2 percent change in price. It's usually rolled in with whatever else is happening in the industry. But, there's no reason to believe that over time, even though people don't see the difference between 96 and 98, that if we're talking about getting real price reductions in this industry as we are—we are, as you know, getting basic fare reduction of 35 and even 50 percent—there's no reason to believe that any 1 or 2 of those percents is less important than any other 1 or 2 of the percents.

Senator STEVENS. That's what I mean. But we're not talking about fare reductions now. We're talking about noise reduction. And, if we concentrate on noise reduction, I'm not sure that your fourth suggestion is directed towards that.

I think the Chairman's bill, particularly with the kind of equipment we're talking about here, is more inclined to bring about a meaningful reduction in noise.

Now, if we're looking at fare reduction, you're right. But, I don't think that I share his view. I'd like to see if you could crank out some kind of economic studies that show that another 2 percent reduction would in fact generate the additional revenue that could in fact lead to a meaningful noise reduction.

Let me ask a last question: that is, if we follow that approach, would that mean that the efficient, profitable airlines would in fact solve the noise problems by 1985 and the others wouldn't?

Mr. KAHN. I'm sorry. I didn't follow that.

Is it not a fact that the efficient airlines, if you want to go to replacement, you mean——

Senator STEVENS. The 2-percent reduction would generate additional revenue for those who are really efficient in operating and meeting demand.

I assume they would use their additional revenues to meet the requirements of part 36.

Mr. KAHN. That's what I anticipate.

Senator STEVENS. Those that are not so successful would not have additional revenues, and we'd face the question of what to do with them if they didn't meet the deadline.

Mr. KAHN. Yes. You're talking about my fourth proposal.

Senator STEVENS. That's right.

Mr. KAHN. I think that's right, but it may be equally true of the House bill. That's my point.

Senator STEVENS. What we're saying then, is that it's not equally true of the chairman's bill.

Mr. KAHN. No. There's no question that the chairman's bill would more realiably enable the carriers to raise $20 billion.

Senator STEVENS. To meet the noise problem.

Mr. KAHN. No question. There's no question in my mind. And if the chairman were to increase his bill to $40 billion, it would be even more reliable.

It is simply a question of a balance. And one of the reasons that I find my fourth proposal appealing, though you may be right that it will not as reliably produce the additional dollars, I'm not sure, but one of the reasons that I find it attractive is that it is a less intrusive way of the Government helping to say, we've been taxing you all this time. We're going to tax you less.

There's a general belief rampant in the United States today, as you're probably aware, that reducing taxes promotes growth and helps industries, as well as consumers.

I was proposing this reduction, not as a consumer-helping measure, but as the way of the Government getting its hand out of the till, leaving those dollars to be distributed between the public and the airline people.

No question, however, that the chairman's bill will, I think, more reliably provide the dollars than the House bill, or the proposal that I made.

Senator STEVENS. Thank you.

The CHAIRMAN. It would seem to me that your approach was directed more at encouraging the carrier to reduce fares, because there is an extra 2 percent. I think we've gone a long way down that road, as a result of the pressures of my bill and regulatory reform, and as the result of the very sensible actions taken by the Board, even without the legislation.

I think we've seen a lot of movement in fare reductions even to the point now that it's encouraged increased capacity, or it has encouraged increased passenger usage to the point that I tried yesterday to get a reservation out of here on the 30th of June, and I'm on standby.

So, you know, that's pretty good. There is that kind of a situation facing you. But if we really want to provide noise relief to some people, then it would seem to me that we've got to find an incentive that will accelerate the introduction of new technology aircraft. And if Congress makes the decision that this accelerated replacement is socially desirable, what, in your opinion, then, would be the best mechanism to provide a replacement incentive?

Mr. KAHN. I don't think there's any doubt, Senator, that if Congress feels that it wants to push the process of replacing aircraft with more efficient aircraft that will, at the same time, meet the noise standard, then it shouldn't give any money for retrofitting. It should give the money, the encouragements, only for the new.

My first question, of course, is are you sure that it requires additional incentive beyond the very great incentives that Congress already provides this industry, as well as all others, in the form of the investment tax credit, which is unusually beneficial to this industry because it doesn't have the problem of the ceiling, because it also gets the flow-through on its rentals.

So the first question to decide is, well, OK, we're providing incentives. Do we need to provide more?

The only reason I mentioned that is that, remember, there's only a little bit of capital available in the country. There's only a little bit of new equipment that can be created to the extent that we push faster by special congressional assistance to replace aircraft. And to that extent, all over the rest of the economy, even if you

can't see it, you know that it's happening. But all around the rest of the economy, there's slightly less new equipment being invested in.

Now that's all right. You may feel also, as I mentioned, that the aerospace industry is a national resource, very important for national defense, and therefore, we make a conscious decision that this deserves it.

But I quite agree that if you want push in that direction, and you've answered that question yes, then it would be wise to confine the assistance that you give, the dollars to be used, only for new installations.

By the way, that would have another benefit.

The CHAIRMAN. Or at least to give a preference for the new technology aircraft.

Mr. KAHN. No question.

The CHAIRMAN. Thank you very much. I appreciate you being here. You've been very helpful.

Mr. KAHN. Thank you.

[The statement follows:]

STATEMENT OF HON. ALFRED E. KAHN, CHAIRMAN, CIVIL AERONAUTICS BOARD

Chairman Cannon and members of the subcommittee, I am happy to appear before you today, to present the views of the Civil Aeronautics Board on the question of federal financial assistance to airline companies, to help them bring their aircraft fleets into compliance with FAR Part 36. While most of my remarks will be directed to the general question of whether the carriers need any governmental assistance at all. I will try also to compare the merits of the several specific proposals that are before you: Title III of S. 3064, which would provide this help through federal guarantees of loans for the purchase of the requisite equipment; Title III of H.R. 8729, which would impose a surcharge on airplane tickets and freight bills, the proceeds of which could be kept by the carriers for use in retrofitting, reenginning, or replacing aircraft—with a compensating reduction in the present transportation excise taxes, so as to keep the price of air transportation to the user unchanged; and S. 747, which would empower the Board itself to levy a surcharge of up to 2 percent and distribute the proceeds among the carriers for these purposes. We will also take the liberty of suggesting what might well be a simpler yet equally efficacious method of providing this help.

Before proceeding further, I should state that the views I will be expressing are the CAB's views only. OMB has not had time to coordinate this testimony with the executive agencies.

In addition to assisting carriers in complying with the noise abatement standards in Part 36, an ancillary purpose of these various bills is to encourage and help the carriers replace their existing fleets with new generation aircraft, which is expected also to be more fuel efficient and quieter than the present generation. An important fallout of this second objective would be stimulation of domestic aircraft production. Finally, there is, I suppose, at least an implicit consideration that it is particularly desirable to help the airline companies meet these governmentally imposed requirements because of the financial uncertainties to which they are being exposed by the increasingly intensive competition that we are introducing into their industry.

These proposals raise some very important and obvious policy questions. Is federal financal assistance to the air carriers necessary to achieve the objectives of Part 36? Will failure to provide such assistance jeopardize the noise abatement program, the financial stability of the carriers, the rejuvenation of the aerospace industry? What effect will federal assistance have on competition among the carriers? Will it encourage excess capacity? And if it is decided to provide financial assistance, what form should it take?

I am afraid, as you will soon discover, we have not been able to reach a decisive conclusion on the question of whether some such assistance is desirable; and while we will express a preference for one of the proposals over the other two, in the event Congress decides it wants to provide help, we will find it extremely difficult to predict how it would work out in practice, and, indeed, how much financial assistance it will actually end up providing. I hope to demonstrate to you that these

uncertainties of ours are a reflection not of ineptitude on our part, but of the inherent uncertainties and complexities of predictions about an industry that is in process of transition from comprehensive regulation to competition. In any event, however, I hope that our analysis, and even our explanation of why predictions are so difficult, will be of use to you in your deliberations.

DOES THE INDUSTRY NEED HELP?

As an economist, I have an initial bias against government interference in the capital formation process. In a free economy, resources are allocated by the capital market. With all its imperfections, the market is highly competitive; and it is probably the best available mechanism for channelling capital funds into their most productive uses. The inability of a particular firm or industry to raise capital in competition with all other applicants usually tells us that it cannot use the capital as productively as those others. By the same token, if the demand for the goods or services produced by a firm or industry is sufficient to provide revenues that cover the full costs of production, including a return on investment at least equal to the cost of capital, then it will usually be able to raise all the capital it needs and should have.

There are, of course, occasions when the market does not function adequately to provide sufficient capital for ventures that are socially desirable—whether because one important part of the benefits would flow not to the private investors but to society at large, or because investors have an exaggerated impression of the risks or an inadequate appreciation of the probable benefits. And I will be shortly addressing myself to the question of whether the situation we are considering today is one of those. But the general point I want to make first is, simply, that when the government intervenes in the capital allocation process, it does run the risk of misallocating resources—of making available to certain firms capital that could be more productively employed in other sectors of the economy; and that, therefore, the government ought to intervene in this way only where it can be demonstrated that it will help offset some other distortions, or is required to serve some special social purpose, or to overcome some incorrect perceptions of risk on the part of private investors.

The airline industry may already very well be a classic example of the distorting effects of this kind of government intervention in the capital allocation process. It has been one of the chief beneficiaries of investment tax credits. The reason for this is that the credit not only reduces the taxes that airline companies pay on net income, up to the legally-prescribed limit; they are able in addition to obtain the benefits of the credits received by the owner-lessors of the very large numbers of aircraft they lease—over 25 percent of the value of their present fleet—in the rental charges themselves, by means of a pass-through of part of those tax benefits to them. Moreover, in regulating airline fares, the CAB is prohibited by law from taking into account the investment tax credit that the carriers receive directly.

I do not mean to suggest that the airline companies as a result earn and retain supernormal profits after tax. On the contrary, they are under considerable pressure to compete any such profits away, if not by reducing their prices, then by increasing their scheduling and competing in other cost-inflating ways. Still, to the extent this industry benefits more than most from these tax preferences, this means that it is enabled by them to engage in a greater total level of investment and to acquire a greater margin of excess capacity than other industries generally.

Moreover, the economic regulation provisions of the Federal Aviation Act have, in the past, been perceived by investors as providing some greater degree of protection to their investments than was enjoyed by investments in unregulated enterprises.

I believe it was not entirely a coincidence, therefore, that the industry has also been plagued in the past with massive excess capacity over a protracted period of time. I realize that many other factors contributed in a major way to these problems—notably, the wide-bodied jet revolution, and over-optimistic projections of traffic growth in the late 1960's and early 1970's. The fact remains that the airline industry has in the past been the "beneficiary" (and I use that word in quotation marks) of government assistance in raising more capital than it could productively and profitably employ.

The question remains: Will the airlines be able to comply with Part 36 without government help? While the House Public Works Committee concluded in the negative, there is very little in the record developed before it and thus far before this Subcommittee to support that conclusion, beyond bare assertions to that effect by carriers and a few lenders. Moreover, the economic health of the industry has improved markedly since the hearings in the House were concluded over a year ago. For the trunks, total net income for the 12 months ending March 31 of this year

improved 49 percent over the same period last year. Largely because of these sharply improved earnings, the carriers have made great strides in reducing their debt-equity ratios. The percentage of long-term debt (exclusive of leases) to total invested capital—long-term debt and equity—stood on March 31 of this year at 43.6 percent, compared with 48.8 percent a year ago and 56.4 the year before that. In addition, there has been a rapid step-up in commitments for new aircraft. The trunks and locals reported property acquisitions of $766 million in 1976, $1.1 billion in 1977, and are projecting $1.8 billion for 1978. All of this has begun to be reflected in a much improved outlook for the aerospace industry. The May 11th issue of the Wall Street Journal reports that

"Boeing couldn't be flying higher. Its earnings and sales are soaring. Its lofty $6.8 billion backlog was raised this week with the biggest single order in commercial aviation history * * *.

"As airlines keep ordering new planes with assembly line regularity, Boeing expects the prosperity to continue for some time * * *.

"Its new family of planes, seating 180 to 210 passengers, is to be ready for marketing in the 1980's, to supply an expected strong market for replacement.

"Boeing isn't the only industry optimist. Both McDonald Douglas Corp. which makes the DC–9 and DC–10, and Lockheed Corp. maker of the L–1011, see better times, as airlines have started buying wide-bodied aeroplanes again."

The people who express pessimism over the ability of the industry to raise the capital it needs through 1985 stress its spotty earnings history. That history can certainly not be ignored: it will not be by investors. That the industry's earnings during the past decade were below any plausible standard of reasonableness is beyond debate: this has been one of the least profitable industries in our economy. As compared with the 12-percent return on investment standard that the Board has found reasonable, the weighted average corporate return for the trunks during the 10 years 1968 through 1977 was only 5.8 percent—and it was only 4.9 percent for 1968 through 1975 alone.

While this poor showing has been blamed on the unwillingness of the Board to grant sufficient fare relief, however, the underlying reason was the more fundamental one to which I have already alluded: in the late 1960's, the carriers as a whole invested in far more capacity than was needed. Given the competitive structure of the industry, there was probably no way they could have achieved acceptable earnings so long as the severe overcapacity persisted. Nor should they: the low earnings were part of a painful but healthy adjustment process through which capital was brought in line with sales. It would have been quite wrong for the Board to have granted fare increases sufficient to compensate the companies for the costs of excess capacity, any more than it is good for the economy for companies to react to declining sales by increasing their prices. The capital markets' assessment during that period that the airline industry should not be allocated additional capital was almost certainly the correct one: it did not need additional capital.

But investors, as you know, commit capital not on the basis of past earnings but on the basis of their estimate of future prospects. Of course, an industry with a poor earnings history has a tougher time convincing investors to part with their money, but it is ultimately the future that they care about; the past is relevant only to the extent that the investor perceives that circumstances will repeat themselves.

And the important fact is that demand is now clearly catching up to capacity, and, indeed, equipment shortages are beginning to appear. Trunk load factors, which had plunged as low as 48.7 percent in 1971, were nearly 58 percent during the first quarter of 1978, an increase of more than four percentage points from the first quarter of 1977. They are currently running well above that level. For exactly that reason, the trunk industry's profits have recovered sharply: return on investment is now close to 12 percent, and that means returns on equity on the order of 16 percent.

The earnings improvement has reflected itself in substantial improvement in the carriers' financial condition. I have already referred to the sharp decline in their debt to equity ratios. Correspondingly, their coverage of fixed charges has improved markedly: it ran at about 0.8 in 1970 and 1.1 in 1971; it was 1.5 in 1976 and 1.8 in 1977.

As a result of these various trends, the views of the investment community towards airline company securities, although surely still tentative, are clearly changing. Investment analysts are definitely recommending the purchase of securities of at least some companies, including companies who, but a short time ago, were teetering on the edge of bankruptcy.

We can be somewhat more precise in our attempts to answer the question of whether the carriers may now be in a position to finance their capital needs without

government assistance. To come to grips with this question, we must try to determine what return on investment the industry requires in order to meet its capital needs; and, second, what are the prospects of achieving it? Needless to say, there is a substantial margin of error in any answer to the first question, and a great deal of speculativeness in any answer to the second.

The industry does not, of course, need to meet all of its capital requirements out of earnings. But it does have to achieve an internal cash flow consisting of earnings, depreciation and deferred taxes sufficient to finance a substantial part of those requirements, and to provide the essential basis for attracting the external capital it needs to provide the rest.

There have been a number of studies of the return on investment needed by the industry to finance its requirements up to 1985. These generally suggest that actual returns on the order of 10 percent should suffice. For example, a study presented by the Boeing Airplane Company in April 1978 to the Airline Editors Forum, entitled "Airline Capital Formation and Boeing's New Airplane Family," concludes that the industry will need $50 billion of capital during the next 10 years, and that to meet this, it will have to earn 9 to 10 percent on investment. Another, prepared in June 1976 by Donaldson, Lufkin and Jenrette Securities Corporation, concluded that, at a 9 percent ROI, the financing burden should be manageable for most of the carriers, and that if the industry earned 11 percent, it could raise enough capital to enable it to finance all of the necessary aircraft acquisitions and, at the same time, substantially reduce overall debt/equity ratios.

It is important to bear in mind that at an average industry return of 10 percent, some companies will be extremely profitable and others only marginally so. For example, a study by the Board's own Bureau of Accounts and Statistics, issued in November 1976, concluded that a rate of return of 8.06 percent represented the minimum threshold level needed to finance $32.5 billion from 1977 through 1985. At this level, however, it emphasized, some carriers could face extreme difficulty in raising the capital they need, and that significant shifts in market shares would therefore probably occur from the poorer to the richer ones.

Not surprisingly, the study that produced the highest earnings requirement was one prepared by the Air Transport Association, entitled "The $60 Billion Question." ATA submitted it in the Department of Transportation's Part 36 rulemaking, but not at the hearings on H.R. 8729 or in hearings before this Subcommittee. To meet a projected capital requirement of $33 billion, it concluded that the industry would require a rate of return of 12 percent. But at that rate, according to ATA's own figures, the industry could meet its needs almost entirely with internally generated funds—a virtual concession that a lower level of earnings would suffice, since there is no reason for the industry not to supplement internal cash flows with a substantial amount of external financing.

So we have various estimates, ranging between 8 percent on the very low side and 11 percent (12 percent if you include the ATA study) on the high side, of the required return on investment needed for the industry to raise the capital it will need through 1985. What is the likelihood that it will in fact achieve these earnings under present and reasonably foreseeable regulatory policies, without the kind of additional federal assistance you are considering? It is of course impossible to be certain.

The Civil Aeronautics Board is, of course, obliged to permit airline companies to charge just and reasonable rates, which means, by definition, rates that provide returns high enough to enable them to raise the capital they need to give good service. This is true under the present Federal Aviation Act; it is equally true under the various regulatory reform bills now under consideration, and under any and all rational regulatory regimes. In 1971, after an extensive evidentiary hearing, the Board established 12 percent as the long-term return on investment standard for domestic fare purposes. The carriers have not sought review of that standard; in view of that fact, and in view of all the studies I have just cited, it seems reasonable to assume that the 12 percent is at least adequate—provided the carriers actually earn it.

This is additionally so because, as I have already observed, the airlines enjoy large benefits from investment tax credits; and by law, we cannot take these benefits into account. In 1977 these credits added no less than 2.6 percentage points to the trunk carriers' return on investment. So far as the law and the Board's nominal policy are concerned, therefore, the carriers are permitted to earn considerably more than the return on investment that would be required for them to meet their capital needs over the long run.

The problem is, however, that the air transport industry is not a monopolistic public utility. Even electric, gas, and communications companies have during the

last several years typically earned returns that fell markedly short of the levels that their regulatory commissions were nominally allowing them; but this has been even more true of the airline industry considered as a whole; and the dispersion around the nominally allowed return by individual companies has been very wide indeed. As I have already observed, during the period 1968 through 1977 the trunks earned not 12 percent, but only 5.8 percent on invested capital, even with the benefits of the investment tax credits. For the most profitable among them, the figure was 12.8 percent; for the least profitable, only 3.6 percent. The rate of return that the industry actually realizes, and even more so the return enjoyed by individual companies, is inevitably heavily dependent upon market conditions, and can therefore vary very widely from the standard used in rate setting.

As I have already explained, the most important reason, by far, why the industry's return has fallen so far below this standard during the last several years is that it has been carrying an unacceptably high burden of excess capacity. The policy or the Board has been to permit them to charge normal fares for domestic services at a level sufficient to provide the 12 percent return at a load factor of 55 percent, on the theory that it would be improper to try to force travellers to bear the costs of an even greater excess than is implied in the 55 percent standard; as a result, the excess capacity has depressed actual returns well below the 12 percent level.

It might appear, then, that the Board's policies must bear some responsibility for this poor earnings record: By applying the 55 percent load factor standard it prevented the carriers from setting their normal fares high enough to recover all their fixed costs. But there are several reasons, entirely apart from the injustice of trying to impose on customers the costs of this massive overinvestment, why this explanation of the problem would be misdirected. First, it is not at all clear that the market would have borne the burden: A regulatory agency cannot compel customers to use the services whose prices it sets. Higher prices could have so discouraged demand as to leave the carriers with no higher a return on investment than they actually earned.

Second, one returns to the basic fact of the competitive character of the industry. Excess capacity creates strong incentives on the part of its members to offer discount fares in an effort to fill some of the empty seats; the ceiling fare set by the Board is therefore not the average fare actually realized. The Board has historically tried to limit this kind of price competition to situations in which the offer of a discount was expected to generate enough additional traffic so as not to diminish the carriers' profitability. But even if that policy were universally successful, it could not prevent the carriers from competing additionally in various non-price ways—by additional scheduling, and the offer of various in-flight services and amenities.

In short, a more rapidly increased ceiling, raised in order to permit a fuller recovery of the costs of the excess capacity would in large measure—perhaps entirely—have been self-defeating: It would have discouraged the growth of demand to catch up with capacity, and the companies would have competed away some or all of the increased revenues, if not in price then in non-price, and especially scheduling competition.

But just as it is true of any competitive industry that, during periods of excess capacity, profits will be subnormal as a result of either price cutting or service competition, or simply because demand is inadequate to generate sufficient revenues to cover its heavy fixed costs at any acceptable level of prices, so also do competitive industries earn very high returns when demand recovers as capacity becomes comparatively short. And here again the airline industry is no exception. As I have previously observed, the industry is now moving into a period when capacity is on the tight side; load factors and earnings have therefore been rising rapidly over the past two years. The 12 percent return standard that the Board applies is not an absolute limit, and does not therefore prevent the industry from earning returns markedly above this level, to make up for the lean years of the early 1970's. We permit the carriers to charge fares for standard service at the cost of providing it at a 55 percent load factor—and, I should observe parenthetically, we are now using projected rather than past costs, precisely in order to insure that the maximum fares we set are reasonably related to the costs that will prevail at the time they are in effect. Just as the effect of applying this standard has been to disallow a portion of capacity costs when the industry fails to achieve the 55 percent standard—that is to say, in order to prevent fares from going up even higher in order to compensate for the industry's failure to reach a 55 percent load factor—so setting fares at the cost of providing service at a 55 percent load factor can result in returns markedly in excess of 12 percent when the carriers achieve higher load

factors than that. And the investment tax credit, and our legal inability to take its effects into account, permit actual returns after tax to be even higher than that.

There is reason to believe that the markedly recovering and highly satisfactory returns will indeed continue on into the next decade, given at least a moderate growth in traffic, and lead time needed to add new equipment to their fleets, the unwillingness of the investment community to finance another profitless capacity war, and the caution that airline managers may be expected to have learned from the unsatisfactory experience of the past decade.

What we have seen, therefore, during the last 10 years, are seeing today, and are likely to see in the future is a successful functioning of the market process. When capacity is plentiful, or excessive, returns are low, even under a regime of protective regulation, and the ability to attract capital is correspondingly low—but so is the need for capital. When demand catches up and capacity becomes tight, returns increase sharply, and with them the ability to raise capital, just at the time when the need to do so is similarly high. The process does not work perfectly—there can be serious lags in the perception of need, for example, and in the delivery of the required additional capacity, when it is needed; but all in all, it works very successfully in the economy at large; over the cycle, unregulated, highly competitive industries do manage to attract the capital that they require, as a general matter.

One may predict with reasonable confidence that this process will work even when the need for capital is imposed not by the normal operations of the market but by the imposition of additional governmental requirements, such as FAR-36. To the extent that carriers are unable immediately to raise the required additional amounts of capital, their usable capacity will shrink relative to demand, their load factors and average yields will rise automatically, and with them their realized rates of return and ability to mobilize the necessary financing. And since it is the function of the capital market to supply needed funds on the basis of anticipations and expectations of future profits, there is no inherent reason why this process need operate inefficiently.

THE CASE FOR FEDERAL ASSISTANCE

My best judgment, therefore, is that the airline industry as a whole will be able to meet its capital requirements during the next decade without financial assistance; and if returns fall below the necessary levels, it will almost certainly be because demand has filed to increase as much as expected, and as a result the capital requirements will be correspondingly diminished as well. My best judgment is, therefore, that special financial assistance from the Federal Government is probably not only unnecessary, but undesirable, because it will tend to distort the market process.

There are, however, at least three reasons why Congress may feel, legitimately, that it should try to help the industry out.

The first is the simple fact that all predictions like this are inevitably risky, and particularly when applied to an industry as dynamic as the airlines, and as subject to the vagaries of economic regulation.

The second reason is that a significant portion of the need for capital has itself been imposed by the government, to meet the new noise standards, and does not, therefore, arise automatically out of the relationship between fluctuating demand and capacity—a situation that, as I have described, tends automatically to solve itself by adapting the profits actually realized to the amount of capital required. When the need for capital is created not out of the fluctuations of demand relative to capacity, which produce the requisite fluctuations in profits, but is imposed from the outside, as it were, it is at least possible that the process of meeting it will be less simple and efficient than in the normal functioning of the market. Instead of capacity proving short and returns rising automatically, it might require the actual enforced retirement of aircraft that do not meet the new noise standard: only then, conceivably, could load factors and returns on the remaining investment rise sufficiently to make it easy for the necessary capital for conversion to be raised.

Third, this industry is only now emerging from a protectionist cocoon. It happens to be emerging at a very propitious time; when the increase in demand relative to capacity, if maintained, will virtually ensure its prosperity; in this sense, too, the burden of complying with FAR-36 could hardly have been imposed at a better time, in terms of the probable ability of the industry to handle it. The fact remains, particularly if the economy generally moves into a recession, that there is an element of additional insecurity and uncertainty, for both the industry and the capital markets, created by the process of regulatory reform itself. It would not be unreasonable for Congress to feel, in these circumstances, a desire to provide some added measure of assistance and security, to ease the transition.

This is particularly true in consideration of the fact that the introduction of competition, on the one hand, and imposition of the burden of meeting FA–36, on the other, will undoubtedly have quite varying effects on the fortunes of different individual carriers. Some of them have efficiently integrated route systems, energetic and capable management, good earning histories, low debt ratios, high interest coverage, and perhaps even relatively new aircraft fleets, a relatively large proportion of which already meet the noise standards, and will therefore be in a good position to adjust to these new developments. Others will, in greater or lesser degree, be in the opposite situation, and will find the added burdens of FAR–36 troublesome, perhaps highly troublesome, in a period in which they are already being forced to adjust to sharply intensified competition.

It would be understandable if Congress felt a sense of responsibility for the carriers for whom Part 36 means the retrofitting or replacing of large portions of their fleets, and who may at the same time be in a comparatively disadvantageous financial position to face the new world of regulatory reform. If the federal government provides no financial assistance, and the Department of Transportation does not grant waivers of Part 36 on the basis of financial hardship, there is a risk that the more poorly situated carriers will be unable to obtain sufficient financing to maintain their pre-existing market shares. This need not be troublesome. It is certainly a normal part of the functioning of a free enterprise system for more efficient carriers to take over larger shares of the market, and less efficient to lose out. There is no reason to doubt in this particular case that the gap created by the carriers unable financially to meet the requirements of Part 36 will be filled by others more favorably situated: it would be an evidence of an efficient functioning of the market if aircraft that the former cannot afford to retrofit were to be sold to others in a position to make the necessary changes: the public would probably be better served in the end.

There remains a risk, nevertheless, that achievement of the noise abatement goals by 1985 could itself be seriously compromised if compliance would cause severe financial hardship to one or more carriers. These pressures might be too strong to resist, if insistence upon adherence to the deadlines brought with it the risk of bankruptcies or cutbacks in operations which resulted in large-scale layoffs of employees. The same contingencies might similarly jeopardize the entire program of regulatory reform as well. Financial assistance by the federal government could therefore reduce the likelihood of such unfavorable developments, and in this way could conceivably mean the difference between success and failure of not only the noise abatement program, but of restoring this industry to the free enterprise system.

I do not have any special wisdom to offer, to help you resolve these conflicting considerations. As an economist, I continue to feel that it would probably be better if Congress would leave the financing to the carriers and financial institutions. This industry is apparently not overtaxed compared with others: if it were, this would constitute an economic case for giving it some offsetting relief here. I believe you have not had a compelling showing that the industry as a whole actually needs federal assistance. To the extent you give it, and it is not needed, it will tend to allocate too many resources to it and produce excess capacity. To the extent that it is needed by some carriers but not by others, it will tend artificially to protect the market position of inefficient suppliers, and slow down their replacement by more efficient ones.

On the other hand, I could not say you were wrong if you decided to try to ease the transition, the necessity for which has been created by the imposition of new requirements by the government and its withdrawal of protective regulation. This is a political judgment; it is properly yours to make.

THE CHOICE OF AMONG METHODS OF PROVIDING ASSISTANCE

Suppose, then, you do decide to try to help the carriers in some way or other to meet the requirements of Part 36. What are the possible ways of doing so?

There are three proposals before you, and I am going to suggest a fourth.

S. 747, the Javits bill, would empower the Board, after notice and hearing, to impose on airline tickets and freight bills a noise reduction surcharge of up to 2 percent, for a period up to ten years; the revenues would go into a trust fund and be distributed among the carriers in accordance with such methods as the Board develops, taking into account the amount of expense to be incurred by each "and such other factors the Board finds may cause a particular person's (carrier's) expense under this program to differ from the amount placed in the trust by that person."

Under the House Bill, H.R. 8729, a portion of the excise tax now levied on passengers and shippers would, in effect, be transferred back to each carrier for a 5-year period, to be used solely for retrofit, reengining, or replacement. The Cannon/Pearson bill, S. 3064, would provide U.S. government guaranteed loans to air carriers for replacement of noisy aircraft. Of these three bills, on balance we would prefer the House's.

Unlike the other two, S. 747 would in effect require some carriers to subsidize others. By instructing the Board to take into account the possibility that the surcharge revenues of some might fall short of the costs imposed on them, it clearly opens the door to the possibility that carriers that have already purchased aircraft complying with the Part 36 will have to turn more dollars into the fund than they get back, and carriers with large, noisy fleets, will get back more than they or their customers put in. We object to the Javits bill, also, because it would require time-consuming and complex administrative proceedings. Although it directs the Board to set up the program within one year after a petition filed under the Act, there can be no assurance that the Board's action will not be appealed, and that administration of the program would not involve continuing litigation. Even a one-year delay could have a dampening effect on carrier planning and financing because of the uncertainties it would create.

Between the other bills, there are several reasons why we prefer the House over the Cannon/Pearson version. The most important one is that it represents less of an intrusion into the capital formation process. It would provide approximately $2.5 billion in the form of a rebate of the transportation tax. It would thus give the carriers additional cash flows, commencing during the early stages of the equipment retrofit and replacement program, when presumably they will need it most. Or at least it would appear to give it to them: I'll explain presently why I am unsure about this. In any event, the amounts involved represent a relatively small portion of the companies' total financing needs. In contrast, the $20 billion guaranteed loan program provided for in the Cannon bill would cover the vast bulk of their external financing requirements through 1985 and beyond; by making $20 billion of loans virtually risk free, it would bypass the function of the capital markets of determining which firms and uses of funds deserve their confidence and which do not.

Second, because it does involve much larger amounts of capital—even though in the case of the House bill the capital itself is provided, whereas the Federal guarantee in the Cannon bill makes the much larger amount more readily available only for borrowing—it seems to me the Senate bill involves a much greater interference with the competitive process. Under both bills, the benefits flow only to existing carriers, with noncomplying aircraft in their fleets; and in both cases, it makes it easier for them to acquire the necessary new aircraft. Both of them, therefore, involve discrimination in favor of established carriers—who are helped to raise capital—over new ones, by enabling the former to buy their aircraft more cheaply than the latter. To this extent, both bills make entry into the scheduled interstate air transportation industry by new firms more difficult. It is worth noting that this discrimination works to the competitive handicap also of some important intrastate carriers, who have a lower percentage of noncomplying aircraft in their fleets than their CAB-certificated scheduled competitors; but because of the greater size of the program involved, it seems to me the Senate bill is worse in this respect than the House.

Third, the House bill comports more fully with the sound economic proposition that the costs of mitigating injuries to the environment should be borne by the consumers of the service that imposes those injuries—in this case the users of air transportation. The tax, the proceeds of which would under the House bill be made available to the airline companies to retrofit or replace their fleets, is borne directly by the users of air transportation, and that is as it should be. Of course the same thing would be true if the companies were to raise the necessary capital in the open market; in that event, the additional outlays to retrofit or acquire new planes would go into their rate bases, and a return on that additional investment capital would have to be incorporated in the rates they charge; under the House bill, to the extent it is effective, the users of air services put the dollars in up front, instead; but in either event, it is they who bear the burden.

In the case of the Cannon/Pearson bill, however, the cost of the subsidy will to some unmeasurable extent be borne by others. There is, I remind you, no such thing as a free lunch; and government-guaranteed loans are no exception. To the extent that they improve the ability of the airline companies to compete in capital markets, they make capital slightly less available to others, or increase marginally the interest that those others must pay. To the extent, specifically, that U.S. government-guaranteed loans compete in the market with direct U.S. government debt,

the effect of providing these guarantees will be to increase slightly the interest costs that are borne by U.S. tax payers generally. The House bill involves no such indirect subsidy to the users of air transportation.

Finally, the proceeds of the tax made available to the carriers under the House bill may be used for retrofit or replacement; the Cannon/Pearson bill's loan guarantees may be used only for replacement. It seems to me that the latter, therefore, biasses the investment decision. Efficiency would require that carriers compare the costs of retrofitting existing aircraft that do not meet the Part 36 standards, spread over their remaining life, with the net additional costs (less the savings in operatng costs) involved in buying totally new aircraft, and choose the least cost alternative. This I presume they would be free to do under the House bill. Under the Cannon/Pearson bill, however, that choice would be biassed by the fact that the loan guarantees would be available only for the latter choice; or, to put it in another way, that the interest costs of the necessary capital would be lower if the carriers chose to put that capital in new equipment than if they decided to use it for retrofitting.

I have already suggested several times, however, that it is really extremely difficult to be certain how much the refund to the carriers of the 2 percent ticket tax provided in the House bill will really help them. Let me try to explain, first simply, then in a slightly more complicated way.

The House bill, in effect, transfers part of the existing Transportation Excise Tax to each carrier. It clearly contemplates that their receipts would be approximately 2 percent higher than they would otherwise be. But as we are moving to make air transport markets more and more competitive, and specifically competitive in price, it becomes highly questionable whether the carriers will in fact be able to keep the 2 percent additional revenues even if they wanted to. What is to prevent them from competing it away, just as they might reasonably be expected to compete away a 2 percent reduction in their other costs of doing business?

Obviously it might be in the interest of the carriers, as a group, to try to hold on to the 2 percent and use it to reequip or replace their fleets. But some of them are stronger financially than others, and are perfectly capable of raising the necessary capital either out of existing profits or by borrowing; they will clearly be in a position to reduce their rates and fares; and others, competing with them in the same markets, will have no choice but to follow.

The question of who really pays for a newly levied tax is always a difficult one to answer. The government collects it; that is clear; and if it is an excise tax, it may appear clearly as an addition to the customers' bills. But whether the customers actually pay an equivalently larger number of dollars, or whether, or to what extent, the seller really absorbs the tax by reducing the other part of his price, or failing to increase it as much as he otherwise would, depends upon a host of circumstances that are easy to describe theoretically but difficult to predict in specific instances. Suppose, just to take a simple case, that demand for the taxed product is very elastic—very responsive to price increases—and supply very inelastic—very unresponsive to price decreases. Then an attempt on the part of an individual seller to add on the excise will result in a sharp decline in sales (because of the responsiveness of demand), and sellers, unwilling or unable to restrict supplies, will bid down the price to which the tax is added, and thus actually absorb it.

Moreover, this describes only what happens to gross revenues. Sellers, having absorbed the tax, may succeed in turn in cutting their wages—or give smaller increases than they would otherwise have given the next time around. So the incidence of the tax may ripple back in part to their employees, or to companies that supply them with raw materials, depending in turn upon the elasticity of their supply functions.

Under the House bill, the process would be reversed: instead of the imposition of a new tax, we have in effect a removal of an existing one. True, the 2 percent tax continues nominally to be levied, but it is returned to the sellers; so far as they are concerned, therefore, the dollars that they must collect from customers have dropped 2 percent. If, to take the same assumptions as we did with respect to the imposition of a new excise, the supply is quite inelastic, producers will not offer additional supplies even though the revenue that they keep has gone up, and the market price will therefore not be appreciably changed; just as before the suppliers absorbed the major part of the newly imposed tax, so now they would pocket the net additional revenues, as the House bill seems to contemplate. But if, instead, supply is relatively responsive, some producers will offer additional amounts, encouraged by their greater net revenues; and the more inelastic demand is, the more the result will be in a diminution in the total revenues (even though the 2 percent tax is still

explicitly included in it): the suppliers would, in effect, have competed away the benefit of the rebate.

I do not pretend by this very quick discussion to have given you any kind of decisive appraisal of the extent to which the benefits of the House bill would in fact be dissipated, and therefore not increase the ability of the carriers to reequip or replace their planes. My purpose is only to warn you that the return to the carriers of 2 percent of revenues that are now taxed will certainly not be the whole story; and how much of the benefit they will be able to retain is not at all clear. Moreover, what they will be able to retain will undoubtedly vary from one market to another: carriers in competitive markets, or in markets subject to competitive invasion, are much more likely to see the dollars competed away; carriers in monopolistic markets, in contrast, may be able to hold on to a larger portion of them.

Incidentally, also, the likelihood that the carriers will compete away the proceeds from the ticket surcharge will depend in addition on market conditions in the industry. In the event that traffic falls off in the future, while new equipment is being delivered, and load factors decline as a result, the likelihood, in an increasingly competitive industry, that the 2 percent will be competed away would seem to be very strong. On the other hand, if, as is now the case, traffic is increasing more than capacity, the companies will be in a position to charge the traveling public what the traffic will bear, and yields will rise automatically as the percentage of seats made available at discounts declines. In that event, the carriers would in effect retain a substantial part if not all of the returned surcharge. Observe the rather ironic result: carriers will be in the best position to benefit from the return of the surcharge when they are already achieving high load factors, when their earnings are high, and when, therefore, they do not need the additional revenues. Conversely, they are least likely to be able to retain those dollars when load factors are low or declining, when earnings are therefore falling, and when, therefore, in a sense they need the dollars the most.

These rather confused ruminations, reflecting as I believe they do the inevitable uncertainty about the effectiveness of the House provision, leads me to suggest that the Committee may wish to consider another arrangement, if it wishes to be helpful—and that would be simply to reduce the present ticket tax by 2 percent. How much exactly this would help consumers, how much the carriers, how much employees and suppliers of raw materials to the carriers is subject to the same uncertainties as I have already described. But if, for example, sales go up only 2 percent, elimination of the tax and the resulting reduction of the price to the public will mean no decline in the total revenues paid into the carriers—in which case, since the government is no longer siphoning off its 2 percent, the companies would pocket the entire reduction in taxes, in exactly the way intended. Only if demand is totally unresponsive will the companies receive no benefit, and consumers will simply pocket the tax savings. But if demand responds at all, the carriers will enjoy an increased cash flow.

Despite the fact that the uncertainties are just as great in this case as in the case of the House bill, it seems to me there are some reasons why this simple expedient might be the most attractive of all.

First of all, it would be the simplest possible way of helping.

Second, reduction in the ticket tax would be the course of action most directly consistent with our urgent national need to combat inflation, and in the most direct and obvious way.

Third, it would be the most direct way of recognizing the apparently general concession that the ADAP program does not need the 2 percent tax.

Fourth, it would be a step in the direction of reducing government interference with the market process.

And, fifth, to return to the first, it might be just as effective in accomplishing the congressional intention as the more complicated and cumbersome provisions in the other three bills.

I make this suggestion to you with a great deal of diffidence, because I must admit I have not had time to think it through as carefully as I would like. But it seems to me enormously appealing, and most consistent with the general policies that we are pursuing at the Civil Aeronautics Board, and that we hope Congress will soon endorse by passing one or another of the regulatory reform bills—namely, a reduction in government interference with the operation of the free market, in an industry in which it appears competition could be intirely effective in serving and protecting the public.

The CHAIRMAN. The next witness is Mr. Edward J. Driscoll, president of the NACA.

Senator STEVENS. Mr. Chairman, I'd like to state that I have looked at the statements of Mr. Driscoll and Mr. Healy. I'm sorry. I have to go to another committee to make quorum. I hope you'll excuse me.

The CHAIRMAN. Mr. Driscoll?

STATEMENT OF EDWARD J. DRISCOLL, PRESIDENT, NATIONAL AIR CARRIER ASSOCIATION, WASHINGTON, D.C.; ACCOMPANIED BY WILLIAM KEATING, VICE PRESIDENT, OPERATIONS, WORLD AIRWAYS; BRYCE COLCLASURE, VICE PRESIDENT, TECHNICAL SERVICES, TRANS-INTERNATIONAL AIRLINES; AND EARL TAWNEY, VICE PRESIDENT, REGULATORY AFFAIRS, EVERGREEN INTERNATIONAL AIRLINES

Mr. DRISCOLL. Mr. Chairman, I have with me this morning Mr. Bryce Colclasure on my left, who's vice president of technical services of Trans-International Airlines. Next to him is Mr. William Keating, vice president of flight operations of World. On my right, Mr. Earl Tawney, who's vice president of Evergreen.

I might also state that after having prepared this statement, Capitol International Airlines has said that they want to be associated with the statement.

Mr. Chairman, in the interest of time, I can read my statement much faster even than to summarize it. So with your permission, I'd like to proceed.

Mr. Chairman, and members of the committee, supplemental carriers, as you know, Mr. Chairman, operate many kinds of aircraft. These are the 747's, DC-10's, DC-9's, 8's, 727's, L-100's, L-188's, and Convair 580's.

Having reviewed the basic proposals contained in legislation pending before the Congress, we find the supplemental carrier position no different from that of the scheduled carriers as set forth in the statement by the president of the Air Transport Association of America, wherein he stated:

> On balance, looking at the advantages and disadvantages of the guaranteed loan proposals, the airlines have concluded that a program along the lines of that contemplated by the House is the better approach.

The House bill, H.R. 8729, provides financial mechanisms to make compliance through: One, retrofit; two, re-engining; three, acquiring replacement aircraft possible through the excise tax plan which that bill proposes.

Mr. Chairman, there is a specific problem which should be focused on in connection with the noise legislation, and that involves the DC-8 series 60 aircraft, which the supplemental carriers, along with others, operate.

As you know, and as almost everyone knows, the 60 series aircraft are very efficient aircraft among those currently in service. The stretched DC-8's are approximately equal in efficiency to the Boeing 747 and the Douglas DC-10.

Consequently, the airlines who operate them are faced with a real problem as to what to do in order to comply with FAR 36 and whatever noise legislation results from congressional action.

The noise legislation envisages compliance through three alternative methods: One, retrofit; two, re-engining; three, replacement of aircraft with new technology aircraft.

Unfortunately, no replacement aircraft for the DC–8 series 60 is available in comparable size and range.

Surely, one can say that the DC–10 and the 747, which meet the FAR 36 requirements, are available. But the capacity of these aircraft is 1½ to 2 times the capacity of the DC–8. Not only is the DC–8 series 60 one of the most efficient airplanes in use in our inventory and in many of the scheduled carrier inventories, in its cargo and convertible configuration, it is considered as an extremely desirable and a needed aircraft by the military airlift command, not only for peacetime, but more importantly, for emergency and wartime operations.

There are presently 42 DC–8 series 60 aircraft in the civil reserve air fleet program. These aircraft are operated by the Flying Tiger Line, Trans-International, World, Evergreen, Capitol, Seaboard World, Braniff, and Airlift International.

We have been advised by the military that there is a continuing requirement for these aircraft in the civil reserve airfleet in the foreseeable future.

As we understand it, notwithstanding the military program to modify existing passenger wide-bodied aircraft to make them cargo-capable, the DC–8's are still required in order to enable the military to meet requirements.

The only possible viable solution which has been advanced for the DC–8 series 60 aircraft is re-engining with either the Pratt & Whitney JT8D–209 engine and/or the General Electric CFM 56.

At this point in time, however, only general information is available to the air carriers regarding engine, the time frame for certificating the engine and for accomplishing the re-engining of the fleet of the series 60 aircraft, as well as the cost of accomplishing such re-engining.

We've had several of our highly qualified technical personnel reviewing whatever data is available and discussing generally the possibility of re-engining with the engine manufacturers.

From these discussions, we understand that there is a possibility that a special group will be put together and then proposals will be made to the airlines in the near future concerning the re-engining.

However, I would emphasize that to date we have received no specific proposal which would cover the guaranteed performance of the engine, would assure the continued efficiency of the aircraft, or any definitive cost proposal, so that we would be in a position to make a sound management decision.

We do understand that retrofit, at best, under the proposals that have been advanced to date, is marginal and may not provide a viable option as one of the three being considered.

Nevertheless, since additional work in this area will no doubt be done due to the impetus of the legislation, we wish to reserve any final position of our group with respect to retrofit until a later date.

Assuming, then, that a viable program for re-engining is proposed to us by the manufacturers which will provide a fuel efficient replacement engine, we'll continue the economics of the DC–8 as a low cost operating aircraft and such re-engining can be accomplished at a reasonable cost related to the remaining life of the

aircraft. Then the supplemental carriers would be in a position to move forward with such a program.

Absent, however, such a specific proposal which I have enumerated, and absent a viable retrofit program, the airlines face a severe dilemma, especially since the aircraft is a very efficient and economical aircraft and is still required by the military for the foreseeable future to meet emergency and wartime requirements.

In view of this rather unsettled state of affairs, we would hope that in your consideration of legislation, that you would insure that the Secretary of Transportation or the Administrator, has the utmost flexibility in approving waivers to the compliance requirements, based upon extenuating circumstances as appear to surround the DC–8 series 60.

So that if a sound re-engining program and/or sound retrofit program is not available either to meet the time frame, such will be extended. Or should a sound retrofit or re-engining program not be available at all, that provision be made so that the DC–8 series 60 aircraft would be granted a waiver for compliance until 1990.

Mr. Chairman, I wish to assure you that the supplemental carriers are very interested in the noise compliance legislation. They are interested in meeting noise standards as evidenced by their acquisition of 747's and DC–10's.

But we do not believe that additional acquisitions of the B–747's or the DC–10's is the answer at this point in time to the DC–8 series 60 dilemma.

We do, however, hope that you will appreciate that the supplementals, as extremely small carriers, require the same treatment as the scheduled carriers, that is, excise tax recoupment to cover the cost of retrofit replacement engines or replacement aircraft, as well as the necessity to continue the DC–8 aircraft in service under a waiver, if compliance programs, as I have enumerated, do not materialize.

I have previously introduced the technical personnel of the airlines that are with me, and we will be pleased to answer, or attempt to answer, any questions you may have.

Thank you.

The CHAIRMAN. Thank you very much, Mr. Driscoll. I can't provide much encouragement on your proposal to extend the compliance deadlines for the DC–8's. If there are any planes for which compliance should be mandatory, they're the DC–8's and 707's. They're the worst noise offenders in the fleet, as you know.

The manufacturers told us yesterday that substantial benefits can result from retrofitting the DC–8's. They also told us that the compliance deadlines could be met rather easily for both retrofit and re-engining of the DC–8's.

Why does your timetable vary so greatly from the manufacturers?

Mr. DRISCOLL. Sir, we have not been provided, actually, a timetable on re-engining. As I noted in my statement, that if we are given a good proposal, if it is cost-related we could go forward with that, I think Mr. Bryce Colclasure, who has been dealing with the manufacturers, can give you a more precise answer.

We're unable to definitize at this point the specific timetable. Bryce?

The CHAIRMAN. Before he starts, let me point out to you that we've explored this before with the manufacturers. You added that caveat related to the economic factors.

Now we certainly can't get into the issue of what the manufacturer is going to charge for this service and let that be the determinant. But in our previous testimony, we have the chart that shows, assuming a January 1, 1978, legislative decision, that the DC–8 retrofits could be accomplished early in 1981, and that the DC–8 re-engining could be accomplished in mid-1981.

Now if you slip that a full year to a January 1, 1979, decision, I would assume that your end timetable wouldn't be more than a year longer. That would still throw you into early 1982 for the retrofit and mid-1982 for the re-engining, which is far ahead of what the requirements are in existing law.

Furthermore, I point out that in my proposal, we do have a provision in there for the Secretary to waive the requirements under certain conditions.

Mr. DRISCOLL. Sir. I think he has some information with regard to precise estimated timetables.

Mr. COLCLASURE. We've been advised on the same estimated dates as you have. It's our considered opinion that retrofit will not meet the noise requirements or be so minimum that you cannot perceive the difference.

To us, re-engining appears to be the only way to introduce the new technology to the DC–8 airplane. That's the only viable solution to the noise problem. And the timetables you have are estimated timetables. They appear to be correct and would be within reason as far as an accomplishment time.

The engines do exist. The noises have been measured on them, and it would be a matter of getting the go-ahead to do the job.

We are completely disenchanted with retrofit. Re-engining appears to be the only way to meet the noise requirements as we see them.

The CHAIRMAN. As you know, I'm completely disenchanted with retrofit myself. And I would certainly hope that you would make the decision to re-engine.

But, if you were to make that managerial decision by January 1979, it would seem to me well within the time frame required of the present FAR 36.

Mr. COLCLASURE. If the present estimates we have are correct, we'd have two options. One is a little longer than the other.

The CHAIRMAN. The longer compliance route of course is the re-engining, and that would obviously take you to mid-1982, which still gives you quite a bit of leeway at the other end.

Mr. COLCLASURE. When I said two options, I had automatically discounted the retrofit. I meant two engine options.

The CHAIRMAN. Two engine options; yes.

Mr. COLCLASURE. We see no gain whatsover to the airplane with retrofit. It degrades the performance of the airplane, and to us it is not a reasonable approach to the problem; even though it's cheaper, it does not meet the noise requirements.

The CHAIRMAN. Retrofit adds some additional weight to fly around with no compensating rate of return.

Mr. COLCLASURE. That makes no sense whatsoever to us.

Mr. DRISCOLL. I think, Mr. Chairman, all we are saying in our testimony is that we recognize the engine replacement is there. It appears to be the viable option, but again we're saying that we will want to look at the proposal.

We're not trying to haggle on costs. We have heard cost figures proposed, and they vary greatly. However, from an economic standpoint, I think the airline must make a decision as to whether replacing the engine is a desirable alternative. And then again, it's when they do receive the specific proposals, as it's my understanding that a decision to go ahead with the re-engining of the airplanes has yet to be made.

It's also our understanding that there is a group attempting to be put together that will be known as the Canna Corp. and that a former official of Douglas will possibly head it. It has to be financed, a plan established, where the re-engining would take place.

We're looking forward to receiving some proposals on that, so they can be evaluated. But I must state that to date the airline chief executive officers advise that they have received no concrete proposal from any engine manufacturer on this problem.

The CHAIRMAN. In your testimony you said that the supplementals interest in meeting noise standards was evidenced by their acquisitions of 747's and DC–10's. You're not suggesting that you bought those airplanes simply to meet the noise standards?

Mr. DRISCOLL. No, sir. But, we did select those airplanes for that and other reasons. We did get airplanes that meet the noise standards. We didn't go out and buy additional 8's or 707's.

The CHAIRMAN. I'm sure you're aware of the reception that my proposal has received to date to extend the deadline for the smaller, quieter aircraft, the two- and three-engine aircraft. So, I'm wondering if you seriously believe there would be any possibility of getting an extension for one of the most noisy aircraft?

Mr. DRISCOLL. I acknowledge, sir, that it is a noisy airplane, but again, when you get into the problem of meeting defense requirement, and I did chat with the MAC people, asking what their requirements were in the future. They do state they have a need for that airplane, and I do suggest that if we did have a military emergency, it is required or would be required if we're to meet our requirements.

It would appear to me that there should be some provision made that under those circumstances, it being a viable national asset, the same as the military aircraft that are flying around today that will not meet the noise standards, that such a waiver would not only be desirable, but possible and should be possible.

The CHAIRMAN. I think if we go that route, we'd have to just simply provide that these aircraft could be used in case of a military emergency without meeting those requirements. I'm sure that that would be done at any rate.

You certainly couldn't get any extension, in my judgment, for the time required for compliance and continue to use them in your regular business. I just don't think that there's any possible chance of that.

Mr. DRISCOLL. They are being used today, sir, and would possibly be used in peacetime operations for the military.

The CHAIRMAN. I understand that, and you will still be able to use them up until 1985. Hopefully, you'll be in a position to buy some new replacements by that time to completely meet the requirements.

Well, thank you very much, gentlemen, we appreciate you being here with us and giving us the benefit of your views.

Mr. DRISCOLL. Thank you, sir.

The CHAIRMAN. The next witnesses are Prof. Paul M. Borsky of Columbia School of Public Health and Dr. W. Dixon Ward, professor at the Hearing Research Laboratory of the University of Minnesota, two leading experts in the field of human response to aircraft noise.

These witnesses were called by the committee to provide additional information on the potential effect of the retrofit.

STATEMENT OF PAUL N. BORSKY, PROFESSOR, COLUMBIA UNIVERSITY, SCHOOL OF PUBLIC HEALTH; ACCOMPANIED BY DR. W. DIXON WARD, PROFESSOR OF OTOLARYNGOLOGY, HEARING RESEARCH LABORATORY, UNIVERSITY OF MINNESOTA

Mr. BORSKY. I'm sorry I don't have any prepared statement, Senator, but there wasn't sufficient time. I have sent a lot of material to your staff.

The CHAIRMAN. You may make any off-the-cuff statement that you wish at this time. Then we'll ask a few questions.

Mr. BORSKY. All right. I'd like to first sort of introduce myself and present some of my credentials to testify on the hearing response problem.

I'm professor of environmental health sciences and a director of noise research at the Columbia University School of Public Health.

Over the past 25 years I've been involved in community noise research studies. I did the first study back in 1952 and developed the basic methodology which has been followed throughout the world in such community studies.

About 10 years ago I was dissatisfied with the accuracy and ability of field surveys to get at the nitty gritty of the details of how people respond to noise stimuli and developed a new methodology using both laboratory-controlled conditions and the field study information.

One of the first outputs of that laboratory research was the 1973 retrofit study on the 727, which you gentlemen, I'm sure, have. I sent you a copy which clearly demonstrated for single flyover comparison exposures a 3-decibel reduction was not reliably recognized. It was not significant. But a 6-decibel and a 10-decibel reduction were highly significant and meaningful in the way of noise reductions.

It was suggested to me, as a matter of fact, by my colleague here, Dix Ward, what about the real environment situation where you have mixtures of aircraft flying over a community varying from time to time and varying in composition.

When a change occurs in a given aircraft's noise propagation curve, could it be recognized as part of the context of a total fleet mix? And we designed a study to test this question, and I will be reporting to you on those results.

I directed the sonic boom evaluation studies in Oklahoma City some 10 years ago on the effects of sonic booms on human response.

I'm a consultant and past member of the Committee on Hearing and Bio-Acoustics and Biomechanics of the National Academy of Science.

I'm a consultant of OECD and EEC on community noise problems. I'm a member of several American National Standards Institutes Committees on Noise and was just appointed chairman of a committee on community noise—53-64—to develop standardized definitions, methodologies of data collection, and analysis of community annoyance.

I'm also chairman of the international subgroup on community noise of the International Commission of Biological Effects of Noise, which is holding a meeting in Freiburg, West Germany, in September to bring up to date what we know about noise effects.

I guess that should be sufficient to establish, I hope, something of what I know about noise.

Now, as I see it, there are three basic issues with respect to human response of this community noise problem. One is, what is the appropriate noise measure for integrating time-varying noise exposures of different kinds of stimuli, different durations over different periods of time?

Second, what are the thresholds of acceptability? What noise exposures are acceptable to how many and what kinds of people under what kinds of circumstances?

And third, how much of a change is needed to be perceived and meaningful in the way of noise reductions?

Now, we don't have all the answers in the research community on these questions, partly because, I think, there has been a very vascillating attitude in the way of Government support of research in these areas. There has not been a consistent research effort.

The amount of funds have been cut in recent years. Our own laboratory has been almost on a standby basis during the past year. And, there's a dilemma. You gentlemen and administrators ask for the best judgments at a given moment in time, because there's an urgent need to establish some kind of a regulation or some kind of a program, and we wrack our brains and search what data we have, and we come out with a recommendation.

Once a recommendation has been made, we are then told, well, why do you need additional research? You have the answers already. You're just going to waste money trying to get the honing of the fine edge. Well, those are not the true facts.

When the EPA published its levels document, it was the best judgments that were available. I don't think anybody would argue about that. But, it was clearly known by the professionals that there was considerably more research needed to beef up and substantiate some of the assumptions that had to be made in that document at that time.

This has not really fully been done to date. However, there are a number of things that we do know. We have not been twiddling our thumbs in the last 10 or 15 years.

First, I can state that the best single measure for integrated noise exposure is the LEQ or the LDN or the NEF, which are all

based upon an energy summation assumption that you increase your index by 3 decibels, by doubling the number or the level of noise exposure. There's some indications that no one single measure is appropriate for all situations, that maybe at the lower level, lower frequency of occurrence situations, you need a different integrating formula than for the international airports where you have large very noisy and very many airplanes flying in the traffic pattern over the course of a day.

However, since you are concerned about the upper end of the scale, primarily, the noisiest situations, I think you can state with some confidence that the measures that are being used are not far off and could be used with some reliability.

Now, with respect to the second question, as to what is acceptable, what is the human factor in this equation. You have your stimulus at one end. Now, what is the response? I would like to distinguish clearly between three types of response, which are sometimes used loosely and confuse the issue.

One is the question of loudness, which is a psychological judgment of the intensity of a noise source or sound source, to be more precise. Noisiness is usually the judgment of the quality of the sound. For many people say that the higher frequencies of sound are more grating and objectionable than the lower tone frequencies, and there are measures for equating these to get equal noisiness and equal loudness measures.

The third thing which I think you are concerned about is the annoyance, the community annoyance response. Community annoyance is not a simple physiological sound-human reflex response. It involves the higher brain functions of the human being and his evaluation and degree of intrusiveness or the unwantedness of the interference of that sound with some desired activity.

It involves his attitudes toward the source, of the fairness with which this source is being used and operated, whether the noise is minimized, whether it's avoidable, whether the concerns and needs of the receivers of that noise, the communities, are being adequately taken into account.

And the term "misfeasance" was coined by one of the researchers of the Tracor Corp. that did community studies.

Misfeasance is defined, as you gentlemen probably know, as the ability of the noise source to operate this source in such a way as to reduce the impact on the community, but for a variety of reasons fails to do so. Therefore, it engenders the anger and resentment and opposition and annoyance of the receivers in the communities.

Now, fear of noise, where noise is a signal of potential danger, is especially critical in the case of aircraft noise exposure. It isn't abstract sound, but it's the connotative meaning of that sound that is a source of fear, which has been found reliably over and over again in every study that has been made, that people who are fearful are more annoyed with the same physical sound level as people who are not fearful with that same noise level.

So, that has to be taken in account when you consider the human response.

The third major factor is health effects: People feel it makes them nervous, prevents them from getting adequate rest and sleep,

and a variety of other physiological effects. Now, you can therefore divide people into a number of groups. People who are highly predisposed to be favorable toward the noise source and then people who are highly negative, highly fearful, think there are health effects, think that the whole thing is avoidable, and the source are misfeasant in the way they operate.

And, with the same sound level exposure, you will get a spread of 50 to 60 percentage points in the way people react. This is not random. This is something you can explain and we have explained.

I have given your committee staff a number of documents, Senator; the first is a theoretical framework of factors influencing human annoyance and complaint reactions. This appeared back in 1971, as you can see, in a special symposium that was held up at the Karolinska Institute in Stockholm. And, it still applies, as far as I know.

To give you a more detailed explanation of what the various factors are in mitigating the sound source and human response, I've also given them a copy of a paper that was given at the Second International Conference on Noise as a Public Health Problem in Dubrovnik, Yugoslavia; a causal model relating and quantifying some of these physical and psychological effects.

Now, noise as an independent source usually is deemed to account for between 10 and 25 percent of the human annoyance variance. These other psychological factors I have mentioned such as fear, misfeasance, health effects, explain an additional maybe, 30 to 40 percent, so that you get in the studies that we have done explanations of about two-thirds of the human variance.

Of course, there are a lot of other individual idiosyncracies that will go into explaining other variations.

Now, I'd like to talk about what we know about multiple effect exposures and the amount of change necessary to be noticeable and meaningful. We have three sources of information, I think, that are reliable and that could be brought to your attention and your consideration.

The first was the CAN report which I sent to your committee staff, a report which I prepared for Colonel Foster, presented to the ICAO meeting in Montreal in 1971. It contains a combination of U.S. survey data and British survey data which Dr. McKennell, who was the principal researcher in England, worked with me one summer in making the data comparable and combining them. So that we had interviews on some 8,000 to 10,000 people, a substantial number of data points that we could then look at.

This indicates, for example, that in the lower levels there is not a linear relationship between noise exposure and human response in the way of annoyance. I am not sure what the complete relationship is, but it looks sort of a curvilinear, like a learning curve. At the top levels of exposure, you don't get continuing equal increments of annoyance. After you get to a very intense level of annoyance, an additional stimulation does not produce an increase of equal magnitude that you would get at the lower levels of exposure.

In the real environmental survey studies show that at less than 70 LdN outdoor exposures, a 5 dB reduction in the cumulative index resulted in about a 10 percent reduction in the amount of

high annoyance. And if you consider the additional reduction you would get with the misfeasance factor, you'd have a spread of about 30 percentage points if you consider people with feelings of high misfeasance for equal noise exposure, who are more highly annoyed—change their attitudes because of the noise reduction—people who feel that the noise sources are doing a good job.

So if you assume that if you introduce a program of noise reduction such as you are contemplating, you would get a payoff of people believing that you are making a sincere effort to accommodate their needs, over and above the simple annoyance reduction, you'd get an additional reduction of high exposure of about 15 to 20 percent.

Now, in the moderate-to-high levels of noise exposure, say, from 70 to 80 LdN, a 5 dB reduction showed that you got a 15 to 20 percent reduction in high annoyance. You got more reduction where you had high exposure. So that the total impact with the consideration of the misfeasance factor would suggest that something on the order of about a 30 to 40 percent reduction in high annoyance would be achieved by a 5 dB reduction, certainly in the higher level of noise exposures.

We have done a number of field surveys in the J.F. Kennedy Airport, which is essentially our laboratory area. And we found that when we compared 11 different communities surrounding the JFK complex with different cumulative noise exposure indexes, that where the indexes were within 3 dB of one another, these cumulative noise indexes, there was no reliable difference in the annoyance responses in these communities. But where there was a 6 dB difference among these different communities around JFK Airport, there was generally a substantial difference, a reliable difference, in the reduction of the amount of annoyance in the less-noisy communities.

Now, to get to the special laboratory study which we did last year. We had 384 residents actually living in neighborhoods around JFK Airport, half of them within about a mile of the airport, under what I consider to be pretty intense noise exposures, and half living about 5 miles, and 5½ miles away, with much less noise exposures.

We invited these people into our laboratory for controlled noise exposure sessions. We exposed each subject to the noise of 17 planes per half hour in our laboratory. I don't want to get into it, but you get a real sensation of an airplane flying overhead in our laboratory, because we use a quadraphonic sound system. Since we're fairly close to Kennedy Airport, many of our subjects believed that they're the real planes flying into Kennedy. Of course, we don't disillusion them. We want them to feel as real as they are in their own living roon. That's the whole name of the game, to have a realistic laboratory situation that we can then extrapolate back into the real environment.

So, 17 flyovers per half hour with the Kennedy mix of an international airport of which 40 percent were 707's, 30 percent were the 747's, only about 18 percent were the 727's. They're not a major factor in the Kennedy complex. And 10 percent were the DC–10's.

Half the time subjects watched a color TV program; half the time they did leisuretime activities, what we call "do your own

thing." The women knitted, they read, they talked, worked crossword puzzles, whatever they felt like doing to relax.

We also had four retrofit conditions built into the experiment. We had the untreated condition, the way they are now, indoor noise levels of these aircraft.

The CHAIRMAN. When you say "these," define which ones.

Mr. BORSKY. 747's, 707's, 727's, and DC–10's, in the proportions I just mentioned.

The CHAIRMAN. But you didn't have any retrofit kits on the 747's and DC–10's?

Mr. BORSKY. We had the untreated. That's the first condition. Then we were given, by DOT–NASA consensus, a 7dB reduction for the 747 for landing and a 5dB for departure, and we just attenuated the electronically untreated level that you would get at various distances for laboratory presentation.

The CHAIRMAN. That isn't based on any valid proposed 747 treatment, though, is it?

Mr. BORSKY. I understand that this is a reasonable assumption of what they could get with a retrofit package.

The CHAIRMAN. All right.

Mr. BORSKY. The same was true for the 727, where the reduction was 4dB on departure and 7dB on approach.

The CHAIRMAN. How did you use that particular figure on the 727?

Mr. BORSKY. Well, you have a 727—the '47, did you ask?

The CHAIRMAN. The 727.

Mr. BORSKY. The 727 has a characteristic spectral shape and time pattern as it flies over any given point on the ground. We calibrated that to the levels that are average for a community 1.1 miles, the FAR point, actually, from the threshold of landing. For purposes of the retrofit study we did not change spectrum. We just lowered the level with an attenuator, these 4 and 7dB.

The CHAIRMAN. The question is: Why did you use that particular figure for your lowered levels, because that is not the same figure that we have seen on what retrofit would achieve?

Mr. BORSKY. Well, these were the best judgments of NASA and DOT technicians who were monitoring our grant, and advised us to use these levels in this particular study.

The CHAIRMAN. All right.

Mr. BORSKY. If you have different figures that you wanted to test, you could do so and you could extrapolate what their effect would be by knowing what the effects of these levels of attenuation were. What levels were you thinking would be more meaningful, Senator?

The CHAIRMAN. Well, the numbers that we were given were less than the figures you used. That is, there was less of a spread. We had 2dB on takeoff and 6dB on approach, if I remember correctly.

Mr. BORSKY. The difference between 6 and 7dB would not be significant, nor would, I think, the 4dB be noticeably different than that 2. A 3dB difference or more is necessary.

In any event, the results of our study merely addressing myself to the retrofit conclusions, not to the other variables of the kind of activity and so forth, we have a 5.5dB reduction in L equivalent when the 707's—I didn't mention, the first assumption of the retro-

fit was replacement of 707's by DC–10's. That resulted in a 10dB assumed reduction at departure and a 13dB reduction at approach.

The second retrofit assumption was the modifying of the 747's by the 5 and 7dB reductions. And the third was modifying of the 727's. All cumulative, one added to the other.

Now, when you've the 5.5dB reduction in LEQ values in the first retrofit assumption, you had in the close areas about a 20 percent reduction in high annoyance, which is consistent with survey data. And in acceptability, we asked people to make two judgments in our experiment. The first was: How annoyed are you? And we gave them a 10-point scale with 10 defined as "extremely annoyed" and "not annoyed at all" for zero. They would pick a number in between to indicate how they felt after the half-hour session, integrating all the noise exposure for the half-hour period.

We also asked them: "If you had to live with this all the time in your own home, in your own living room, do you think you could learn to live with it and accept it?" So we had an acceptability judgment and we had an annoyance judgment. The two were not identical, Senator.

People realize in an urban environment that they have to put up with some stress and some annoyance, and they're willing to do so. At what point where they feel it's just too much and unreasonable, you get the nonacceptance.

So, where you had the 5.5dB reduction in the L-equivalent in close areas, you had a 20-percent reduction in high annoyance, which is meaningful, and a 15-percent increase in the amount of acceptance. Some people still felt it was not acceptable, even though it was somewhat less annoying.

When you had a cumulative 10dB reduction, between phase 1 and 2 in our retrofit scheme, you had a 30-percent reduction, almost a third, in the amount of high annoyance, and you had about a 25-percent increase in the amount of acceptability.

So those, I think, are clearly meaningful amounts of annoyance reduction that you achieve by this 5.5 and 10dB cumulative noise index exposure reduction.

Now, there's still an additional benefit for misfeasance, which is not included in these figures, because we selected for the laboratory only moderate people, average, middle-group people, with feelings that were not highly misfeasant, not highly fearful, but moderate fear, moderate misfeasance. So with the program of noise reduction, you could get an additional bonus of annoyance reduction from people feeling gratified that you're making an effort, and you'd get maybe more than a 30-percent reduction in high annoyance.

The CHAIRMAN. In your study did you include a malfeasance element, that is, a factor which might occur if action is taken, but the action doesn't achieve the intent for which is was taken?

Mr. BORSKY. No, sir, we didn't have such a factor in our study. And this is, of course——

The CHAIRMAN. That's the point.

Mr. BORSKY. I wanted to make this point later on, that annoyance is usually a function of expectation levels, the gap between expectation levels and reality. If people feel a sense of hopelessness and futility, that nothing can be done, you get sort of a negative

reaction, not an aggressively hostile reaction. But when you lead them to believe that you have the technology and it's been available for about 10 years, and there's been delay and delay and delay in implementation, there is the kind of reaction you got in California on taxes, the feeling that they aren't listening to me, they don't care about me. And then you get a compounding of negative reaction over and above what you might have gotten just from the physical exposure situation.

I want to make two other points about this study, Senator. First, there are three things you have to consider: the amount of noise reduction per flight, and the number of flights in a given location. Third, the absolute noise level from which you start and the absolute level where you end after the reduction, what is the residual amount of noise which you end up with?

Now, we started in the close areas with an indoor noise level of LEQ of 69 in our laboratory noise experiments. You have to add about 15 to 20 to get to the outdoor level. And we ended up in the close areas with an L-equivalent of 58.

Even though you have this 30 percent reduction in high annoyance, you still had about 60 percent of the people at that residual high noise level who felt it was not a complete solution and was still not acceptable. In other words, you have a meaningful downward shift in the number of people highly annoyed, but you still have a very substantial number who are not completely happy with what remains.

Now, in the distant 5-mile area situation, you do resolve this noise situation almost completely. I don't know what your definition is as to how many people can remain highly annoyed—you know, you don't please everybody any time any place. So you'll have maybe 10 or 20 percent of the people, no matter what you do, who'll be unhappy.

And this is what happens: If you have a 10 dB L-equivalent reduction in your distant areas, from 57 to 45, which is what the numbers were. At present the amount of acceptability with the present untreated aircraft, almost half the people say it's acceptable 5 miles out; half the people say it's not acceptable.

With a 5 dB reduction, two-thirds of the people say it's acceptable, and with the 10 dB LEQ reduction almost 80 percent of the people say it's acceptable, 20 percent remain dissatisfied.

I'd like to make one other comment, and then I'll be happy to answer your questions. I've heard, and your committee staff member told me, that you are considering making the final date of noise abatement, whatever it is, re-engining, retrofitting, new engines, extending it further to 1990. I don't have data to prove this——

The CHAIRMAN. What conditions? Did they tell you under what circumstances?

Mr. BORSKY. One of the bills makes 1985 the final date at which they have to be in accord. Another proposal is that there be an additional 7 years before they had a further reduction and newer-type aircraft. Is that correct?

The CHAIRMAN. That's partly correct. My proposal was for the two- and three-engine aircraft, to give them additional time, provided they entered into a contract well before the expiration date,

to replace that aircraft with an aircraft that meets stage 3, which would be a meaningful improvement. That is the only condition under which an extension would be granted under my proposal.

Mr. BORSKY. From my experience in doing these surveys and experiments with people I find a considerable amount of irritation and a feeling of frustration that there hasn't been more done to date. I think the hearings on EPA expressed this same kind of dissatisfaction by the Members of Congress.

And, in my judgment, if you come up and tell people you'll have twice as much improvement, but like 10 years from now or more, 13 years, 12 years from now, you'll have much less benefit in the way of recognition that you're doing something honestly than if you did half as much much sooner.

Because, they feel it should have been done a long time ago and that there's been unnecessary bureaucratic foot-dragging, all that sort of delay.

I don't agree with this.

The CHAIRMAN. I'll get into that with you a little further in a few minutes. But, you have already said that the 727's are not a significant factor at Kennedy, not a significant factor.

Mr. BORSKY. That is correct.

The CHAIRMAN. It is the 707's, the DC–8's, the early 747's and the other wide bodies that are a factor. My proposal would not affect any of those except the 727. Now, you didn't mention the DC–9 or the 737; I assume that is because they are an insignificant factor.

Mr. BORSKY. They don't even fly into Kennedy.

The CHAIRMAN. So, the three airplanes that would be affected by my proposal are really not a significant factor at all at Kennedy. Isn't that correct?

Mr. BORSKY. That is correct.

The CHAIRMAN. Most significant there is the 707 and the DC–8, and they would still remain under the 1985 deadline under what I have proposed here.

Mr. BORSKY. Well, the Kennedy people, then, would not be too unhappy.

The CHAIRMAN. Oh, yes they are. They're very unhappy according to the New York Port Authority representative who submitted testimony here yesterday. I'm sorry he didn't stay to appear before the committee. I would have quizzed him a little bit, because I don't think he knows what he's talking about.

Mr. BORSKY. As far as the Kennedy situation is concerned, I don't think he could dispute that there wouldn't be any difference since the three-engined planes are not a big factor in the Kennedy complex.

But, the La Guardia, Newark, Minneapolis, Chicago, Atlanta, Miami International, where your three-engined, the DC–9 and your 727's are important factors in the fleet. If they had reductions from 6 to 7 dB, I think you could conclude from the data which we ran in the Kennedy experiment, which are not specific only to the larger aircraft. The scales of DBA and EPNL do a good job, as some recent research by a colleague of mine from Northeastern, Bert Scharf, has shown, that you can assume that any plane that gave you a 6 to 7 dB reduction would give you comparable reductions in

annoyance in those smaller airports than they do with the big planes in the Kennedy Airport.

The CHAIRMAN. All right. Let me pursue that a little bit further. The 727-200, according to the figures we have been given, showed a 3.7 dB difference on takeoff with the retrofit, a 5.6 dB difference on approach, and a .5 dB difference on sideline.

All of those figures are below the figures that you used. Then on the 737-200, with retrofit, the takeoff is 0, absolutely no difference. The approach is 7. The sideline is 0. No difference there. On the DC-9, the other one of these we've been talking about, the takeoff is 1. The approach is 7.9 dB, and the sideline is 1.

Mr. BORSKY. Where it's less than 3, Senator, 3 dB, I would state with some certainty that you would have a very minimal, unreliable effect. Where it's 5½ to 6 to 7, I would state with equal feeling of certainty that you would have a substantial beneficial effect.

Mr. BARCLAY. Mr. Borsky, in 1976 the FAA and ATA ran a test at Dulles of retrofit, which showed a number of things. The approach on a DC-9 showed a minus 4 dB reading. They also got minus 3.1 out of a 727.

Yet, the people who were at that demonstration said they couldn't tell the difference. Why do you think that your indications varied from other reports we've gotten from the manufacturers in testimony like this?

Mr. BORSKY. You said three and four, right?

Mr. BARCLAY. Three, four, and five.

Mr. BORSKY. I think a 5 dB is getting close to significance. We have so many factors in the real environment, your atmospheric conditions of the clouds and the precise altitudes and engine settings and all those things. It's pretty difficult—I'm not familiar with the specific readings that you cited and where they were located with respect to the directionality, and so forth—but in our lab where we can control these things, where we can space these flights at different intervals and we don't tell people to make comparisons but just to give us their ratings for each incident of flyover, we have established that you can get reliable, perceivable differences in the neighborhood of 5 or 6 dB per single event and even in cumulative indexes of events.

And, most of the officials who have visited our lab and have been given these demonstrations have agreed, yes, this is quieter.

Mr. BARCLAY. But, if retrofit has such a de minimus effect so that variables such as weather and the operation of the aircraft can obliterate the effectiveness of it, is it reasonable to take your laboratory experiments and project them into the field where you're going to have all those variables?

Mr. BORSKY. On the average, you'll get variations around a mean figure, which is what they give you from the Dulles studies.

These would be meaningful differences, so that the relative differences perceived at the same spot on the ground would be recognized.

In other words, not every flight would be 5½ dB difference. Some would maybe be 10. Some would maybe only be 2. So that not every flight would be recognized as different.

But people don't sit outside with a log and a book and record each flyover. There's kind of an integration that the human brain

is able to do over time, and I am confident that if the averages, without too much variability, are clearly different by 5 to 6 dB, our data indicate that people will recognize that and, depending upon what level you start and where you end, they will show their differences in annoyance response.

The CHAIRMAN. Did you find any difference in the annoyance factor between the takeoff and the approach?

Mr. BORSKY. Only in terms of level. They clearly were related to level. It gets much less with the takeoff than you do with the approach. These were statistically significant, yes.

But not in terms of spectral differences. The indexes of DBA or EPNL do a good job of equating the tone differences of the departure and the approach, but where the intensity, the dB level of these measures are greater, you have more annoyance.

The CHAIRMAN. Dr. Ward?

Dr. WARD. Well, I'm Dixon Ward, Mr. Chairman. I'm, here at the committee's request, and I'm not really quite sure why, except that I'm well known as a skeptic of noise effects.

I'm the cochairman of the International Commission on the Biological Effects of Noise. We want to advertise that all we can, because we're going to have a good program in Freiburg.

I also served on a CHABA committee where we tried to estimate what our opinions were as to whether retrofit was going to be perceptible. I guess I was the only one who still had serious reservations about the ability of the average person to detect that a 3 or 6 dB change had been made in all the overflights, in a real-life situation.

The literature on the ability of people to determine differences in successive events indicated that if you have events separated in time by a minute or so, you would have to have a difference on the other of 4 dB or so before you could tell, even in a laboratory situation.

This was supported by some experiments that we had done in our laboratory on juding loudness of aircraft flyovers directly, using the method of paired comparisons. The first one of the pair had a peak level of 111 DBA, followed by one which was somewhat less than this.

The first was called 100. Then the people just had to judge the loudness of the second one. If the first one was 100, was the second one 90, 80, or what?

We found quite a few inversions. That is to say, in many cases, the laboratory students actually thought that the second one, which was weaker than the first one, was the louder; they gave it a higher number.

So, it was clear to me that a 10 dB difference is probably going to be perceptible. But, I wasn't so sure about the intervening values. That's why I suggested to Paul that if he's going to conclude that a 6 dB retrofit is indeed a meaningful reduction, they should do this variegated exposure.

Now, since it's not yet a published article, I can't really say whether I would agree with all the conclusions or not. But, as I say, I think this is the reason that I am here: I'm one of the few who are not sure that all these retrofit procedures are going to result in a "meaningful" reduction.

There's no question but what if you take a large enough sample of annoyance, you're going to be able to correlate a change of 1 decibel with some change in average response, because that's the way the numbers work. The bigger your *N,* the smaller the difference that becomes statistically significant. As to the number of people who will notice the reduction, and therefore be more favorably inclined toward the activities of the airport reducing noise, I still don't know.

Now, I wish I had more time to study this particular report because I think it's a crucial one, and I will await its publication with great interest. It's very difficult, though, if given only a few of the high points like this, to see exactly what is going on.

It wasn't clear to me from the talk whether or not the final reduction of the 727's resulted in any change at all.

Mr. BORSKY. No significant difference. There were not enough of them, and the change was not large enough to produce any difference greater than the reduction with the 747.

Dr. WARD. Well, it didn't produce any effect, at least. We don't know whether it would have if there had been more.

Mr. BORSKY. Well, I think it is reasonable to state, Dix, that if the proportions of 727's had been comparable to the 707's and the 747's in an airport situation, and you had that amount of attenuation in the level of reduction, that the amount of annoyance response is not to the 707 alone. It's to the noise exposure. So, that if a 727 had a comparable noise exposure reduction, and there was a comparable number of them, the results would have been the same.

Dr. WARD. Not necessarily.

The CHAIRMAN. What you're saying then—based on your tests and if I understand it correctly—is that Kennedy had about 20 percent of the movement in 727 aircraft, and when you applied the higher levels of noise reduction to that 727, which are a little higher than what we had been given, there was no significant difference as far as your test panel was concerned?

Mr. BORSKY. That is correct. The increment or reduction over and above the replacements of the 707's by the DC–10's and the 747's retrofitted for over 83 percent of the operations was insufficient to result in any incremental decrease in the noise.

The CHAIRMAN. All right, Dr. Ward.

Dr. WARD. Well, I have only one thing else that I've noticed that seems to me to demand a little clarification here. And, this was that a 5.5 dB reduction in LEQ was achieved by substituting DC–10 flyovers for the 707 flyovers.

Mr. BORSKY. That is correct.

Dr. WARD. Then you say that with the further retrofit of 747's you now get a total reduction in LEQ of 10 dB. That means about a 4.5 dB additional reduction by the retrofit of the 747's.

Mr. BORSKY. That's correct.

Dr. WARD. If you've only got 30 percent of the flights that were 747's, I don't see how you can get that big a reduction. It just doesn't quite add up. What is it? Is this a 7 or a 5 dB reduction?

Mr. BORSKY. Five and a half decibels. The first one was from 69 to 63.5, then down to about 59 for the close areas. This was all done

by the NASA computer with the assumption of a 40 dB ambient floor.

Now, the durations will differ somewhat. Dix, that's the answer. The 747's have a somewhat longer duration than the 707's in flyovers.

Dr. WARD. I'm just talking about what happens.

Mr. BORSKY. For the cumulative LEQ values, these are the values that you get.

Dr. WARD. That's why I would like the opportunity to study this new report, because I can't really figure out how a reduction of only at the most 7 dB in 30 percent of the flights would give you an overall LEQ reduction of 4.5 dB. It seems to me that's high.

If you did have a 4.5 reduction, perhaps this computer made a mistake and actually reduced these levels more than it should have.

The CHAIRMAN. I wonder, Dr. Ward, if after you've had a chance to review the study, would you furnish the committee with your comments in response to it. Would you do that?

Dr. WARD. I'd be glad to, sir.

The CHAIRMAN. We'd be happy to receive that.

[The following information was subsequently received for the record:]

JUNE 16, 1978.

Hon. H. W. CANNON,
Russell Office Building,
U.S. Senate, Washington, D.C.

DEAR SENATOR: In response to your request at the Committee hearing on June 14, enclosed is my somewhat hasty analysis of Paul Borsky's article "Annoyance and Acceptability. . . ." of October 31, 1977. As you see, I remain unconvinced that the public hue and cry will be much abated by retrofit, even though it is clear that replacement of the 707 fleet and retrofit of 747s will induce an average change in annoyance that is statistically significant.

To make my viewpoint clear, please let me quote from a letter I wrote in December of 1975 to Dr. McLucas, following a telephone conference regarding the probable usefulness of retrofit, a conference arranged by the Committee on Hearing, Bioacoustics and Biomechanics of NAS-NRC. This letter was intended to clarify my reluctance to endorse expensive retrofit procedures that reduced the total exposure by only a few dB.

"One cannot deny that reduction of the noise levels by so many dB or PNdB from a specified fraction of existing aircraft will reduce the total noise exposure of airport neighborhood residents. Obviously fewer persons will then live in any particular exposure zone, and in a statistical sense—that is, averaged over a long time and over all airports—there should be a measurable effect on annoyance and hence on complaints.

"However, the same could be said of a net *1*-dB reduction, or an even smaller one. Furthermore, the fact that if one reduces the noise level of a source, one reduces the noise dose of people exposed to it, is not so bizarre as to require impanelling a group of experts for its reaffirmation. The problem, it is clear, is not whether a reduction of noise will occur, but whether anyone will notice the difference and that annoyance will therefore be reduced.

"At any rate, it was clear from the presentation by the members of the panel that there was no evidence that would permit an answer to the question: 'If existing aircraft are retrofitted, what fraction of the exposed population will notice that noise levels are lower?' Ken Eldred merely said that 'people have noticed' a 4-dB reduction at Logan, but was unable to present anything beyond anecdotal evidence: no numbers, no analysis of change in complaint rate—that is, nothing convincing.

"It is therefore my prediction that retrofitting will, in the absence of a large-scale propaganda attack, be noticed or noticeable by only a small fraction of the residents. I am suggesting that if we could, overnight, reduce the levels on all aircraft by 6 dB, but without changing the temporal distribution of flights, and then a week later we were to conduct a survey asking "Have you noticed any change in the noise

from airplanes in the last week?" we would find so many people answering "It's been worse" or "It hasn't changed" that we would have to question hundreds of thousands of persons to establish that the change was, in a statistical sense, a real improvement."

In my review, I point out that this particular aspect of the problem—the question of individual response consistency, as opposed to differences in averages—was not addressed directly in the paper under consideration, although it could have been. I therefore remain unconvinced of the efficacy of retrofit, but particularly so in the case of the 727, whose simulated retrofit had no effect on annoyance even in this laboratory setting.

Thank you for permitting my views to be heard.

Sincerely yours,

W. DIXON WARD, Ph. D.

JUNE 16, 1978.

To: Senator Cannon
From: W. Dixon Ward
Subject: Professor Borsky's Report of New Evidence on the Results of Retrofit

SUMMARY

The reservations I voiced about the accuracy of the data on total exposures turned out to be unjustified. I can therefore find no serious fault with the conclusion that replacement of all 707 aircraft plus retrofit of the 747 (assuming that a reduction of 5 dB on takeoff and 7 dB on landing can be achieved) will produce a reduction in annoyance in the community as a whole that will be measurable and statistically significant, though not necessarily important. There is no evidence that retrofit measures applied to 727 aircraft will have any effect on annoyance.

CRITIQUE

Moderately fearful persons (probably mostly female, if one can judge from Borsky's earlier studies) were asked to judge, on a 9.0-point scale, the degree of annoyance they felt after listening for half an hour to a mixture of approaches or departures involving 3 or 4 different types of aircraft.

Four different sets of flybys were used. In the first, the mixture was designed to match the present relative distribution at JFK Airport in New York: 7 707, 5 747, 3 727 and 2 DC-10, all unmodified. The second set differed from the first only in replacement of the 7 707 flybys by 7 more DC-10 recordings, a move that reduced the overall L_{eq} of the exposure (i.e., the total energy) by 4 dB for arrivals, 7 dB for takeoffs. A significant reduction in annoyance rating resulted, in the statistical sense: a drop of 0.5 unit for landings, 1.2 unit for takeoffs.

The third set of exposures differed from the second in that the 5 747 flybys were reduced by 7 dB for landings, 5 dB for takeoffs, in an attempt to simulate the effect of retrofit on the 747. This reduced the overall L_{eq}, relative to the second set, by a further 6.4 dB for landings, 3.2 dB for takeoffs. A further statistically-significant reduction in annoyance judgment was found: in this case, a drop of 0.6 units for arrivals, 0.7 for takeoffs.

The final set of flybys was like the third except that, in addition, the 3 727 flights were reduced by 7 and 4 dB (landings and takeoffs, respectively)—again, in an attempt to simulate retrofit. This step, however, had no effect on the annoyance ratings.

Thus it is fair to conclude that replacement of the 707 by the DC-10, plus retrofit of 747s, provided that the latter produces a reduction of 5 dB or more in noise levels, will produce a statistically significant reduction in the annoyance expressed by moderately fearful female neighbors of JFK Airport who are encouraged to pay close attention to the noise. The total effect will be to reduce the annoyance by about 1.5 units on a 9.0-unit scale. Further reduction of exposure by retrofitting 727s will have no effect on annoyance.

This conclusion is, obviously, quite restricted. We cannot be sure that the same reduction of annoyance would be produced by these measures in the fearless or the very fearful, or in males, or at other airports. Indeed, Borsky argues that this particular mix of planes is peculiar to JFK, and predicts that retrofit of the 727s will have a significant effect if the 727 comprises a larger proportion of the air traffic. There is, however, no logical requirement that this be true, as it essentially assumes a perfect correlation between L_{eq} and annoyance, and the data clearly show (e.g., his Fig. 8) that this correlation, although good, is far from perfect.

On the other hand, earlier studies from Borsky's laboratory do indicate that the bias introduced by using mainly females of moderate fearfulness instead of a random sample is small. It therefore seems reasonable to expect that in terms of the overall national effect, any measure that will reduce the L_{eq} by 6 dB or more will have a statistically significant effect on the annoyance of people who are paying attention to aircraft noise, reducing it by 1 unit on the Borsky scale.

Whether or not such an effect, although statistically significant is "important" remains a political question. I can only stress that the two are not necessarily equivalent. For example, tests on hundreds of thousands of individuals have established a statistically significant difference in IQ between all males and all females in the USA; however, this difference is only about 0.2 on a scale in which 100 is the 'norm', and is therefore completely trivial. How important, then, in terms of justification of expenditure of public funds and consumer costs, is a 1-unit change in annoyingness of the neighborhood aircraft noise? I know of no way to answer this question scientifically.

I must point out that the manner in which the data were analyzed did not address directly what I consider an important alternative question regarding the benefits of retrofit, one that does not place the prime emphasis on the average results, but on individual differences: "If existing aircraft are retrofitted, what fraction of the population will notice that noise levels are lower?" Obviously, if each and every listener attached a lower annoyance value to the third set of flybys than she did to the second, one could maintain that retrofit of the 747 would indeed result in meaningful reduction in annoyance. By the same token, however, if 30% gave the same rating to both sets, and 25% actually rated the "quieter" session as being more annoying (i.e., if the difference of about a half unit of mean annoyance was due to only 45% of the listeners), it would be more difficult to support the "meaningfulness" of the difference. It is unfortunate that Professor Borsky did not examine the data in question for evidence bearing on this question.

Therefore I still am willing to bet that when the complete job of retrofitting has been completed, the amount of complaints about aircraft noise will not have been reduced very much—that is, the reduction will be so small that another study of more than 300 people will be necessary to establish its statistical significance. Let us hope that I am wrong.

The CHAIRMAN. You referred to the retrofit of the 747's. The early 747's were noisy, but I think all of the users have refanned them now, or substantially all of them, and they meet the lower requirements.

As a matter of fact, I understand now that the new ones and those that have been refanned meet, the FAR 36 limit.

Mr. BORSKY. Well, in the laboratory we posed the first situation to the 747's that were not the quieter ones, then attenuated them. And as far as your concern, Dix, even if the L equivalent values are off by half a dB or so, the levels of each flight that were given as exposures to the subjects were calibrated, so that the reductions that they were judging was valid—they didn't know what the L equivalent was.

This is not something a person knows in his head. He was judging aircraft flyovers, whatever they were, and the levels were calibrated, the ones that I mentioned, and these resulted in these significant reductions.

The CHAIRMAN. Could you furnish us for the record the full retrofit levels that you used?

Mr. BORSKY. You have the full report which I gave to the committee.

The CHAIRMAN. Staff has advised me that we do have that. Doctor, do you have anything further to add?

Dr. WARD. Not really. I'm still openminded about these values.

The CHAIRMAN. Professor Borsky, in a paper presented by you in 1973 you say, and I quote, "A small to moderate independent

relationship exists between noise exposure and aircraft annoyance."

And I quote, "Increases in noise exposure or misfeasance beliefs can be expected to result in significant increases in aircraft annoyance only to the extent that fear and health concerns are also increased."

Yet your latest studies concludes the strong relationship between absolute noise exposure and annoyance. Now, what changed your mind?

Do you believe your laboratory studies are valid, since they completely eliminated feelings of fear?

Mr. BORSKY. They didn't eliminate; they controlled. We only had subjects or residents who had moderate feelings of fear. We eliminated from inviting residents with extreme feelings. In the real environment we do a survey on whatever the people have as feelings and experiences and actions we record. They have no idea of why other than we tell them.

It's for Columbia University College, of how the environment affects people and so forth.

But then when we invite them into our laboratory for these control judgments, we select people with different attitude makeup, and in this particular study we tried to get a middle group that would represent sort of an average response, not an extreme high or an extreme low. It's just that we've learned more over the years.

And I think that I stated, and I stand by it, that noise by itself, if you knew nothing more about the people reacting to the noise, will generally explain about 10 to 25 percent of the variability in the annoyance responses, and all the other variations in annoyance responses are contributed by the interaction of these higher brain functions of attitudes toward the source, of the meaning of the source, of the activities being affected, the time it's occurring, et cetera. I haven't really changed on that score.

Mr. BARCLAY. Would it be fair to say then, Dr. Borsky, that regardless of what we do, that as long as the level of aircraft noise is high enough to be irritating, that 75 percent of the annoyance we see today is still going to be there?

Mr. BORSKY. No, it doesn't follow that way.

If you reduce the level to—you'll have variations. There's less variations in the low-level exposures, as you saw in this CAN report. If you reduce the level low enought, you'll get, in general, the low annoyance level. You don't get 80 percent of the people highly annoyed with the 60 dB exposure. This would be neurotic, not realistic.

Mr. BARCLAY. Well, no aircraft can do that, of course.

Mr. BORSKY. Well, farther out you don't get more than a 60-dB exposure, at 4,000 or 5,000 feet in altitude. We interviewed people: Yes, they hear; the airplanes are discernible; but do they annoy? Oh, no. They don't interfere with anything; we just hear them. We know they're going by.

The CHAIRMAN. Do your studies provide any information on the relative impact on annoyance of retrofitted versus FAR 36, stage 3 replacement?

Mr. BORSKY. You'd have a higher reduction with the stage 3; therefore, you'd have more annoyance expected to be reduced.

I think this would follow as a conclusion.

The CHAIRMAN. But do the studies actually——

Mr. BORSKY. We didn't test in our laboratory the actual levels that you would get.

The CHAIRMAN. You did test the actual levels.

Mr. BORSKY. No.

The CHAIRMAN. Oh, you did not. I see.

Now, if aircraft noise annoyance is relative, and no airplane is quiet—some are just less noisy than others—would you expect the annoyance curves to shift downward after a very short period of time after FAR 36 compliance is achieved?

Mr. BORSKY. You mean, sort of a novelty effect?

The CHAIRMAN. No, not a novelty effect, but its relative effectiveness. Assuming FAR 36 compliance wouldn't those annoyance curves automatically begin to lower?

Mr. BORSKY. You'd just be at a different point of the curve, Senator.

The CHAIRMAN. Yes.

Mr. BORSKY. You'd have less annoyance, but the curve wouldn't shift, necessarily. Well, to the extent that misfeasance was a factor, if you reduced the amount of misfeasance that people felt were attributable to the operators of the aircraft, you would have a downward shift in the whole curve for every level of exposure. But if you're only talking about the reduction in annoyance that would be attributable purely to the physical reduction of noise, it would be on the same curve but at a different point in the curve.

Is that clear?

The CHAIRMAN. Yes. But the point I'm trying to make is that the relative figures on the curve may be higher because the noise annoyance is a relative factor, and people are likely to reduce the level at which they are annoyed.

Mr. BORSKY. When we set up these curves, we studied people who are exposed to different levels and conditions of noise exposure. They are living with these levels day in and day out. so that I think it is reasonable to assume that we control as much as possible for the characteristics of the populations, that they're made comparable. So it's reasonable to assume, if you take any given population community and reduce the amount of noise exposure for that community A, it would reflect the reactions of community B already living under that reduced noise exposure.

In fact, our laboratory experiments substantiate this, Senator, that people who live under a very noisy environment, when asked to judge noise B level, will judge it less annoying than people living under noise B.

So that the community surveys which are based upon what people actually experience, not hypothetical, you can take that curve and use it to estimate what the reaction would be long term with a noise reduction.

Mr. BARCLAY. Mr. Borsky, in your September 1975 paper you stated that differing communities had differing responses even though they were in a similar CNR area; in fact, the people, I believe, were better at judging themselves just on a question basis on the level of annoyance in that community.

Mr. BORSKY. That's because their characteristics and attitudes toward the noise source differ from community to community. That's why a simple average response versus physical exposure is very unreliable and only explains at most about 20 to 25 percent of the response.

If you have one community, for example—New York people apparently are highly fearful of accidents; people in Chicago were much less so, when we had studies of different communities. So that just by the nature of the composition of the populations and their attitude structure for a given noise exposure, you'd expect less annoyance in Chicago than you would in New York.

And this is what I was referring to, that simply knowing the noise exposure level was not enough to predict what the annoyance response was likely to be.

The CHAIRMAN. How much does aircraft noise annoyance respond to the frequency of flyovers as opposed to variable noise levels?

Mr. BORSKY. There's a very definite relationship. You know, the more—it's not linear, again, but the more flyovers you have, the more—of a given level—the more annoying they are reported by respondents.

The British have done more on this than we have, in terms of survey analysis, and they developed a numbered noise index which weights numbers as well as levels to come out with the combined index.

We assume in the United States—and I don't think we're too far off—for intense noise exposures, that a doubling of number is equal to a doubling of level, as far as 3 dB energy measurement is concerned, that there's a tradeoff between the two.

The CHAIRMAN. In 1971 Mr. Foster presented a paper to ICAO which included portions of your research, and one of the conclusions drawn was, "An oversell can produce an increase in feelings of misfeasance and greater annoyance when the perceived reality failed to meet false expectations."

Now, my fears about the retrofit of two- and three-engine aircraft couldn't be better stated than that.

Whether intentional or not, retrofit in 1985 has been oversold, and people have false expectations of substantial noise relief from retrofit.

Now, I would agree that the 707's and DC-8's are one thing that I'm sure that they will perceive the difference in, but for the sake of argument, let's assume for a moment that I'm correct and that most people will not perceive a noise difference after the retrofit of the two- and three-engine aircraft. What would you expect the reaction of people living around airports to be?

Mr. BORSKY. If they, in fact, did not perceive any difference, then you would get a negative reaction: I've been fooled. But I do believe, contrary to what you're stating, Senator, that where a 727 is of a substantial number in a given complex of flyover mixes, and that the reduction is of the order that I've experimented with, that it would be perceived and it would be noticed.

Now, the oversell fear I would restate as follows. We would not state that the retrofit will completely solve and make completely acceptable the aircraft flyover situation for the very close areas. It

will reduce it so that they will notice the reduction. It probably will reduce the amount of annoyance. But for many people it still will be unacceptable.

This is what I've stated over and over again when I've been fearful that people will say, "This is a panacea," when we've done this retrofit, re-engining, and we're finished. We've gotten good quality environment. I don't think that's going to be true for the very close areas; for areas like 4 and 5 miles away, I think it will.

I think within the home communication will not be interrupted, and sleeping will not be substantially affected, and these are the two most important activities that influence community annoyance.

You'll need additional things in your very close area, maybe rezoning, land acquisition, or some other type of programs, to completely resolve the noise problem for the very close areas. But certainly it will be better than it is now with the noisier aircraft.

The CHAIRMAN. You've already told us that the 727's were not a major factor at Kennedy, and you used a figure of 5 on the takeoff, whereas our figure furnished by the FAA gives us 3.7; and you have a figure of 7 on approach, where our figure gives us 5.6.

Had you used those figures in your test, the factor would have become even more insignificant.

Mr. BORSKY. At Kennedy, that is correct. But if it were used at La Guardia Airport, we found that a 5½ cumulative dB reduction resulted in the order of 20 percent reduction in high annoyance and a 15-percent increase in the amount of acceptability without the misfeasance payoff being included.

The CHAIRMAN. You said 5½ average. What did you mean? Did you just average the takeoff and the approach figure?

Mr. BORSKY. That is correct.

The CHAIRMAN. Add them together and divide them by 2?

Mr. BORSKY. No, it doesn't work that way. It's on an energy summation basis.

The CHAIRMAN. OK. But using a 5½ average, it would still be higher than the figures would be assuming an achievable noise reduction level greater than that that we have been given.

Mr. BORSKY. Well, a 1-dB difference is something that if you're listening with earphones at 30-second intervals you could distinguish, but in the real environment it would be bouncing around an average—it wouldn't be that precise, in any event.

I don't think—it might alter the percentages somewhat. I have no way of knowing how much.

Mr. BARCLAY. Mr. Borsky, there has been a continual debate on the single-event perceptibility of two- and three-engine retrofit. You may have heard that we're going to have a flyover demonstration at Dulles on Saturday. If we go out there and most of the people connected with the committee cannot perceive something that they think is a substantial noise increase, should we still accept the validity of your annoyance increase values?

Mr. BORSKY. It would be a sample of how many of certain kinds of people.

We've been dealing with samples of, you know, a variety of large numbers of people, and there's variability among individuals, that's for sure. I would still suspect that you will find in accord with

what our findings are. But if they're not, you know, from a scientific point of view, it's a very small sample. It could be at one end of the spectrum or another. I rely on the numbers of judgments of average people who are regularly exposed to noise in the real communities.

Mr. BARCLAY. One other question.

Large numbers of your studies have been conducted where people are watching television as they heard the flyovers. Isn't that an activity that's geared to maximum annoyance, that you have to get up and adjust the volume when the airplane goes over?

Mr. BORSKY. Actually, you can't get up and adjust the volume. If you could, you'd probably be less annoyed. By the time you get up and get to the knob, you know, the plane is past. Then if you leave it on, it's blasting.

I would agree. Communications interference is probably at the upper end of the annoyance scale, but it is one of the primary contributors to a combined community annoyance factor.

Our studies, as you must have seen, indicate that leisure activities with the same noise exposure are less annoying.

Mr. BARCLAY. Isn't that also an activity where a cumulative effect won't make any difference at all? If a single event is not perceivably less noisy, to stop interfering with the communication, you'll get absolutely no annoyance difference as a result of an imperceptible noise decrease in the airplane?

Mr. BORSKY. If a single event is not perceptible, then many single events would be equally not perceptible; I would agree with you on that. But I don't agree with the assumption.

Mr. BARCLAY. Thank you.

The CHAIRMAN. Thank you very much, gentlemen.

Doctor, we'll be happy to receive your comments after you get a chance to review it.

Dr. WARD. Thank you.

The CHAIRMAN. Mr. Joseph J. Healy, executive vice president and chief operating officer, Flying Tiger Line, accompanied by Mr. Jack Rosenthal, Washington counsel for Flying Tiger Line.

STATEMENT OF JOSEPH J. HEALY, EXECUTIVE VICE PRESIDENT AND CHIEF OPERATING OFFICER, FLYING TIGER LINE; ACCOMPANIED BY JACK ROSENTHAL, WASHINGTON COUNSEL

Mr. HEALY. Good morning, Mr. Chairman.

I would ask your permission to just summarize my remarks here.

The CHAIRMAN. Your statement will be made a part of the record in full, and you may summarize.

Mr. HEALY. Mr. Chairman, I am here to represent what is called the three original all-cargo airlines of Seaboard, Airlift, and Flying Tiger Line.

I think the common element that brings us here is our fleet of DC-8-63 aircraft. We look at this from the standpoint that there is no suitable replacement for this aircraft within the current time constraints. And I'd like the chairman to focus on—the current time constraints come in two dimensions, both from the point of view that we have percentage fleet requirements to meet in 1981, 1983, and total compliance by 1985.

So we have a phasing as well as a deadline.

A desirable set of alternatives we see will be available to us by mid-1980. The desirable options, as we see them, will give substantial noise reduction to the community as well as increased operating efficiency to the shipping public.

We see this aircraft as being a valuable national asset that has between 12 and 14 years of remaining life. I'd like to look at the three areas that this aircraft functions in, one being in the domestic operations, the other in the military airlift command, and the other is part of our craft program.

We look at domestic. The aircraft size of the DC-8-63, its frequency of demand in the marketplace and its efficiency level makes it the most desirable aircraft available.

We might tell the chairman that following deregulation, we have acquired additional aircraft of the DC-8-63 capacity to meet the market demand because of its tremendous receptiveness in the market to fill the user need.

The military has similar demands.

If you look at each of their consistent million frequencies, the required capacity of those mission frequencies and the efficiency, you will find that this is the best aircraft to respond to those demands and does set forth a high level of cost efficiency that the Government is currently experiencing in its military operations.

These aircraft also are operated by these carriers, represent 25 percent of the total capacity of our civil reserve air force to stand by in the event of a national emergency.

Let's look, then, for a minute as to what are our options.

We can look at equipment, reequipping, re-engining, and retrofit. I think to start with, the chairman was focusing on the 747's and we do operate the 747's on our transPacific operation, where we have a very viable economic and solid business.

We have bought 747 100's for that operation and since putting them into operation, have used our own funds to retrofit. And the retrofit results that we have achieved have a major perceived noise reduction on that particular aircraft.

We saw that as a very viable program.

The CHAIRMAN. Was that refanning?

Mr. HEALY. Actually, Senator, it's not really what they call refanning. They come up and recowl the engine. It's the exterior of the engine that's recowled and has a longer cowl that comes out in front, as well as cutting down the compressor noise that you get from the side of the aircraft, the side-noise effect.

The CHAIRMAN. What did that do to the fuel efficiency?

Mr. HEALY. Actually, if you take that, plus the removing of what they call the web structure in the back of the aircraft, and you could remove one once you installed the recowling—we got about 2 percent fuel efficiency improvement in the retrofit program.

The CHAIRMAN. Do you achieve now the figures the FAA gave us for the 747—100 of 107 on takeoff, 107 on approach, and 99 on sideline?

Have you measured that?

Mr. HEALY. Yes. That's about the area where we have experienced improvement.

The CHAIRMAN. So you do now meet the FAR-36 limits.

Mr. HEALY. Yes. And I just wanted to point this out, though, Senator—where we had a market and had a replacement, we have already gone ahead and have taken our own action without Congress.

In the area of domestic, the Senator can focus on the fact that we have had continual problems with our domestic freight operation over the last 10 years from a profitability standpoint.

As a result of this, the airframe manufacturers have not been encouraged to engineer and develop and offer to us a suitable replacement for these freighter aircraft. Since this very committee recommended and the President signed on November 9 of last year, a cargo deregulation program, we are tremendously encouraged with the interest on the part of the airframe manufacturers to now come in and start working very aggressively on a new freighter aircraft for domestic operations.

And certain of these airframe manufacturers are really putting a tremendous amount of effort. I know the Senator focused on 707's and DC-8's, and I'm sure he was focusing on the predominance of the fleet, which are 30 and 50 series aircraft, that do generate a higher noise level, I'm sure your records will show, than the DC-8-63.

And in addition to that, these aircraft are now reaching the end of their useful life, as well as the fact that as passenger aircraft, there has been readily available a replacement aircraft.

I think, Senator, what we're focusing on right now is just the factor of time. As we see it right now, time will force us, without being altered into retrofitting these aircrafts, with no advantages perceived to the operator, to the community, or to the shipping public.

In addition to that, there will be major disadvantages which I'm sure you're already aware, given previous witnesses, that will increase the weight, reduce the operating characteristics, and worsen the operating efficiency of the airplane.

Time will definitely allow us to take maximum opportunity of lower noise and substantial improvement in efficiency and mainly, the improvement in efficiency, Senator, will come in the area of fuel efficiency.

We now have a program offered to us in the conceptual stage that will be documented by Lockheed Aircraft sometime in September, that we could get as much as 30 percent fuel efficiency with a new generation freighter that they are designing for us.

So, certainly, the preferred options for us are in the area of reequipping or in the area of re-engining. And I would like to make sure that we don't say re-engining and retrofit in the same breath.

I think that re-engining will give a very definite lowering of perceived noise and also increased operating efficiency versus the retrofit, which is simply installing what's called SAM kits, or noise attenuation kits.

As we see it, though, these preferred options—and our engineering group has looked at this very thoroughly—by the time they are engineered, tested, and economic issues have been defined, the decisionmaking process to buy is going to be in the 1982-1983 timeframe.

It is going to take us somewhere between 1987 and 1988 to complete either these re-engining or these retrofit programs.

I can tell the Senator that based on information available to us now, that we do not have a firm proposal. I am informed that the best of all the re-engining programs, the GE, they have not committed to produce the engine.

Douglas has not committed to participate and they said they want to come into it on a low-risk basis and just do the engineering on a fixed contract basis. And you are setting up a third party marketing organization with no production, which is going to be the organization on which we depend.

Our engineering people tell us that we have yet, but are in the process of trying, to define the critical stress elements of the DC–8–63 that will be impacted by this re-engining program.

They have currently been defined and were undergoing engineering tests to try to determine the severity of the change.

You've got to know, I'm sure, in your experience, Senator, when you start designing an aircraft, you design it with an engine in mind.

Here we have an already designed piece of equipment that we are going to put a high technology on, and there's going to be some very complicated engineering problems.

We will also have to go through a complete recertification program of this aircraft, as well as redefining all of its economic parameters.

So I think that it's safe to say that we are going to be in the 1982, 1983, and already clear testimony here before you is that we are not going to be able to meet the interim time constraints that are being forced upon us.

I think it is our judgment that we do have a national asset here that should not be obsoleted by policy, when there is relief in sight and we could get this relief either by improving the asset that we have or replacing it with the more valuable asset. That would have a good public impact on the community around us, as well as to give the shipping community an increase in efficiency.

But I think the major element that we want to make sure you understand is that as old cargo operators, we have not had a suitable replacement aircraft. As soon as that aircraft is available to you, and we saw it as a viable business, we can assure you we went to the manufacturers. We've done everything we can to encourage them to develop a freighter. We have received a very positive response.

So it it not an intentional delaying action. Within 6 months after deregulation, I think we are showing encouraging results that are encouraging people that we are really serious and that there is a market for this aircraft, and they will respond with a good aircraft that will be good for the community and good for the shipping public.

Thank you, Mr. Chairman.

The CHAIRMAN. You said there's marginal noise relief achieved through retrofit of the DC–8 series 60. You cite an 8 percent reduction in noise levels on landing and no perceivable reduction in takeoff.

Yet in DOT's aviation noise abatement policy statement, they report that a fully retrofitted DC-8-61 results in a 9 EPNdB noise reduction on approach and a 10.5 EPNdB noise reduction on takeoff.

Why is there such a discrepancy between your figures and their figures?

Mr. HEALY. No. 1, sir, the DC-8-63 is a later generation aircraft than the 61. It does have increased power thrust. So that if you're weighing perceived reductions, we are already climbing out more rapidly with this piece of equipment than the 61.

And in trying to improve that climb profile, we cannot do any better than we did now with this SAM retrofit.

We will get a reduction on the landing approach because the landing profile is the same as the 61 landing profile.

So our approach information should correlate, but our departure information should not.

The CHAIRMAN. They're pretty substantially the same on approach. You gave us 8 percent, and they gave us a 9.

Mr. HEALY. Understand that to avoid tail strikes, these aircraft have to take off in a two-position segment takeoff. And if you got this increased power, we are able to climb out on a much quicker profile than a 61, having gone through a similar maneuver.

The CHAIRMAN. Now Pratt & Whitney gave us information that indicated that the JT8D-209 engine would be available in 1980.

Considering that all four-engine aircraft have until 1985 for total compliance, why is it that these aircraft can't be made compliant through re-engining at that time?

Mr. HEALY. That's exactly what I'm saying. It's two things, Senator. No. 1, you've got a 1981 deadline. You've got a 1983 deadline.

The CHAIRMAN. Wait a minute. What's the 1981 deadline?

Mr. HEALY. We have to have one-third of the fleet done by 1981, or one-fourth. We have to have one-half the fleet done by 1983, and the entire fleet done by 1985.

Mr. BARCLAY. Aren't those rules flexible, according to the FAA?

Mr. HEALY. Not as far as they have communicated to us, no. OK, that starts off with the first thing. The Pratt & Whitney proposal has not been sent to us, documented for our evaluation yet. Our initial look-see on it is that it is an underpowered engine for the aircraft, so that the aircraft will definitely suffer reduced economic efficiency because of the fact that it cannot perform at the same level it's performing now.

Conversely, the General Electric engine is an overpowered engine for this vehicle. It would have to be derated to similar power, but it does weigh more.

I think the point the Senator has to focus on is that we are placing a new technology engine that weighs more on an aircraft that it was not designed for and there is a tremendous amount of very complicated engineering analysis that must be gone through that has not yet been done to verify that this is, indeed, a feasible alternative to re-engine this aircraft.

The best consensus of our engineering organization who have worked over 2 years on this program is that it is not a feasible alternative to re-engine, and they have encouraged the management to put all of its emphasis on reequipping.

But there still is the option that this is a feasible thing and it can be proven out and we will do everything to support that program.

The CHAIRMAN. I'm sure you're aware of the airport operators' reaction to my suggestion to extend the compliance dates for the two- and three-engine aircraft, which is extended only on the condition that they have signed a contract for acquisition of a stage 3 aircraft as a replacement.

Now you're proposing to slide the compliance date for the four-engine aircraft until 1988, which is 3 years beyond the deadline. If the Congress decided to accept what you proposed, do you have any fears that local communities and airport operators would take retaliatory actions by imposing restrictive curfew rules, which in the case of cargo operators would be most detrimental, because you're doing much of your flying at night.

Mr. HEALY. Two answers to your specific question.

No. 1, we have discussed this in some detail with Chicago, which is really our critical point of departure, because it's really our hub operation.

I think there's really a feeling at O'Hare that a solution like this would be acceptable. As far as our other terminal, it would not seriously impair the service to the public to have departures in the area of 10:30, 11, and midnight, with 6:00 and beyond arrivals.

So that I think if the penalty we had to pay was in this general area, we would generally accept that alternative, until such a time as we were in a position to reequip or re-engine, and then put the airplanes back on a more preferred schedule.

So I wouldn't get overconcerned with them working with us to get a more acceptable compromise through curfew for that interim period.

The CHAIRMAN. I think it would be helpful if you could get them to come in here and advocate your position.

Mr. HEALY. You know that's difficult, Senator.

The CHAIRMAN. Thank you very much. We appreciate your being here.

[The statement follows:]

STATEMENT OF JOSEPH J. HEALY, EXECUTIVE VICE PRESIDENT AND CHIEF OPERATING OFFICER, FLYING TIGER LINE, INC.

Mr. Chairman and members of the Committee, my name is Joseph J. Healy. I am the Executive Vice President and Chief Operating Officer of The Flying Tiger Line.

I am testifying this morning on behalf of the three original U.S. all-cargo airlines—Airlift International, Seaboard World Airlines, and The Flying Tiger Line—all of which operate the late-model "stretched" DC-8 Series 60 cargo and convertible aircraft.

We fully endorse your efforts to develop legislation which will provide meaningful relief for communities impacted by aviation-related noise and we appreciate the opportunity to comment constructively on the legislative proposals now before this Committee.

Mr. Chairman, the common element which has united the three carriers here this morning is our operation in a number of critical missions of the "stretched" DC-8 Series 60 aircraft—an aircraft (1) for which there will be no suitable replacement in these critical missions until after the deadlines for compliance under the existing noise regulations have passed, but (2) for which low noise and high fuel efficiency replacement aircraft or replacement engines could begin entering our fleets in the middle to late 1980s.

Under current regulations, we can seek to maintain our ability to perform these critical missions with our existing DC-8 Series 60 fleets only through the question-

able technology of SAM retrofit. We, the public, and the national economy would all benefit if we could instead replace our fleets with low noise and high fuel efficiency aircraft, or re-engine our aircraft with new technology engines, in the late 1980s. It is these clearly preferable alternatives which we wish to discuss with you today.

The DC-8 Series 60 is the mainstay of our individual fleets, but more importantly, it is the irreplaceable backbone of the U.S. domestic all-cargo fleet, the Military Airlift Command (MAC) contract fleet and the Civil Reserve Aircraft Fleet (CRAF) Program.

To place the DC-8 Series 60 aircraft in perspective, 75 percent of the aircraft in the combined fleets of the three original domestic all-cargo carriers are DC-8 Series 60 aircraft. The Series 60 DC-8s have been and will for several years remain the only aircraft with which we can provide efficient service to most major domestic freight markets. The size and efficiency of these aircraft make them ideal for this mission. Since delivery 10 years ago of the average life DC-8 Series 60 aircraft, the growth and economics of domestic all-cargo air transportation have been neither adequate to justify the manufacturers developing a new technology all-cargo aircraft nor sufficient to support new aircraft orders by carriers. As a result, our present DC-8 fleets cannot be replaced, or re-engined, in time to meet the existing noise compliance schedule.

For the past 10 years, the DC-8 Series 60 aircraft has been MAC's most efficient and economical vehicle for military cargo and passenger charter operations. The economical rates at which military contract service is currently operated are the direct result of the cost-saving contribution of the stretched DC-8 aircraft. The range, efficiency and capacity of these aircraft make them uniquely suited to MAC's requirements. No other aircraft can be made available on the existing noise compliance schedule with which MAC could efficiently obtain the desired frequency and capacity of service provided by the stretched DC-8s.

Finally, the entire cargo and convertible DC-8 Series 60 fleet of the carriers represented here today, a total of 30 aircraft with an aggregate payload of 1,500 tons, is dedicated to CRAF for emergency transportation requirements. The cargo and convertible DC-8 fleet of these three carriers comprises 25 percent of CRAF's cargo capable aircraft. As this Committee is aware, the CRAF Program has been endorsed by the present as well as prior administrations as being the most cost-effective program to enhance the emergency airlift capability of this nation.

I emphasize these three missions—domestic all-cargo service, MAC contract service and the CRAF Program—to underscore the critical function of these modern and efficient DC-8 Series 60 aircraft. These aircraft are a presently irreplaceable national asset, essential not only in service to the consumer and the shipping public but as a cornerstone of our national defense as well.

Prior to all-cargo deregulation, it was difficult to foresee either the technical development of a replacement aircraft or the financial opportunity to replace existing fleets. A replacement engine was similarly unavailable. Retrofit, despite its serious drawbacks, was the only potentially feasible solution.

However, neither the industry nor the Congress was able to foresee the dramatic change which would be brought about by the deregulation of the domestic all-cargo industry. Flying Tiger, as only one example, has increased its domestic operating points by 45 percent, which will expand from 90 to 240 the number of potential city-pairs between which we offer service. Just as impressive, Flying Tiger's domestic revenue ton miles for April 1978 showed an increase of 55 percent over the April 1977 figure.

With the pricing freedom and freedom of market entry afforded by deregulation, we and the other domestic cargo carriers now see a potential volume of business and a promise of profitability sufficient to support development of the next generation of domestic freighters.

The importance of deregulation has also been perceived by the aircraft manufacturing industry. Indeed, for the first time in over a decade, manufacturers see a firm market for a specially designed domestic cargo aircraft. The significance of this development is that the all-cargo operators here this morning are earnestly seeking the opportunity to reequip our fleets with advanced technology aircraft. And our future generation all-cargo aircraft is on the horizon, but will not be available to meet the compliance dates under the existing schedule. The current regulations therefore will preclude us from exercising the fleet replacement option unless relief is provided.

Our analysis of alternative aircraft has included new Boeing aircraft as well as derivatives of the DC-10, L-1011, A200B and L-100 aircraft. One of a number of promising designs is an adaptation of the military's Lockheed turboprop L-100

aircraft produced in Marietta, Georgia, which with substantial re-engineering would appear to have strong potential as an excellent domestic freighter.

But the schedule on which such replacement aircraft could be made available is the critical issue. Although there is every assurance from the manufacturers that a new technology freighter aircraft will be available in the middle to late 1980s, there will be no satisfactory replacement for the DC-8 fleet to meet the existing compliance schedule.

Similarly, the aircraft and engine manufacturers are now working on programs to install new technology replacement engines on the DC-8 Series 60 fleet. Based on the information available to date, DC-8 Series 60 aircraft equipped with these engines will be able to meet the advanced Part 36 noise suppression standards under which modern wide-bodied aircraft were certificated and might meet the advanced standards for newly certificated aircraft. But these programs are not yet fully developed, and their viability depends on a number of contingencies. We do not believe these contingencies can be removed and these programs fully developed to meet the existing compliance schedule. However, with additional time, re-engining offers the promise of greatly increased noise reduction as well as fuel economy.

In short, the late model DC-8 Series 60 aircraft, which we estimate to have 12 to 14 years of remaining physical and economic life, can neither be replaced nor re-engined in time to meet the existing noise compliance schedule. They can be retained in service to perform their critical roles only through the uncertain expedient of SAM retrofit. But for the DC-8 Series 60 aircraft, SAM retrofit is a very poor alternative:

Retrofit provides only minimal Part 36 compliance.

Retrofit adversely affects aircraft operating efficiencies by increasing the empty weight of the aircraft, thereby increasing fuel burn and decreasing payload.

Retrofit availability is not assured.

Cost estimates for retrofit hardware are highly variable depending upon numbers of orders.

I want to reemphasize the marginal noise relief achieved through retrofit of the DC-8 Series 60 aircraft. Current DC-8 noise levels on landing would be reduced approximately 8 percent. There will be no perceivable reduction in takeoff noise.

The major problem, however, is that every dollar invested in retrofitting the DC-8 Series 60 aircraft drives the carriers to utilize the aircraft for a longer period of time in order to amortize the investment. The result is lengthier service by aircraft operating at approximately today's noise levels with an attendant delay in the introduction of new technology aircraft. Clearly, this defeats the goal of both the Congress and the airline industry in encouraging the rapid re-engining or replacement of older, noisier aircraft with the newest technology.

Mr. Chairman, the solution we are proposing is that the DC-8 Series 60 cargo and convertible aircraft fleet be required to comply with Part 36 in 1988. DC-8 Series 60 operators, in order to qualify for this extended compliance deadline, would be required to submit a signed contract to the Secretary of Transportation by 1985 for delivery of Part 36 Stage 2 or better replacement aircraft or re-engining with Part 36 Stage 2 or better replacement engines by 1988.

There are a number of compelling considerations which argue for delaying the compliance deadline to 1988 for the DC-8 Series 60 cargo and convertible aircraft:

Retrofit provides an insignificant reduction in perceived noise.

Aircraft replacement and re-engining is accelerated.

The shipping public and the consumer will be benefitted by the availability of better aircraft.

I add that the noise impact of permitting the longer operation of unmodified DC-8 Series 60 aircraft is minimal. The U.S. DC-8 Series 60 cargo and convertible fleet currently consists of approximately 60 aircraft, less than 3 percent of the total U.S. commercial fleet. These aircraft account for no more than 2 percent of the commercial fleet's daily operations.

In summary, the three operators represented here this morning are confronted with a Hobson's choice. The backbone of our fleets—and the mainstay of the domestic all-cargo system, the MAC contract fleet and the CRAF Program—has been declared obsolete as a matter of national policy. The only potentially feasible alternative for noise compliance by 1985 is retrofit which provides marginal, if any, noise relief. We are therefore urging that the 1985 compliance date for the DC-8 Series 60 cargo and convertible aircraft be extended until 1988 now that the development of a replacement aircraft is most probable. This will permit operators to reequip or reengine with Part 36 Stage 2 or better technology.

Mr. Chairman, as an additional point, I would like to comment briefly on the definition of "noncomplying aircraft." We strongly endorse the language of S. 3064

which defines a noncomplying aircraft, inter alia, as "in service of the effective date" of enactment of the noise reduction legislation.

As my testimony has emphasized, all-cargo deregulation has placed a premium on utilizing the most efficient domestic freighter in service today—the DC–8 Series 60 aircraft. Since deregulation, the Flying Tiger DC–8 fleet, for example, has been expanded 15 percent in order to serve our new markets. The more recent acquisitions, however, are ineligible to receive the excise tax credits provided for under the proposed House noise reduction bills because the aircraft were purchased after January 24, 1977. To remedy this shortcoming, we urge the adoption of the noncomplying aircraft definition contained in S. 3064 so as not to penalize the all-cargo operators responding to the challenge of deregulation.

Mr. Chairman, this completes my statement.

The CHAIRMAN. That concludes our hearings at this time, except for our flyover on Saturday morning.

[Whereupon, at 12:30 p.m., the hearing was adjourned.]

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AIRCRAFT AND AIRPORT NOISE REDUCTION

SATURDAY, JUNE 17, 1978

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE ON AVIATION,
Dulles International Airport, Va.

The subcommittee met at 9:15 a.m., at the Pan American ticket counter, Dulles International Airport, Hon. Howard W. Cannon (chairman of the committee) presiding.

OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN. First, I want to say good morning to all of you and thank you for coming out this early in the morning to see what's going on. We appreciate your interest and it's obvious that we don't even have enough chairs set up for everyone, so perhaps, if this can't be remembered for its nice impact, it can be remembered for the fact that we got you all up early on a Saturday morning to come out here.

This morning's flyover is the conclusion of the Aviation Subcommittee hearings on aircraft noise legislation being considered by the Committee on Commerce, Science, and Transportation of the Senate. Nothing during the 4 days of testimony that we have recently heard, and indeed testimony received by the subcommittee over the past 10 years, has been subject to more disparate views than the question of the effectiveness or ineffectiveness of retrofitting two- and three-engine aircraft by adding sound absorption materials to the engines. We have heard from a variety of witnesses who say that retrofit's effect is imperceptible to people outside of laboratory conditions; other people claim very strongly that retrofit can provide substantial relief.

We are here this morning to listen for ourselves and we appreciate you being able to join us. I am particularly pleased that we are able to make a new technology airplane, the A-300, which, incidentally, has General Electric engines, part of this test so that we can judge the effect of retrofit in comparison to the effect of new technology replacement aircraft.

I want to offer a special note of thanks to the FAA and its Office of Environmental Quality and to the Air Transport Association, Braniff, TWA, and Eastern for their efforts to make this demonstration possible. The cooperation of all these people was necessary and I think that everyone should know that the individual carriers are absorbing the substantial costs involved in providing these three aircraft today.

Also I want to recognize the presence of Congressman John Johnson from California. We are delighted to have him here, representing the House.

Now, I would like to turn the hearing over to Mr. Bizz Wesler of the FAA, who will provide the details of the procedure that will be followed here this morning. Thank you very much.

STATEMENT OF BIZZ WESLER, FEDERAL AVIATION ADMINISTRATION

Mr. WESLER. Thank you, Senator Cannon. We are pleased to host this demonstration this morning for you, sir, and also we would like to express our appreciation to the Air Transport Association and the three airlines involved, for the excellent cooperation in setting up this demonstration in a very short time and in establishing the procedures we will follow.

The procedure this morning will be essentially as follows, and as described in the factsheet which I hope each of you has. There will be a series of simulated takeoffs by each of the three aircraft that are involved. The aircraft are: Braniff 727-200 with JT8D series 9 engines; a TWA 727-200 with JT8D series 9 engines. One of those aircraft has a complete noise absorption or sound deadening retrofit. We will not tell you which one is which. We will allow you to determine, if you can, for yourselves, if one is quieter than the other. The third aircraft is the Eastern Airlines A 300 Airbus.

The aircraft will come over essentially in that order. The Braniff first, the TWA 727 second, followed by the Airbus. They will simulate takeoffs, from runway 01 right, at Dulles.

Briefly, Dulles Airport is laid out like this [referring to chart][1] with two parallels and one cross runway. We have arranged this morning to close down the easternmost runway of the two parallels. Normal aircraft takeoffs and approaches this morning will be on the westernmost runway, so that we won't be affected during the demonstration.

The aircraft initially take off on the active runway and come into this horseshoe or racetrack pattern, if you will, and they will fly over us, in trail, that is, one behind the other, four separate times, to simulate departure, or takeoff. Our location, approximately a mile to a mile and a quarter south of the runway, has been picked so that, as the aircraft fly over simulating takeoff, we will be located approximately 3 miles from the end of the runway at a typical airport.

The aircraft will fly at about 1,700 feet above the runway and then apply climb power, so that at the time they pass over us, they will be in a climbing operation, just as if they were taking off from a runway, about 3 miles distant.

We essentially are asking you to listen to the three aircraft, to judge the relative loudness or noisiness or nuisance or whatever term you wish to use to tell how aircraft noise affects you. And it does affect you.

We hope each of you has a questionnaire. It's a very simple questionnaire and we would like for you, after all four of the series of takeoffs have taken place, to indicate simply, could you tell the

[1] See "Results of Aircraft Noise Flight Demonstration," June 17, 1978, p. 375.

difference between the first two airplanes, and if so, which one was quieter?

And second, could you tell the difference between the third airplane and the first two?

After the four simulated takeoffs, there will be then four simulated approaches. The aircraft will reverse direction, and will then come in and approach along the normal instrument landing system, ILS radio beam, to runway 01 right. We are located approximately 1¼ miles from the end of the runway. This would be the typical location, about 1¼ miles from an active runway at an ordinary airport with aircraft flying over as they approach the end of the runway.

There will be four series of approach flyovers also. We would ask you, after the second series of four, that is the approaches, to again indicate if you were able to tell any difference between the first two airplanes and the first two airplanes and the third airplane and, if so, which was quieter.

We will pick up your questionnaires after all of the flyovers have been completed.

The airplanes are scheduled to takeoff from the active runway at 9:30, and they should be over here by 9:40. We have radio communications between the tower and the airplanes and ourselves, and we will give you roughly a 1-minute warning before the first of the three aircraft comes over. They will be separated, for safety purposes, by about 4 miles. That is, from one aircraft to the next, about 4 miles separation. That is about a minute in time, between flyovers. So we will give you a minute warning, then there will be a series of three flyovers, separated by about a minute each.

The CHAIRMAN. Any questions?

Thank you very much. Thank you, John.

Mr. WESLER. Thank you, Senator. It will be about 15 minutes before the first series of flyovers, so you are free to roam.

[The hearing concluded at 9:25 a.m.]

29-661 O - 78 - 23

Additional Articles, Letters, and Statements

HAMMEL HOLLAND SEASIDE CIVIC ASSOCIATION, INC.,
Rockaway Beach, N.Y., April 5, 1978.

Hon. DANIEL P. MOYNIHAN,
New York, N.Y.

DEAR MR. MOYNIHAN: This organization, comprising approximately 1,200 individuals and functioning in the center of the Rockaway Peninsula of Queens County, New York City and situated five miles from the John F. Kenndy International Airport, support H.R. 8729 "Airport and Aircraft Noise Reduction Act," approved by the House Public Works Transportation Committee.

The bill, as we understand same, provides for financial aid to effectuate lower noise levels by aircraft to meet such levels. It is anticipated such compliance will occur by retrofitting, reengineering existing fleets, or by newer quieter planes.

We believe the collection of a 2 percent surcharge on air fares, and taking it off the backs of the taxpayer by reducing federal taxes by 2 percent is a sagacious solution.

Noise reduction for jet aircraft has been a national concern for many years. This we believe is an excellent start on accomplishing this purpose. In addition to positive action on lowering noise emissions, this Act will provide funding for aircraft changing and/or replacement. In essence, it will be a shot in the arm for the aircraft industry and its satellites.

We solicit not only your support for this legislation, but your dedication to bring such legislation to final enactment and approval. Millions of people, residents around various national airports, will thank you for any surcease from noise harassments.

Respectfully,

JOHN J. FETSCHER, *President.*

TRANSPORTATION ASSOCIATION OF AMERICA,
Washington, D.C., June 9, 1978.

Hon. HOWARD W. CANNON,
Chairman, Senate Aviation Subcommittee,
Committee on Commerce, Science, and Transportation, Washington, D.C.

DEAR CHAIRMAN CANNON: On behalf of the Transportation Association of America, I should like to express our preference for the approach taken in H.R. 8729, as reported by the House Public Works and Transportation Committee, as a means of facilitating compliance by commercial air carriers with new FAA noise reduction standards. This bill, the Airport and Aircraft Noise Reduction Act, would accomplish this under Title III by authorizing the use of portions of existing user-taxes on commercial passenger and cargo traffic to pay specified percentages of the total costs of engine retrofit, engine replacement, or purchase of new aircraft.

For the record, TAA is a national policy organization made up of users, investors, suppliers, and carriers of all modes who work together to develop national policies designed to maintain the strongest possible transportation system under private-enterprise principles. Policy positions are developed through eight permanent advisory Panels consisting of approximately 250 top executives who represent the diverse transport interests noted above. While commercial air carriers are represented in this TAA policymaking group, they constitute only a small fraction of the TAA membership—approximately half of which are in the transport user and supplier categories.

All TAA policy positions must be formally adopted by the 115-member TAA Board of Directors, a current roster of which is attached. Three policies govern TAA's support of H.R. 8729. One is the support of the trust fund concept; the second is support of an impartial cost/benefit analysis of government regulations and pro-

grams; and the third is support of government financial assistance to carriers when burdens are placed on them for strictly environmental purposes in the general public interest.

TAA gave strong support to the creation of the Airport and Airway Trust Fund and to its funding through user-taxes (8 percent air passenger ticket tax, 5 percent air cargo waybill tax, and $3 per-person international air travel tax) as a means of alleviating the heavy burden of financing airway and airport capital expenditure programs. TAA has also opposed efforts to divert income from this Trust Fund for purposes other than those intended when it was created.

The growth of commercial air traffic has assured the success of the Airport and Airway Trust Fund, as evidenced by its generation of close to $1.2 billion in user-tax income during fiscal 1977, and an expected $1.3 billion in fiscal 1978. This income has been exceeding by a considerable amount the annual appropriations from this Fund, leaving a sizeable surplus of nearly $2.0 billion at the end of fiscal 1978. Even if the portions of these taxes under Title III are used for noise reduction purposes, we understand that sufficient income will remain in the Fund for planned FAA expenditures from it for airport and airway purposes. Thus, the present aviation user-taxes are sufficient to accommodate the objectives of both programs without imposing an additional burden on air travelers and shippers.

When the FAA directed the commercial airlines to comply with new noise standards for their older aircraft, a serious question arose concerning the practicality of retrofitting obsolete and noisy aircraft from a cost/benefit standpoint. While TAA still doubts the justification of spending a sizeable outlay of capital funds for the retrofit of older 2- and 3-engine aircraft because of the relatively small reduction in noise levels, we are pleased to see that Title III of H.R. 8729 would authorize 90 percent of the cost of such retrofitting to be provided for through these user-taxes—along with 50 percent of the cost to retrofit older 4-engine aircraft.

We also are pleased to see other, more productive methods of reducing aircraft noise being encouraged under H.R. 8729. Recent developments in aircraft engine technology should permit air carriers to replace engines on their older transports with quiet, fuel-efficient engines; and Title III would authorize user-tax funding of 75 percent of the cost, but not above 40 percent of the cost of a new, comparable aircraft.

In our opinion, the most efficient way—from a cost/benefit standpoint—for air carriers to meet new FAA noise standards is through the acquisition of new-technology aircraft, which are far more economical to operate, can save up to 30 percent of fuel consumption on a per-passenger basis, and emit noise at levels well below the FAA maximums. Stimulation of new aircraft purchases is the best long-range solution to the aircraft noise problem because of these multiple benefits to the public and the airline industry. This industry has been in a financial squeeze in recent years and thus unable to make long-term financial commitments for replacement of their aging fleet of transports. The threat of being forced to pay very high retrofit costs for obsolescent and noisy transport, because of lack of funds for the purchase of new transports, has put another roadblock in the way of airline capital financing. Therefore, we are in full support of the provisions of Title III that authorize user-tax funding of up to 40 percent of the cost of replacement aircraft.

The bill reported by the House Ways and Means Committee, H.R. 11986, modifies the financing provisions of H.R. 8729. Rather than authorize direct payments to air carriers from a special fund created from a portion of present air ticket-waybill taxes, it would establish a system of tax credits and refunds for helping finance the aircraft noise reduction program. Since the results of the two bills should be basically the same, TAA could support either version as being in line with its broad policy views.

S. 747 is similar in approach to the two House bills and reflects the views of the Ford Administration. Since the controversial features of this bill have in most part been resolved in the consideration of H.R. 8729 and H.R. 11986, we believe the latter bills are preferable.

As to S. 3064, the $20-billion U.S.-guaranteed loan bill, we have mixed feelings. First, in line with views already expressed, we see little benefit to the public, from a cost-benefit standpoint, of forced retrofit of existing 2- and 3-engine air transports. Thus, we would prefer the apprroach used in S. 3064 to delay the deadline for these aircraft for meeting the new, tough noise reduction standards, provided they are replaced by a compliant aircraft by 1990. This leads to our second area of agreement, which is the strong emphasis on aircraft replacement as the best solution to the aircraft noise problem.

The guaranteed-loan proposal, on the other hand, does not appear to us as being a proper approach. While it might save air carriers in interest payments, most inves-

tors in TAA have indicated to us that they do not like such loans—especially on a large scale. Their concern, in part, is that such loans tend to disrupt the normal investment market for that particular mode, since such loans compete for funds secured in a conventional manner. Also, experience with another large-scale U.S.-guaranteed loan program—for the railroads under the 4-R Act—has shown reluctance on the part of both carriers and investors to get deeply involved. Finally, the guaranteed-loan approach fails to recognize the sizeable surplus in the present airways-airport trust fund and puts the entire financing burden on the airlines' ability to adjust rates and fares. In a field of very rapidly expanding competition, this approach appears to be a risky one.

As to provisions to provide assistance to airports to meet noise reduction goals, TAA favors a reasonable increase in Federal airport grants because of the public purpose of the noise reduction program. While TAA firmly believes that private-enterprise transport should be as self-supporting as possible, public financial assistance can be justified in those instances when burdens are placed on operators for strictly environmental purposes in the general public interest.

In summary, TAA believes that passage of H.R. 8729 will remove a major roadblock to capital investment in the commercial airline industry, or which Title III is the key element. Approval by your Subcommittee of the user-tax approach endorsed by this bill should have multiple benefits. It should enable airlines to comply with the new noise standards within the mandatory deadlines through a choice of methods; it should stimulate the purchase of new-technology aircraft and engines to give the U.S. aircraft manufacturing industry a needed boost; and it should help to hold down charges to the public for air carrier services.

We urge favorable action by your Subcommittee on H.R. 8729 at the earliest possible date because of the importance of this legislation. We request that this letter be included in the formal transcript of hearings on S. 3064, S. 747, and H.R. 8729.

Respectfully,

PAUL J. TIERNEY, *President.*

DOUGLAS AIRCRAFT CO.,
Long Beach, Calif., June 12, 1978.

Hon. HOWARD W. CANNON,
U.S. Senate, Washington, D.C.

DEAR SENATOR CANNON: McDonnell Douglas appreciates the desirability of limiting the time devoted to hearings on your bill S. 3064 "The Airport and Aircraft Noise Reduction Act of 1978". We believe it is appropriate to have a single testimony from the manufacturers as represented by the Aerospace Industries Association (AIA). We have participated in the development of that testimony and fully support it. However, there are several details of S. 3064 and similar proposed bills which call for special considerations beyond those incorporated into the AIA testimony. We wish, therefore, to submit for the record our comments and recommendations on the proposed legislation.

We believe that a combination of your bill and the legislation under consideration in the House of Representatives, with some modifications, can provide a substantial step in the direction of solving two of the most complex issues which face the air transport industry today—airport noise and the inability of the airlines to obtain the capital necessary for fleet replacement.

The Anderson Bill (H.R. 8729) provided what we would consider to be the absolute minimum assistance required by many carriers to begin the upgrading of their fleet to the quieter more fuel efficient aircraft. Even that assistance is so limited that many carriers would be following the options which provide modifications or replacement aircraft not incorporating the latest noise and fuel efficiency technology. The Corman Bill (H.R. 11986) by its modifications in tax provisions essentially cut that assistance in half for those carriers paying the 48 percent corporate tax rate. Thus, the House legislation falls short of the minimum needs of the carriers. The loan guarantee program of S. 3064 is a different approach which has been of considerable assistance to regional service airlines, but which does not appear to fit the existing financial structure of the trunk airlines and may not provide the type of relief the trunk airlines need. But two provisions of S. 3064 combined with the Corman Bill financing package, could essentially restore the needed assistance level of the original Anderson Bill.

The Corman Bill limited the ticket tax collections to a period of five years. The loan guarantees of S. 3064 on the other hand would be available for some twelve years. If the longer time provision of S 3064 were combined with the basic funding

mechanisms of the Corman Bill the minimum assistance required by the operators would again be available. Under the provisions of the Corman Bill there is an understandable objection to a ten year term on the part of those carriers with most of their fleets already in compliance with the old noise level requirements. They would be unable to use the money collected after about five years and would then be, in essence, subsidizing their competitors. However, with the provision in S. 3064 allowing the replacement of Stage 2 aircraft with Stage 3 aircraft, those carriers could, in fact, make use of the money collected in the second five years. Further, this would continue improving both the noise and the fuel efficiency of the fleet.

We concur with your conclusion that SAM retrofit of the 2- and 3-engine aircraft would not provide meaningful relief for airport neighbors. We, therefore, support the general concept in S. 3064 which would allow those aircraft to be flown without the SAM modification for an extended period provided they are committed to replacement by some reasonable date. We do believe, however, that in this case, the neighbors should be given a greater degree of relief in exchange for the delay. Thus, the replacement aircraft should be limited to those which meet the Stage 3 noise standards. We are confident that such an incentive would result in there being ample Stage 3 aircraft available to the carriers in the time frame that you establish.

We have been quite concerned with the short time permitted to the air carriers under the House legislation to decide on their course of action. We believe the twelve months permitted under S. 3064 is far more realistic.

We are deeply concerned with the capacity limitations in both the Senate and House legislation. We appreciate the reasons for such provisions but they pose some very serious problems which are not immediately obvious. In fact they tend to discourage the operator from purchasing available Stage 3 aircraft. We believe that such provisions should be deleted or at least substantially modified if the legislation is to achieve its goals. The disadvantage of such a provision are discussed in some detail in an attachment to this letter.

With these points in mind we would suggest the following for the legislation:

1. The provisions of S. 3064 which would permit carriers to continue operating 2- and 3-engine aircraft until some later date provided they commit to replacement aircraft. We believe that in this case the replacement aircraft should be limited to Stage 3 aircraft.
2. The provisions of S. 3064 which would permit carriers to utilize the financial assistance to replace Stage 2 aircraft with Stage 3 aircraft. (This should be limited to the replacement of aircraft powered by low bypass ratio engines.)
3. The provisions of S. 3064 allowing the carriers twelve months to resolve their course of action.
4. The basic funding mechanism of the House legislation H.R. 8729 as modified by H.R. 11986.
5. An increase in the duration of collections of the 2 percent ticket tax from five years to ten years.
6. Either deletion of the 107 percent (110 percent) capacity limitation or an increase to a value no smaller than 150 percent.

I believe that with the suggestions indicated this legislation can make a substantial contribution to both our national air transportation system and our environment. Your efforts in this area would be very much appreciated.

Sincerely,

JOHN C. BRIZENDINE, *President.*

Enclosure.

CAPACITY LIMITATIONS IN AIRPORT AND AIRCRAFT NOISE LEGISLATION

Both H.R. 8729 and H.R. 11986 establish a limitation on the capacity of the replacement fleet obtained with financial assistance as provided by the bills. The capacity of a carrier's replacement fleet could be no greater than 107 percent of the capacity of the non-noise complying fleet being replaced. S. 3064 would establish a similar capacity limitation at a value of 110 percent.

The reasons offered for this limitation are that (1) while it is appropriate for this program to assist the operators in complying with the noise regulations, it is not appropriate for this program to assist an operator in the expansion of his fleet; and (2) the recent acquisition of widebodied aircraft by the U.S. fleet at a time when passenger traffic was not growing as anticipated provides ample evidence of the dangers of over expansion. Both reasons are understandable. Unfortunately, however, the total impact of this provision would be quite detrimental to the aims of the legislation.

The disadvantages of the provision are as follows:

1. It denies allowances for the normal traffic growth in our air transportation system. Even conservative estimates would show a traffic growth rate of 5 percent per year. A carrier will normally expect to operate a new aircraft over a period of 15 to 20 years. A 5 percent growth rate would result in the need for a 55 percent increase in capacity in just 9 years. Some carriers may be able to shuffle aircraft around to allow for such an increase in needed capacity other than by direct replacement but many small carriers cannot. Thus, it would be logical for many carriers to obtain replacement aircraft which have a capacity of around 1½ times the aircraft being replaced. This limitation would discourage them from this natural expansion of capacity.

2. For a given level of technology, the greater the capacity of an aircraft the greater its efficiency in terms of both economics and effective use of energy. Obviously, this greater efficiency is offset if the larger aircraft is flown at lower load factors. However, the capacity limitation provision in essence, offers an incentive to go to the smaller replacement aircraft. The carriers are probably more conscious than the Congress of the problems brought on by the recent over-capacity situation. They will guard carefully against a repeat of that situation. However, they should be allowed to plan their future fleet to achieve the greatest degree of efficiency without the burden of this capacity limitation.

3. The Anderson legislation made a very strong point of the need to offer a greater incentive for the carrier to obtain replacement aircraft meeting the new more stringent noise certification standards. The incentive is to offer grants of up to 40 percent of the cost of a replacement aircraft meeting the new noise standards and up to only 15 percent of the cost of a replacement aircraft meeting only the old noise standards. The 107 percent capacity limitation not only negates that incentive but in many cases offers the carriers a greater leverage incentive to purchase an aircraft which cannot meet the new noise standards. This effect is illustrated in Figure 1. The major replacement program expected from this legislation is replacement of the current fleet of DC–8 and B–707 aircraft. The capacity of these aircraft is about 140 seats. If a carrier must replace on a one for one basis, which is usually the case, the full 25 or 40 percent of cost would then be available if the replacement aircraft has up to 150 seats (107 percent of 140 seats). For higher capacity aircraft the percent of cost available is effectively reduced by the 107 percent limitation as shown on the curves. The 727 powered by low bypass ratio engines cannot meet the new noise standard and would thus qualify for assistance of 25 percent of its cost. Because its capacity is within the 107 percent limitation there would be no reduction in that 25 percent. The DC–9 Super 80 meets the new noise standards and it is in the same capacity region but it's short to medium range makes it generally unsuitable as a replacement for the DC–8/B–707 so it has not been included on the figure. The only suitable replacements which are currently available and which meet the new more stringent noise requirements have a much higher capacity. In fact, at their capacities, the 107 percent limiting would effectively reduce the percentage cost available to less than the 25 percent available to the 727–200. Thus, the 107 percent limitation would result in the program offering greater leverage for the operator to buy the noisier aircraft. In order to overcome this negative incentive and provide at least some leverage incentive for the quieter aircraft, it would be necessary to raise the capacity limitation to about 150 percent (which would be appropriate for normal traffic growth rates). The impact of this modification can be seen in Figure 1.

If a loan guarantee program, as provided in S. 3064, were adopted in place of the grant program of the House bills, the impact of the capacity limitation is even greater. S. 3064 would guarantee loans of up to 90 percent of the cost of replacement aircraft. While it establishes the slightly less stringent limitation of 110 percent on capacity, it has no offsetting incentive for quieter aircraft. The net result can be seen in Figure 2. Again the B–727–200 would be unaffected by the capacity limitation and would qualify for the full 90 percent loan guarantee. But the available widebodied aircraft would qualify for loan guarantees of only 35 to 55 percent of the cost of the aircraft.

It appears that while there are logical reasons behind the inclusion of the capacity limitations in the noise legislation, it causes far more problems than it solves. Such limitations should be dropped or, as a minimum, modified as indicated in Figure 1. In the event a loan guarantee program is adopted, the capacity limitation should be dropped.

IMPACT OF THE 107-PERCENT CAPACITY LIMITATION OF THE AIRCRAFT NOISE BILL

ONE FOR ONE REPLACEMENT OF B707/DC-8 AIRCRAFT

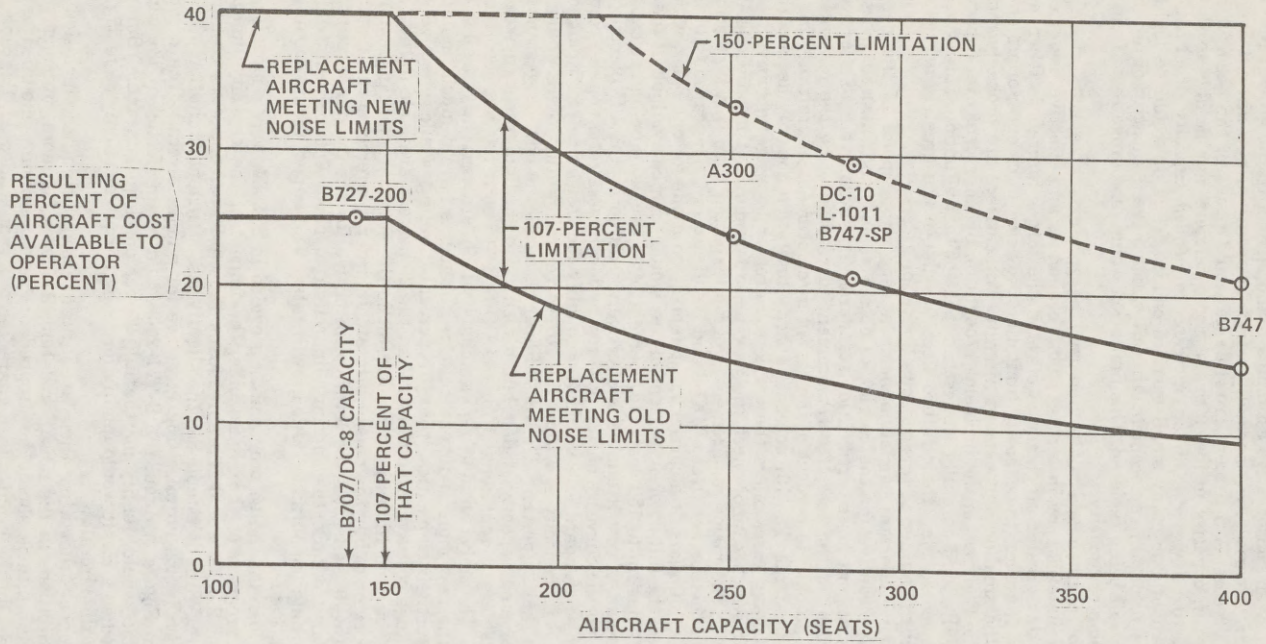

FIG. 1

IMPACT OF THE 110-PERCENT CAPACITY LIMITATION OF THE AIRCRAFT NOISE BILL (S-3064)

ONE FOR ONE REPLACEMENT OF B707/DC-8 AIRCRAFT

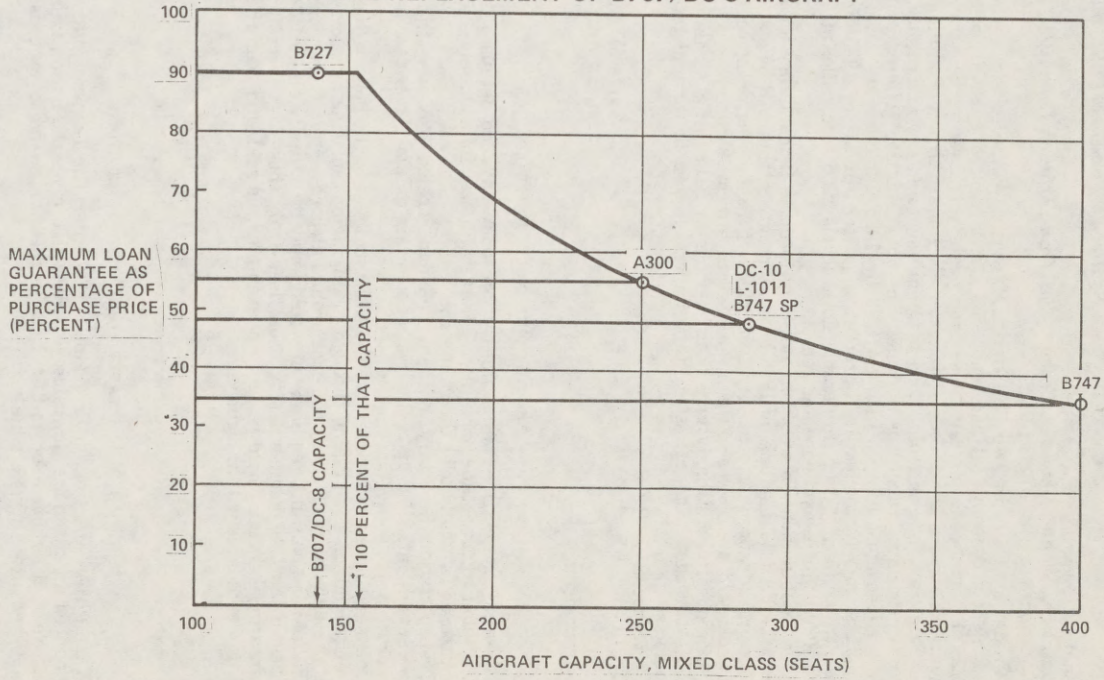

FIG. 2

AIRPORT IMPACT REDUCTION FORCE,
South San Francisco, Calif., June 12, 1978.

Senator HOWARD W. CANNON,
Chairman, Senate Commerce, Science, and Transportation Committee, Aviation Subcommittee, Washington, D.C.

CHAIRMAN CANNON AND COMMITTEE MEMBERS: We are citizens who suffer daily and nightly the physical and emotional effects caused by hour, after hour, after hour of horrendous aircraft noise. For years we have worked through all local agencies, Airport Land Uses Committee, Regional Airport Planning Commission, San Francisco International Airports Commission and city and county governments. Our efforts have brought us no relief. The only "solution" offered us has been that the airlines must comply with FAR 36 by 1985. Included are several newspaper clippings from November 1976 promising quieter aircraft by 1985. For those of us presently suffering from intolerable noise levels 1985 seems like an eternity away and 1990 is far beyond hope and reason.

Our recommendation would be not only to make it manditory for all aircraft to meet the FAR 36 deadline by 1985 but to strengthen the FAR 36 standards to meet the more advanced present day technology. FAR 36 was designed to reflect the technology of the 1960s and the interest of the aircraft industry.

We request and strongly urge that hearings by held in California on Senate Bill 3064. A broader scope of testimony is important to a better understanding of the problems.

Sincerely,

ANITA MARAVIGLIA,
Airport Impact Reduction Force.

Attachments.

REDUCED JET NOISE PLANNED

WASHINGTON (UPI).—The administration today unveiled details of a multibillion dollar plan to cut jetliner noise by 30 percent almost immediately and to reduce it even more drastically over the next eight years.

Transportation Secretary William Coleman labeled present jetliner noise "an unacceptable intrusion upon the lives of some six million Americans" who live near airports.

Coleman told a news conference the estimated cost of the noise reduction program totaled $5 billion to $8 billion through modifying or replacing most existing jetliners and through changing flight patterns around airports.

He said the muffling requirement would apply to virtually all but 494 of the 2,148 planes in the U.S. commercial aviation fleet. Only those U.S. aircraft operating on international flights would be initially exempted, he said, and even they must meet the new standards within eight years.

[From the San Francisco Chronicle, Nov. 19, 1976]

A TIMETABLE FOR CUTTING JET NOISE

WASHINGTON.—Acting on President Ford's order, the Transportation Department announced an anti-noise timetable yesterday that gives the nation's airlines four to eight years to replace or muffle 1,600 planes whose noise exceeds legal limits established after they were built.

Also announced was a rule that will diminish overall noise through new landing procedures calling for use of lower engine power.

The policy was enunciated October 21 by Mr. Ford.

The rules governing the noisy planes and the new landing procedures are considered unlikely to be upset by the Carter administration, because reduction of aircraft noise has wide public support.

The critical issue is whether compliance with the noise standards should be accomplished by muffling the engines of existing planes, or by replacing the planes.

Muffling would cost an estimated $750 million to $1 billion but would bring much lower volumes of noise and would result in greater fuel economy and other benefits, as compared to a replacement program that would cost up to $8 billion.

The policy statement was put forward at a joint news conference by Transportation Secretary William T. Coleman and James L. McLucas, head of the Federal

Aviation Administration. The FAA, a part of the Transportation Department, supervises the nation's airways and promulgates rules for aircraft operation.

Calling excessive aircraft noise "an unwarranted intrusion upon the lives of some six million Americans," Colemen emphasized the need for cooperative efforts if plane noise is to be kept in bounds.

Less Noise in the Skies: Drive on Soon To Cut Roar of Jets

Washington.—The estimated 6 million Americans bothered persistently by noise from overhead aircraft should begin to hear a difference in the skies within a year.

So says U.S. Transportation Secretary William T. Coleman in laying out the specifics of the Ford administration's long-awaited aviation noise policy statement.

The policy, which will go into effect in January, 1977, requires that all domestic aircraft not now in compliance with present federal noise standards—more than three-fourths of the existing fleet—either muffle the engine roar by retrofitting or replace the planes to meet federal standards by 1985.

The older and noisier four-engine craft which fly in and out of only one-fifth of the nation's airports net the most lenient of the various assigned deadlines. While two- and three-engine craft, which account for the bulk of the existing 2,148 plane commercial fleet, would have six years to come into full compliance, half the job would have to be completed within four years under the federal rules.

However the quieting job is done, it will not be cheap. Secretary Coleman at a press conference unveiling the plan's specifics estimated the cost of $5 billion of $8 billion, discounting normal attrition. Administration recommendations on financing, if any, will not be made until Secretary Coleman hears out the pros and cons of various proposals at a Dec. 1 public hearing.

Although the option of how the job is done is up to the airlines, they are unanimously on record as favoring replacement over retrofitting but say they cannot do the job without federal help.

Secretary Coleman also insisted that the federal government cannot solve the jet noise problem alone. He noted that local governments must exercise control over land use development, zoning, and the acquiring of additional airport land, for instance.

[From the NBS Handbook 119, U.S. Department of Commerce/National Bureau of Standards]

Quieting: A Practical Guide to Noise Control

CHAPTER 2—NOISE AS A HEALTH HAZARD

When you are in a sound field whose level as read on a sound-level meter is 70 dB or more, even though you know consciously that you are in no hazard, some part of your body tries to run away. The signs of this are the common symptoms of nervous stress: Your heart beats more quickly; breathing becomes shallower and faster; the pupils of your eyes dilate; the small blood-vessels in your skin contract; your blood pressure rises. These are the actions of a body arousing itself to escape. During sleep the sound level need only exceed 55 dB to produce changes resembling the waking stress for 70 dB.

You can become "accustomed" to the noises in your environment, but all that this means is that you can become accustomed to eliminating the noise from your conscious attention. The physiological effects persist. If you are compelled to work in noisy surroundings, the only warnings of acoustically induced stress may be signs of fatigue and nervous strain.

Experiments with anesthetized animals show that the stress reactions persist at the same levels whether or not the animal is aware of them. Adaptation to the stress does not occur. Studies of noise reactions of people living in crowded neighborhoods also have shown that, over a period of years, the rate and kinds of complaints about noise did not change.

No one knows how many of the stress-induced diseases of our modern era are made more prevalent by the rising noise levels in our densely populated cities. Note that these levels do not affect hearing. Nor do the results mean that all noise should be excluded. Studies of the effects of noise upon work indicate that some degree of ambient sound (which might as well be pleasant, such as the sounds of a fountain, or background music) helps maintain arousal during repetitious tasks; only the very highly demanding mental tasks are done better in wholly quiet surroundings.

Noise damage to hearing is an insidious process. The immediate effects do not always indicate the ultimate results of exposure. Exposure to a mildly excessive

noise level results in a temporary desensitization of the ear, the so-called "temporary threshold shift," a temporary loss of the ability to detect faint sounds. Noises likely to cause a temporary threshold shift are encountered during subway rides and airplane trips. Some degree of temporary threshold shift may be detectable even on the day following exposure, but ultimate recovery can be complete.

However, this pattern of threshold rise and recovery sometimes goes on through a number of cycles without any further evidence of damage, and then there may be sudden failure to make complete recovery. This permanent effect—"noise-induced permanent threshold shift," sometimes abbreviated in capitals as NIPTS—is a sensorineural hearing loss. That is, the damage is located at the auditory nerve, itself, with serious consequences.

Studies of NIPTS over a period of time have shown some evidence that persons are particularly likely to suffer hearing damage when they are going through physiological change or enduring physical stress such as rapid growth or illness. Thus, the common practice among teenagers of listening to extremely loud amplified music for long periods of time, especially through earphones, may have very serious consequences. Young persons, in particular, frequently engage in several activities each of which may be sufficiently noisy to constitute a hearing hazard. For example, it is not unusual for a high school student to earn spending-money during summer vacation by mowing neighborhood lawns with a typical, usually very noisy, power mower. The same person also may rehearse several hours a week with a loud rock and roll band, then play for hours at the Saturday night dance. And finally for excitement on recreation, the student may spend his leisure time riding a powerful but noisy motorcycle, water skiing behind a noisy high-speed motorboat, or perhaps skeet shooting at the gunnery range. Although no one of these activities may cause any hearing impairment for short or infrequent exposures, they cannot be taken all together at frequent intervals without risking hearing damage.

Impact of Noise on People

Some studies indicate that it is not necessary to be fully awakened by noise to suffer the consequences in terms of physiological fatigue. Research by H. R. Richter concluded that "noise associated with modern civilization and even natural sounds frequently disturb the rest of sleepers without their awareness" (ref. 10).

After protracted periods of exposure to intense noise, particularly of high frequency, animals have shown marked depletion of adrenal constituents. This indicates that their physiological tolerance or ability to adapt to stressful situations has been exceeded. Under these conditions, gastroduodenal ulcers and other pathological changes in the liver and kidneys are possible. It is plausible to expect similar findings in man, but neither the levels nor the exposure conditions required to exceed human physiological tolerance to noise are known.

Noise has been reported to cause vasoconstriction, fluctuations in arterial blood pressure, and even alterations of some functional properties of cardiac muscle. Vasoconstriction of the small arterioles of the extremities occurs with noise exposures of moderate level (about 70 dB) and can become progressively stronger with increasing noise intensity.

N. N. Skatalou, a Russian scientist who studied 589 factory workers, found effects of noise on cardiovascular systems varied with the type of exposure. Steady or continuous noise resulted in "arterial tension, downward trend in venous pressure and reduced peripheral resistance." Intermittent noise, on the other hand, caused "hypertension, rising arterial pressure and frequent capillary spasms" (ref. 10).

The views of several physicians concerned with the adverse physiological impact of noise were summarized by Baron (ref. 2). Dr. G. Jansen found that blood circulation does not adapt to continuing exposure to noise by a return to its initial level. Instead, peripheral blood flow continues to be reduced as a result of continuing vasoconstriction and increased resistance. This phenomenon begins at 60–70 dB and becomes more pronounced as sound intensity increases. Dr. L. E. Farr summarized his views of the effects of noise in the following way: "In disease states such as anxieties, duodenal ulcers and other so-called tension ills, the additive, deleterious effect of noise is real and immediate" (ref. 2).

Coalition for a United Elizabeth

(By Rev. Warner L. Wilson, President)

Whereas the Coalition for a United Elizabeth (CUE) represents groups whose members live in the Newark International Airport flight pattern, and

Whereas the noise and vibration level from commercial airplanes utilizing the Newark Airport is such as to affect the overall well-being of the people who live in proximity to the airport, and

Whereas, an urban renewal project for low and moderate income housing in Elizabeth had to be scrapped because the noise level was such as to prohibit HUD funding, therefore be it

Resolved by the Coalition for a United Elizabeth that we call upon the U.S. Congress to enact H.R. 8729, the Airport and Aircraft Noise Reduction Act and H.R. 11986, the Noisy Aircraft Revenue and Credit Act of 1978.

(This resolution was adopted by the Action Council of the Coalition for a United Elizabeth at its monthly meeting on Monday, June 12, 1978.)

Statement of John L. Baker, President, Aircraft Owners and Pilots Association (AOPA)

I am John Baker, President of the Aircraft Owners and Pilots Association. AOPA is authorized by its more than 205,000 members to represent their interests in matters affecting general aviation. AOPA's members account for the ownership and operation of most of the general aviation aircraft in the nation. I appreciate this opportunity to share with you our views on the noise legislation before you.

BACKGROUND

Our initial evaluation of the legislative proposals to reduce the impacts of noise generated by air carrier aircraft was that they would have little direct affect on general aviation interests. The proposals seemed essentially a matter of concern for the airlines and the noise-impacted airports served by airlines. Consequently, AOPA did not seek participation in the hearings held by the House Aviation Subcommittee on this issue.

However, as the markup of H.R. 8729 proceeded, we became more and more concerned that a substantial portion of the revenues of the Airport and Airway Trust Fund would be diverted from their intended purposes of airport and airway development to support of retrofit, reengining or replacement of air carrier aircraft. Such a development would have two significant consequences for general aviation.

First, the Trust Fund revenues available for airport and airway development would be reduced by approximately one-fourth. This would not be desirable or appropriate. The airport system is still gravely deficient in the number of public-use airports and airport improvements needed to serve the present and future needs of the nation. The airway system still lacks many of the facilities and services needed to make air commerce safer, more convenient, more efficient, and more useful. In short, the "catch up" task of the 1970 Airport and Airway legislation has not been completed; it has only begun. Diversion of Trust Fund revenues to other purposes would not only be premature and would adversely affect economic development—but very likely it would be the first step toward abandonment of the goal of meeting the present and future needs of the nation for airport and airway services. That would be a catastrophe for the nation.

Second, the balance of Trust Fund support by the various user taxpaying sectors would be upset. General aviation would bear a larger proportion of the burden for airport and airway programs while the airline customers would bear a lesser proportion. Given the present bias, whereby the great percentage of Trust Fund expenditures are directed to meeting the expressed needs of the air carriers and the airports which they serve while only a minor fraction is devoted to meeting general aviation needs, such a shift of relative burdens could not be accepted by general aviation.

These are the considerations that prompted AOPA to testify before the House Ways and Means Committee on February 6, 1978 that if a reduction was to be made in the airline customer user taxes which support the Trust Fund, then a comparable reduction should be made in those taxes imposed on general aviation; specifically, reduce the "noncommercial aviation" fuel tax from 7 cents to 4 cents per gallon and eliminate the aircraft use tax. That is still our position if revenues are to be diverted from the Trust Fund—which would be the case under either the House bill or S. 747.

S. 3064 offers a new, and we think preferable, alternative. With minor modifications it would preserve the integrity and purpose of the Trust Fund while helping the air carriers to replace their noisy aircraft at the same time. It would not upset the balance of user taxpayer burdens for the airport and airway programs financed by the Trust Fund.

GUARANTEED LOANS

We favor the loan guarantee approach as a method of assisting the air carriers to meet their requirements to retrofit, reengine or replace noisy aircraft. However, we recommend that you amend the Aircraft Loan Guarantee Act to make all air carriers eligible and extend it for 10 years rather than setting up a new program guaranteed by the Trust Fund. In the years that program has existed, there has never been a default and all administrative costs have been covered by loan fees. In view of the fact that the intent of the legislation is to provide relief to that portion of the general public adversely affected by noise, it is appropriate to guarantee the loans with general treasury revenues.

Moreover, while reservation of a billion dollars of Trust fund money for loan guarantee purposes, as set forth in section 307, is not previsely diversion, it does prevent use of that money for a very long period of time for the purpose originally intended and desperately needed. To redress the airport development problem, we have recommended to the DOT/FAA and the House Aviation Subcommittee that the Airport and Airway Development Act be amended to make more complete use of the amounts in the Trust Fund. (A copy of our presentation to the FAA is attached for your information.) If this recommendation is accepted by Congress (and we hope you will find it of sufficient merit to justify acceptance), the unobligated surplus in the Trust Fund in any given year is likely to be only the amounts credited in the current year. Hence, the Trust Fund would not provide an adequate basis for guaranteed loans of any substantial total after 1980.

The air carriers have argued that their dept/equity ratios and the need for "up front" money prevents the loan guarantee approach from being a practical solution. We find this argument unpersuasive for several reasons.

1. It is our understanding that diversion of Trust Fund revenues in the amount contemplated would only cover approximately one-fourth of the airlines aircraft replacement costs. It seems rather probable that if the other three-fourths can be derived from loans through normal channels, or internally generated funds, or a combination of the two, then so could the one-fourth.

2. We note that many air carrier aircraft are actually owned by financial institutions and operated by air carriers under lease. Under such circumstances, it is difficult to see where a financing problem of unmanageable proportions would arise.

3. We note also the example recently presented by Eastern Airlines which amply demonstrates that even financially hard-pressed air carriers can develop workable alternative financing programs for obtaining new, more productive and less noisy aircraft.

4. Finally, some air carriers have already acquired new aircraft meeting the requirements of FAR 36 and have plans in place to complete the task.

OTHER PROVISIONS

There are two other changes in S. 3064 we think should be made.

Section 201(c) would enlarge the currently authorized Trust Fund expenditures for maintenance of airway facilities. We think the cost of FAA operations, maintenance and administration should be paid from general revenues as a consequence of the public benefit derived by the general public from these Federal aviation programs and the public interest manifested in them. The Trust Fund should be preserved for the airport and airway capital development purposes which caused its establishment. Therefore, we ask that this subsection be deleted.

Section 203 would prevent ADAP assistance to any general aviation airport located astride a county line unless approval had been secured from all incorporated jurisdictions within five miles of the airport perimeter. We understand this provision was aimed at one airport in Ohio but the description could fit several. We do not think it is appropriate to limit airport development in this generalized fashion. We ask that this section be deleted. If Congress wishes to deny assistance to a specific airport, that airport should be named and the reason for denial made clear.

We appreciate your consideration of these views.

[ATTACHMENT]

REMARKS OF ROBERT E. MONROE, VICE PRESIDENT, POLICY AND TECHNICAL PLANNING, AIRCRAFT OWNERS AND PILOTS ASSOCIATION (AOPA)

(Regarding Airport and Airway Development Legislation, Prepared for FAA Consultative Planning Conference, June 1, 1978, at Washington, D.C.)

The Secretary of Transportation has said that the national airport system is now largely in place and all that remains to be done is to improve it and keep it up to snuff. That is true, if the Secretary was speaking only of airports served by air carriers.

It is not true of the airports needed for service by general aviation or the commuters—and particularly so of those airports needed to serve as relievers of congestion at large and medium hub primary airports.

In a nation with some 19,000 incorporated communities and hundreds of rural and recreational resources, a national airport system plan that contemplates barely 3,600 airports hardly seems to begin to respond to the Congressional mandate of fulfilling the present, let alone the future, needs of the nation for air commerce and air access.

Since 1946, the nation has sustained a program for the purpose of fulfilling these needs. The framers of the original aid program envisioned development of 6,000 public-use airports in five years at a cost of $1 billion in federal aid. After more than three decades and the outlay of $3.5 billion, about half of the envisioned airports have received aid.

Moreover, 85 to 90 percent of this aid has gone repeatedly to the some 500 airports with air carrier service while the rest of the nation's needs have languished. And even there, the lion's share has gone to the large and medium hub airports which are capable or close to capable of being self-sustaining while the less fortunate small and nonhub airports got little. Airports served only by general aviation remained at the bottom of the ladder and got very little attention, even for reliever purposes.

For the first quarter century of this program, it was funded out of general tax revenues. For the decade now drawing to a close, it has been funded by special excise taxes levied on direct and indirect users. Airline customers have paid about 92 percent of these user taxes, general aviation about 7 percent and the airlines less than 1 percent.

Now the argument is heard that since airline customers generate the lion's share of the user taxes, the airports which serve those customers should receive the lion's share of the airport aid. This argument neglects two salient facts.

First, it conveniently ignores the 25-year history of preferential aid to those airports from all taxpayers.

Second, it's not the way the tax system in this country works. (Perhaps I shold wish it did, for then my family should get back all the money I pay in income taxes each year.) In fact, the tax system is devised to get money from whence it is most convenient and creates the least fuss and puts it where there is a public purpose to be served.

The Trust Fund limits that public purpose to airport and airway development generally. It should not serve primarily as a mechanism to return tax revenues to the airport of origin. It should serve as a mechanism to complete the airport and airway system so that it serves all the people in the nation well—not just some of those in the larger communities.

It is AOPA's thought that meeting the nation's needs for general aviation airports will serve a vital public purpose, relieve congestion at airports served by air carriers, and improve commerce, tourism, business, industry, agriculture, education and a host of other activities and enterprises, thereby improving the quality of life in our nation for all.

As a consequence, we think the Airport and Airway Law needs major modification. This is what we recommend:

1. Extend the program for 5 years. This will provide continuity and opportunity for what follows.

2. Establish the obligational authority for expenditures from the Trust Fund in any given fiscal year as the sum of the net revenues received during the previous fiscal year plus 20% of the unobligated balance in the Fund as of the end of FY-1980. This will progressively wipe out the surplus, make all of the money available for the purpose intended, and remove the Fund as a target for raids and diversions.

3. For each of the five years, authorize $275 million for facilities and equipment capital investments, $75 million for research, engineering, and development pur-

poses, and the remainder for airport aid grants. This eliminates expenditures for operations, maintenance, and administration; adjusts for inflation in capital costs; and maintains a reasonable level for technology development.

4. Establish in the law a priority table which specifies what kind of sponsors get aid for what purposes and at what matching share. Since the most pressing need is for airports in metropolitan areas (SMSAs), those sponsoring new airports in these areas should take priority over those proposing new airports in nonmetropolitan areas and over those seeking improvements of existing airports. Proposals for airport development should be ranked so that basic requirements are satisfied ahead of more sophisticated improvements. Similarly, the federal matching share should decline as the scale and sophistication—and hence, the self-sustainability—of the airport increases.

The attachment to my remarks presents our latest—and still subject to adjustment—approach to such a priority table. We consider the rationale which I have just outlined essential. The details of its rankings and the matching shares may merit some rearrangement and refinement.

This would eliminate (1) classification of airports as to whether air carrier, general aviation, commuter or reliever; (2) allocation on the basis of either area/population or enplanement formulas; (3) the need for discretionary funds; and (4) the reservation of unemployed funds for two or three years as a result of the present allocation system.

Under such a scheme the aid program would respond to needs and progress toward completion of the airport system rather than doling out money on the basis of activity. The airports with high activity have already had an abundance of aid and it's time the needs of the rest of the nation for convenient access to the air commerce system receive attention.

5. All sponsors, whether public or private, of public-use airports should be eligible for the program. This will save the taxpayers from having to bear the full load of all capital investments in public-use airports and help preserve irreplaceable public-use airports now in private ownership.

6. Systems planning should be limited to states or regional authorities established by states.

7. Master planning should be limited to the sponsors of primary airports in large and medium hubs. Airport layout planning should be sufficient for the rest. In either case, such planning should be assumed as an integral part of the initial grant for airport development.

8. The National Airport System Plan (NASP) should be eliminated. It would no longer serve a useful purpose and the priority table would serve better the only useful function it has.

9. As sponsor applications came in they would be assigned the appropriate priority. All applications for a given year should be submitted by the end of the preceding fiscal year. As soon as the previous year's net receipts are known, the grants can be committed. With such timely commitments, the next construction season can be used to its full advantage.

10. If available funds are insufficient to cover all projects in a particular priority box, those which will be granted should be settled by a lottery. All unfunded applications could be resubmitted the following year.

11. When the time comes that grant applications do not require all the available ADAP funds, that will signal the time for user tax reductions and of what magnitude.

This method of handling the ADAP program would respond to needs, reduce administrative costs, eliminate idle funds, and assure an even greater level of funding than any now contemplated. It would not foreclose any type of airport sponsor. It holds the promise of eventually responding to all legitimate requirements. It compensates for previous inequities and failures. It would restore some badly shaken faith in the airport aid program and the FAA's administration of it.

State aeronautic authorities would continue to have a vital role in creating an environment of public opinion that recognizes and accepts the necessity for more airports and the improvement of them, in helping with funding, and in helping sponsors to apply.

Potential sponsors who have been foreclosed or tried and been denied repeatedly, would stand a reasonable chance of receiving the aid they need.

The previous and current programs have done much good. They also have generated many problems. If left unchanged, they will continue to fail to satisfy legitimate needs long unmet. That, as well as noise, destroys public support.

In addition, the nation needs some real leadership from the FAA; leadership in getting the Airport and Airway Development and Revenue Acts revised to fulfill the

ultimate objectives set by law of meeting the present and future needs of the nation; leadership in educating the general public as to the vital roles which aircraft and airports play in satisfying its economic, social and environmental aspirations; and leadership in administration of the kind of an airport aid program that brings these benefits to more people in more places more quickly than we have dreamed of doing so far.

AOPA urges your favorable consideration of these recommendations. If they are adopted, AOPA would be amenable to continuing the user taxes at their present level until the signal for reduction occurs rather than pressing for reductions before that time.

PROJECT PRIORITIES

0. Airport layout plan.
00. Airport master plan—applicable only to primary airports in large and medium hubs.
1. Land for airport development, including easement for clear zones.
2. Construction of first runway, paved or unpaved, or paving of an existing turf strip, including marking.
3.Short parallel runway on congested airport.
4. Basic taxiway and ramp construction and marking.
5. Basic lighting: runway, beacon, taxiway, ramp, and other.
6. Obstruction removal per FAR 77.
7. Snow removal equipment if weather conditions require.
8. Automated aviation weather observing and reporting equipment.
9. Installation of first instrumentation for instrument approach capability including approach lighting as appropriate (where equipment costs are not covered by F&E) up to and including Cat. I ILS or MLS.
10. Remote communications outlet equipment (where not available from F&E).
11. Fencing.
12. Airport system plan.
13. Additional runway, taxiway and associated lighting.
14. Expansion of existing ramp or construction of additional ramps.
15. Major repair or overlay of paving.
16. Extension of existing runways, taxiways and associated lighting.
17. Visual approach aids (VASI, REIL, etc.).
18. Additional instrument approach capability as per No. 9 above.
19. Access and service roads within the airport property.
20. Reconstruction of paving.
21. Instrument approach equipment and associated lighting for capabilities in excess of Cat. I.
22. Fire-crash-rescue equipment.
23. Miscellaneous other eligible project items not otherwise identified.
24. Terminal facilities.
25. Land banking.

SPONSOR PRIORITIES

A. Sponsor developing a new airport within a SMSA or installing initial facilities thereon.
B. Sponsor developing a new airport outside a SMSA or installing initial facilities thereon.
C. Sponsor making improvements to existing facilities or expanding existing facilities within a SMSA.
D. Sponsor making improvements to existing facilities or expanding existing facilities outside a SMSA.
E. State, or regional authority established by states, with airport system planning authority.

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PRIORITY TABLE—FEDERAL SHARES

Type of Project	Initial Development		Improvement to Existing Facilities		Planning Agency
	Metro (A)	Nonmetro (B)	Metro (C)	Nonmetro (D)	(E)
0 Layout plan	95	95	75	75	(1)
00 Master plan	75	(1)	75	(1)	(1)
Basic VFR:					
1 Land and easements	95	95	90	90	(1)
2 First paved runway	95	95	(1)	(1)	(1)
3 Short parallel runway	(1)	(1)	95	95	(1)
4 Basic taxiway and ramp	95	95	85	85	(1)
5 Basic lighting	95	95	85	85	(1)
6 Obstruction removal (FAR 77)	90	90	80	80	(1)
7 Snow removal equipment (if required)	90	90	80	80	(1)
Basic VFR:					
8 Weather equipment	90	90	80	80	(1)
9 First instrument approach equipment through category I	90	90	85	85	(1)
10 RCO equipment	90	90	80	80	(1)
11 Fencing	90	90	80	80	(1)
12 System plan	(1)	(1)	(1)	(1)	75
Increased capability:					
13 Additional runway, taxiway, and lighting	80	80	75	75	(1)
14 Ramp expansion	X	X	80	80	(1)
15 Paving repair/overlay	X	X	80	80	(1)
16 Runway/taxiway extension and lighting	X	X	80	80	(1)
17 Visual approach aids	80	80	70	70	(1)
18 Additional instrument approach equipment through category I	75	75	70	70	(1)
19 Access/service roads	70	70	65	65	(1)
20 Paving reconstruction	(1)	(1)	65	65	(1)
21 Instrument approach equipment over category I	60	60	55	55	(1)
22 Fire-crash-rescue	50	50	45	45	(1)
23 Miscellaneous other eligible	50	50	45	45	(1)
24 Landside terminal facilities	40	40	30	30	(1)
25 Land banking	25	25	(1)	(1)	(1)

[1] Not applicable.

Statement of John J. O'Donnell, President, Air Line Pilots Association, International

I am Captain John J. O'Donnell, President of the Air Line Pilots Association, International (ALPA), which represents the interests of more than 30,000 professional pilots. We are pleased to have the opportunity to present our views on legislation to reduce aircraft noise around airports.

My comments today will be directed primarily at S. 3064, which was introduced last month by you, Mr. Chairman, and Senator Pearson, and the legislation reported out of committee in the House of Representatives.

As airline employees, we believe passage of effective legislation to control aircraft noise would be a major step toward securing the future of our commercial airline industry.

Our industry stands at the threshold of the largest re-equipment program in its history. The current estimate is that the industry will need $65 billion to buy new aircraft between now and 1989.

There are at least two reasons for this huge demand for new capital. First, many airline transports are due to be replaced sometime in the next seven years. Second, the Federal Aviation Regulation of January 1976, requiring all airline transports to meet current noise standards will force the carriers to spend billions of dollars on quieting their fleets.

The airlines have three choices in complying with the noise regulation. They can buy new and quieter aircraft, put newly developed engines on older aircraft or put sound-absorbing material around existing engines. The last of these, usually called retrofitting is the least desirable.

The main reason is that retrofit will produce only a small decrease in aircraft noise. While the aircraft will be slightly quieter, it will still be loud to those on the ground. We should not expect the public to believe that aircraft just meeting the noise regulation are indeed quiet; their ears know better.

In addition, retrofitted aircraft are less fuel-efficient than the same models without the sound-absorbing material. It hardly seems sound—either as public policy or airline management—to bring about a small decrease in noise at the cost of greater energy consumption.

Fortunately, industry has provided us with a better solution. Aircraft and engine manufacturers have designs on paper today that will lead to new transports offering greatly reduced noise and much-improved fuel efficiency.

It is necessary, however, to translate these paper airplanes into real ones. If U.S. manufacturers do not do so, our airlines will have to go abroad to find equipment they need.

Therefore, Mr. Chairman, we believe that it is imperative that any legislation to cope with aircraft noise should encourage the replacement or re-engining of aircraft rather than mere retrofitting. I note that the Federal Aviation Administration still clings to the notion that retrofitting will provide significant relief from aircraft noise.

Incidently, we are relieved that the FAA is no longer considering adoption of the two-segment approach as a noise-abatement measure. As pilots, our first concern is and will continue to be, safety. In our opinion, the two-segment approach was inherently dangerous because it forced pilots to fly close to the limit of aircraft performance during approach, the most critical phase of a flight and when most accidents occur. We believe there is little more that operational procedures can do to lower noise without jeopardizing safety.

In addition to encouraging and assisting airlines in buying quieter and more efficient aircraft, both your bill, Mr. Chairman, and the House legislation offer several major important benefits. These bills will:

Significantly reduce aircraft noise for thousands of Americans, not only through use of quieter aircraft but also through more compatible use of land around airports.

Use money in the Airport and Airway Trust Fund to support purchase of new aircraft without additional cost to the travelers or taxpayers in general.

Stimulate the aerospace industry and help retain our world leadership in commercial aircraft sales. This stimulus will create jobs in this country and have a positive effect on our balance of payments.

The major difference between the House and Senate legislation is how assistance to the airlines would be financed. Basically, the Senate measure would use the surplus in the Airport and Airway Trust Fund to guarantee loans by commercial banks to the airlines. The House bill would use a portion of the taxes already being paid into the trust fund by air travelers and shippers to make payments to carriers. These payments would partially cover the cost of replacement aircraft, re-engining or retrofitting.

ALPA's preference, Mr. Chairman, is for the House version because it would get more funds to the airlines sooner. As the airlines have pointed out, a major disadvantage is that the guaranteed loans will not be made until the carriers have received the aircraft. Thus, airlines will have to pay about $2 billion in down payments that will not be covered by guarantees.

Both these down payments and the guaranteed loans will add to the heavy load of debt that many airlines already carry. The local service carriers already have loan guarantees available to them and therefore would derive more benefit from tax credits and refunds.

The House bill may discriminate against foreign airlines because all their aircraft flying to the United States must meet the noise standards before the carriers receive any payments to help meet the cost of the compliance. The committee may wish to consider authorizing regular payments to foreign airlines based on their departure tax collections.

Also, we believe the House bill should offer more incentive for airlines to purchase new-technology aircraft. Either the credit for 40 percent of the cost of aircraft meeting the noise standards of March 1977, should be raised on the 25-percent credit for transports meeting the earlier, less-stringent standards should be lowered.

In conclusion, Mr. Chairman, while we prefer the House version of the legislation to reduce aircraft noise, we believe strongly that either bill would be a major improvement over the current situation.

I respectfully urge prompt passage of legislation to reduce aircraft noise around airports so that we can begin work on this major problem that has annoyed so many Americans for so long and has stymied the growth of commercial aviation.

Thank you, Mr. Chairman, for the opportunity to present our views on this important legislation.

STATEMENT OF NASSAU COUNTY EXECUTIVE FRANCIS T. PURCELL

"Jets interrupt classes with regularity in all our schools. These interruptions are spaced at about 20 minutes in the morning, which in the afternoon can become as short as 2 minutes * * * It is not possible to talk or conduct any classroom business while the jets are going over * * * Some events such as the High School graduation have been impossible to consider outdoors because of the noise of the planes * * * The continuous and regular passage of low-flying planes over the schools is disruptive, reduces work effectiveness, is wasteful of time and energy and is expensive in loss of personnel time and energy and physical arrangements that must be changed or modified * * * "

That statement, written in 1976 by the superintendent of schools in Lawrence, a Nassau County community with more than 7,000 students, describes one part of the noise plague that has afflicted more than a quarter of a milion people in our county for the past 31 years. It is a plague that began in 1947 when John F. Kennedy Airport (then called Idlewild) was first established, and that worsened in 1959 when jet aircraft were introduced—despite assurances given to local residents that the jets would not be any noisier than the propellor driven aircraft that they were replacing.

By my math, students in Lawrence lose at least 30 minutes out of every hour in the afternoon because of jet noise which makes teaching impossible.

But teachers and students are not the only ones in Jet Alley on whom the constant noise imposes a way of life. Residents are conditioned to interrupt telephone conversations when planes fly over. They turn up their TV sets and radios to hear what is being said. They punctuate their conversations with automatic pauses, chopping their sentences into disconnected phrases that can be heard in the 2-minute lulls between the deafening roar of the jets. If ever you have tried to carry on a conversation in between the staccato bursts of a jackhammer ripping up a street, you know what I mean.

People should not have to live that way. But people near Kennedy Airport have been forced to live that way for 31 years.

Nassau County, adjacent to New York City's Queens County where JFK is located, has a population of nearly 1.5 million people, 350,000 of whom—or nearly one quarter—are daily subjected to intolerable and unremitting aircraft noise levels, levels generally conceded to be high enough to be detrimental to mental and physical health. Residential communities in our county are less than one mile from the airport. Population densities below the flight paths range as high as 32,000 persons per square mile.

Considering the number of people affected, and the long duration of their agony, it is absolutely incomprehensible to me why the U.S. Senate Subcommittee on Aviation should refuse to listen to the local elected representatives of these people. You have had a parade of experts come before you crying, as they have in the past, that meeting stringent noise abatement standards is "technologically impractical" or "economically unreasonable." Yet, you hae barred local government officials who can tell you that current noise levels are humanly unreasonable. Indeed, the changes proposed in S. 3064, the Senate version of H.R. 8729 (now H.R. 11986), make it appear that the voices calling for effective noise control are again going to be stifled, that profits are again going to be put before people.

Let's look at a few of the provisions in this bill.

Title I proposes that the FAA develop a new system for measuring acceptable aircraft noise levels. We already have an official measuring system. Moreover, the EPA—which is the noise pollution control agency for the nation—has already developed acceptable noise exposure levels, levels which take congnizance of ambient noises from all sources. The Noise Control Act of 1972 authorized the EPA to set a single standard for measuring all noise. Aircraft noise should be measured by the same criteria as factory noise, highway noise—all kinds of noise. Why should aircraft noise be measured by different standards, above all by standards developed by an agency whose subservience to the industry that it regulates has been demonstrated time and time again? Why should an industry oriented agency be allowed to develop different noise criteria to suit its own purposes?

Second, the House bill requires the airlines to meet 1969 noise standards by 1985—16 years late. But the Senate version wants to give them until 1990—21 years late.

Third, there is at least one absolutely outrageous provision in this bill. That is the provision that airports must develop maps showing their programs for noise abatement and control, but that then bars those maps from being subpenaed as evidence in lawsuits. Immunizing the airports against lawsuits simply because they draw a

map and file it away in a bottom drawer is hardly guaranteed to achieve tangible results.

The nub of the problem that any federal legislation must address was stated quite succinctly by the Council on Wage and Price Stability in its report, dated April 15, 1977. The report said: "Within logistical, technological, and regulatory contraints, the carriers have developed their schedules over the years chiefly to make money, not to curtail noise at sensitive airports."

Making money is the name of the game. And the FAA, whose interest—indeed, whose mandate—is promoting a healthy air transport system, is simply unable to function as a noise control agency because it has an inherent and insuperable conflict of interest. It suffers from regulatory schizophrenia because it cannot protect airlines against noise abatement costs while simultaneously protecting airport neighbors against airline noise. So the FAA sets standards that it know the airlines can meet, or are willing to meet, instead of standards that they must meet. The FAA should stick to promoting a healthy air transport system. But it should get out of the business of regulating noise and let the EPA take care of it.

The only certainty under the presently proposed legislation is that Congress is going to give the airlines some $2.5 billion to retrofit, re-engine or replace older, noisier aircraft. But the airlines want that money with no strings attached. They want to take their own sweet time about it. I suspect that they want to delay any requirements for retrofitting older aircraft so that they can begin buying all new fleets, replacement aircraft, with public money.

The relatively modest noise abatement goals that have been recognized for several years as feasible and resonable will never be met until they become requirements. The reason is quite simple. Like any business, aircraft manufacturers and fleet purchasers base their decisions on financial profitability.

Manufacturers and purchasers place much emphasis on fuel efficiency because fuel efficiency affects profitability. Fuel inefficiency has an economic consequence. But manufacturers and purchasers pay little or no attention to noise control because noise has no economic consequence. It does not affect profitability.

I think that any meaningful, effective noise control legislation must first change that equation. It must give the airlines and aircraft manufacturers an economic incentive to reduce noise. It must make noise affect profitability. It must attach an economic consequence to excessive noise, one that will hurt enough so that the industry itself will take the lead in noise reduction simply because it makes good business sense.

Short of grounding all the noisy jets, there are only three ways to reduce noise. The first is to reduce the noise of the aircraft itself. The second is to reduce the impact levels by regulating, for example, the types of aircraft that may be used and the number of operations that can be made during the day and at night. The third is by land use control in high noise impact areas near airports.

The third is too late for JFK. The people were there before the aircraft and the planes. They should not have to get out to accommodate the planes. The airline industry should be compelled to accommodate the people.

The second is feasible and would help solve some of the problems. Curtailing night flights, even banning them would bring some relief to airport neighbors so that they can at least get a decent night's sleep. But the chances are that the relief they gained at night would be more than offset by increased noise intensity during the day, and especially in the evening, as the airlines crammed more of their operations into the available hours. So the only real option, the only one that will really work, that will really bring a significant relief to people who have suffered aircraft noise for too long, is the first one—reducing the noise of the aircraft itself.

The airlines won't do it on their own because it will cost money. But they will do it if we make not doing it cost even more.

Under the present system, the resistance to noise reduction requirements sets in at the point where expected costs of further noise abatement begin to exceed the costs of noncompliance with regulations. That is a relatively common phenomenon in any regulated industry. But that point comes very early in the airline industry because the airlines know that their complaints will be heard by sympathetic ears at the FAA. They know that they can file petitions for exemption on grounds of economic inability—and that the FAA will grant them.

So the trick is to make the costs of noncompliance exceed the costs of compliance.

To do that, we should set up a sliding scale of noise fines for the operation of excessively noisy aircraft at the more than 13,000 airports in the United States. Interim maximum permissible noise levels should be established, and then lowered and toughened each year at a pre-determined rate. Noise monitoring stations should be operated by the EPA, not the FAA. The fine for exceeding the maximum

permissible level should be graduated: Modest for each operation at an airport where the noise impact level is moderate because of the airport's location and volume of flights; steeper for each operation at an airport where more people are affected; stringent for each operation at the 244 airports that have 100,000 or more operations a year; and prohibitive—up to $1,000 for each landing and each take-off—for operating a noisy jet like the DC-8 or 707 at any of the 151 airports, like JFK, that are located in medium or large hubs where literally thousands upon thousands of people are affected. There should be a flat fine merely for operating a noisy jet at an airport. And the amount of the fine should go up geometrically for each point on the noise scale by which the aircraft exceeds the maximum permissible noise level. The same penalties should be imposed on foreign jets, including the SST, which should never have been let in here in the first place, but which should now be given a limited amount of time either to quiet down or get out.

So long as the people on the ground are the only ones suffering from excessive jet noise, nothing will happen. But when the airlines have to start paying for making noise, we'll all be amazed at how quickly available noise abatement procedures become technologically practical and economically reasonable overnight, and the noise will stop.

In sum, I favor the concept of financing noise abatement with moneys raised out of an excise tax paid by those who use the airlines. However, I think S. 3064 goes neither fast enough nor far enough. I am opposed to giving the airlines carte blanche to use or not use public money when and how they wish. I think there must be rigorous controls to make sure that money is used for the purpose for which it is intended. I think the time allowed for insignificant noise reduction must be shortened rather than lengthened. And, finally, I think there must be heavy fiscal penalties, like the noise charges that I have described, to make sure that the airlines have as much economic incentive to cut noise as they have to save fuel.

One airline's TV commercials boast that it has to earn its wings every day by providing excellent, dependable service. I think it is time to make the whole industry earn the right to keep its wings by being at least as conscious of the comfort, health and safety of people on the ground below as they are of the passengers flying the friendly skies.

STATEMENT OF ADRIANA GIANTURCO, DIRECTOR, CALIFORNIA DEPARTMENT OF TRANSPORTATION

Mr. Chairman and members of the subcommittee, the California Department of Transportation has followed closely the progress of legislation to reduce aircraft and airport noise. We have offered our comments and testimony to help shape legislation which will be effective. We are pleased that your bill, as well as the Anderson bill recently reported out of the House Committee on Public Works and Transportation, incorporates the three essential elements of noise impact reduction: Controlling land use around airports, encouraging noise abatement aircraft operating procedures, and quieting of the aircraft itself, the source of the offending noise.

The proposed legislation supports the Federal Aviation noise abatement policy and would also help us in California to accomplish the purposes of our airport noise standards.

We are disturbed, however, by the provisions in title III of S. 3064 which would further delay the third essential element of airport impact noise reduction, quieting the source of the noise. We strongly oppose the provision in section 305 which would grant two- and three-engine aircraft a 5-year extension until 1990 for meeting FAR part 36 requirements. Both the previous and present administrations have found the 1985 deadline for FAR 36 compliance to be economically and technologically feasible.

The Federal Aviation noise abatement policy calls for all aircraft to meet the Federal noise standards by 1985. Our California noise standards also require compliance by all airports at the criterion noise level of 65 CNEL by 1985. The people residing near our major airports and suffering from airport noise have been led to expect relief by 1985, 7 years from now. Seven years is a long time to wait for relief; to extend this waiting time to 12 years is unacceptable. All government officials who have been involved with airport noise reduction legislation will lose credibility with the public if the 1990 deadline date becomes law.

If we take into consideration the fact that under the proposals of title III 75 percent of the air carrier airports in the country would not receive any noise benefit and 85 percent would not receive any significant benefits until 12 years from now, it becomes very evident that the 1990 deadline date would cause great consternation among people who are not so patiently waiting for some noise relief.

In summary, Mr. Chairman, we are very pleased with the efforts that have been made by your committee to achieve the enactment of some new legislation to improve the noise situation around our nation's airports. Title III of S. 3064, however, is not acceptable to us as it is now written. We cannot support this proposed legislation until what we consider to be serious deficiencies have been remedied.

I hope these comments will be useful to you, Mr. Chairman, and your committee.

STATEMENT OF JOSEPH R. LEWIS, EXECUTIVE DIRECTOR, TOWN-VILLAGE AIRCRAFT SAFETY AND NOISE ABATEMENT COMMITTEE

I am Joseph R. Lewis, Executive Director of the Town-Village Aircraft Safety and Noise Abatement Committee of the Town of Hempstead, Nassau County, New York.

TVASNAC is the office of local government that was instituted just after jet aircraft was introduced into what was then called Idlewild Airport, now known as John F. Kennedy International Airport. Jet noise was a problem from day one.

TVASNAC is the result of the decision made by the elected officials of the Town of Hempstead and its villages, over 17 years ago, to fight for quieter skies for our residents.

Our present Chairman is Alfonse M. D'Amato, Presiding Supervisor of the Town of Hempstead and our Vice-Chairman is Town Councilman Eugene L. Weisbein. The Committee is composed of the appointed representatives of the 18 villages and 1 city in the town of Hempstead that are impacted by the noise of aircraft operations at Kennedy Airport.

The town of Hempstead is larger than 11 States and our population is approximately 850,000. Thirty-eight percent of our residents are impacted, in varying degree, by the noise of aircraft operations at Kennedy Airport. So, you can understand why we are so vitally concerned with aircraft noise abatement.

While the advent of the wide-body aircraft with its lower noise levels was a step in the right direction, it did not really alleviate the serious noise problem appreciably. There were, and still are, many older and noisier aircraft still in service and unless the Federal Government forces the carriers to retrofit or reengine or replace this equipment, our 315,000 residents will have to continue to exist as second class citizens.

The United States aviation noise abatement policy of November 18, 1976 formally acknowledged that there existed a serious aviation noise problem in this country and that about 7 million of our citizens were affected by this problem.

Approximately 2 million of the 7 million live in the noise impact area of the airports operated by the port authority of New York and New Jersey and about 315,000 of these people are residents of the town of Hempstead.

The aviation noise abatement policy of the United States set up a schedule of compliance with FAR 36 levels with a completion date of 1985.

The carriers immediately set up a cry that they were financially unable to comply with the policy and certainly not by 1985. They were however financially able to carry out various cosmetic changes in their equipment and personnel and in much shorter periods of time.

Finally, H.R. 8729 was introduced. A bill that would, among other things, give the carriers the financial means to retrofit, re-engine, or replace their older, noisier aircraft. But, were the carriers satisfied? No. They said that it was uneconomical to do anything with their 1- and 3-engine equipment, other than replace and even if they wanted to, retrofit kits were unavailable. This is not so as evidenced by telegrams received from McDonnell-Douglas and the Boeing Aircraft Co. by the port authority of New York and New Jersey. The port authority has made them public and we are presenting them as part of our testimony.

It is because H.R. 8729, in title 3, gives the carriers the financial aid they say they require, at the expense of the user, we support H.R. 8729. We support it also because it includes foreign carriers.

While we have some reservations about other sections of H.R. 8729, and we will continue to attempt to have these sections amended, our main concern is title 3 and it is our opinion that, when enacted and enforced, the meaningful noise abatement we have been waiting for all these years will arrive. The Secretary of Transportation, or Congress, must not be allowed to extend the 1985 target date.

We believe an amendment should be added putting, at the most, a 1981 date for all carriers to have their firm, nocancelable orders in for retrofit, re-engine or replacement, and that the Secretary of Transportation should not have the authority to grant waivers for any reason, nor should anyone else have that option.

As to S. 3064, here again, the intent of the legislation is commendable, but the financial method to accomplish it, is, to our way of thinking, impractical. If the

carriers are against the financing called for in H.R. 8729, which is much more palatable, how can one expect the carriers to be agreeable to only a loan guarantee?

In addition, S. 3064 exempts foreign carriers. This alone is undesirable from our point of view. We cannot support S. 3064 in its present form.

We insist that foreign visitors to our country obey our laws and regulations, why shouldn't the foreign carriers do the same?

Our fear, at this point, is that the proposed legislation, in both the Senate and House, will continue to be tied up in committee and the 1985 date will extend possibly into the year 2000.

This is absolutely unacceptable. The 1985 date must be kept for all aircraft in service at this time.

Gentlemen, the elected officials of the town of Hempstead and our 315,000 aircraft noise impacted residents beseech you to get it all together speedily and give us the relief we have waited for so long.

In closing, I would like to repeat something that was said over 65 years ago by Dr. Robert Koch, a German physician and scientist, world famous for his research in bacteriology and a Nobel Leureate. He said, "The time will come when man must fight merciless noise as the worst enemy of his health."

Gentlemen, that time arrived when the United States issued the aviation noise abatement policy in 1976.

Let's get the war over with and get some meaningful noise abatement legislation passed speedily and get all the nosier aircraft out of our skies, whether by retrofit, re-engine or replacement.

Thank you for the opportunity to present the views of the town of Hempstead and its villages.

[Telegram]

DOUGLAS AIRCRAFT CO.,
Longbeach, Calif., November 9, 1977.

C. B. PATTERIN,
Director of Aviation for New York Port Authority.

We wish to confirm to the New York Port authority that all Mc-Donnell Douglas civil transport jet aircraft which do not now conform to requirements of FAR 36 can be retrofit to be brought into conformance with FAR 36. This includes the various series of the DC-8 aircraft and the various series of the DC-9 aircraft produced prior to December 1973 since which time all newly produced DC-9 aircraft have been in compliance with FAR 36, of course, all do.

We will be pleased to provide additional data upon request.

J. C. BRIZENDINE.

BOEING COMMERCIAL AIRPLANE CO.,
Seattle, Wash., November 8, 1977.

C. B. PATTARINI,
Director Aviation, New York and New Jersey Port Authority.

The Boeing 707 fanjet airplanes can be retrofit to meet FAR part 36 noise standards, as stated on congressional testimony in March 1977. The acoustically treated nacelle design for the 707 has been developed, tested and found to be certifiable to production because airlines have not yet placed orders to permit a production go-ahead by Boeing. The high costs of retrofitting this nacelle on existing 707 airplanes has caused the airlines to await the Anderson Committee financing bill.

Production details can be supplied if desired.

F. W. WITHINGTON,
Vice President, Engineering.

TOWN-VILLAGE AIRCRAFT SAFETY AND NOISE ABATEMENT COMMITTEE SURVEY OF NIGHT RESTRICTIONS ON AIRCRAFT OPERATIONS AT AIRPORTS THROUGHOUT THE WORLD, MARCH 1978, LAWRENCE, N.Y.

TOWN-VILLAGE AIRCRAFT SAFETY AND
NOISE ABATEMENT COMMITTEE,
Lawrence, N.Y.

As Executive Director of TVASNAC, I would like to thank all those who cooperated with us in this survey on night restrictions at airports throughout the world.

A copy of this report has been sent to each operator who answered our questionnaire. We hope it will be helpful to them in their efforts to be good neighbors.

It is our firm belief that if a spirit of cooperation and understanding can be reached, at all airports, between the operators, carriers and local residents, as it has in some cases, everyone will benefit and aviation will be enhanced, not hindered.

The technology exists to make our skies quieter. We should take advantage of it, for the benefit of all.

Yours for quieter skies,

JOSEPH R. LEWIS,
Executive Director.

PREFACE

Concern for man himself and his fate must always form the chief interest of all technical endeavor. Never forget this in the midst of your diagrams and equations.—Albert Einstein.

Excerpts from the *Environmental Assessment and Impact Statement Handbook*, Cheremisinoff and Morresi, 1977:

There are still many persons who fail to understand the concept of protecting the environment.

The President of the United States stated upon signing NEPA (January 1, 1970): "The 1970's absolutely must be the years when America pays its debt to the past by reclaiming the purity of its air, its waters and our living environment. It is literally now or never."

On page 5, Table 3 *New Plant and Equipment Expenditures by Non-Farm Business for Pollution Abatement* shows the aviation industry, both manufacturing and transportation, has spent and is spending the least amounts of money for pollution abatement as compared to the amounts spent, or scheduled to spent, by every other industry.

The fight against pollution has not, nor will it cause, the downfall of the United States, nor will it produce the dire economic consequences predicted.

Man has more than a responsibility to himself alone. He is responsible for his actions and the effects of his actions.

A noise is any unwanted, undesired or valueless sound. It can cause physiological and psychological damage to human beings and has an adverse effect on activities such as work, recreation, sleep, communication and rest. It affects sleep and the recuperatory powers during illnesses.

Noise is a major environmental pollutant.

TVASNAC PROGRAM

Night restrictions

Until such time as all commercial aircraft are limited to a tolerable noise emission, an airport restriction on night flights is an immediate MUST.

Retrofit program

Since there are presently over 4,000 noisy commercial jets pouring their noise pollution upon us, and since they will continue to do so for many years to come unless some action is taken, an immediate start on a retrofit program is a necessity. The aviation industry lobby must stop thwarting the efforts of those who are trying to alleviate the present noise situation.

Construction of new aircraft

Manufacturers must be forbidden to build any commercial aircraft that cannot at least meet the present FAR Part 36 limits. In effect this means the technology of the 60's.

FAR Part 36 must be brought into the 80's.

Capacity agreement

The CAB must foster such agreements between carriers serving the same markets.

When American Airlines, United Airlines and Trans World Airlines had such an agreement between October 3, 1971 to March 31, 1972, it resulted in 7,253 less flights.

Operating techniques

Potential noise reduction through operational procedures are considerable. Standard operating procedures for arrivals and departures which will produce the minimum noise emissions must be made mandatory. This could be done by FAA regulation.

EPA Aircraft noise authority

The FAA has proven itself to be definitely industry oriented. The FAA was originally instituted to protect and develop the airline industry.

EPA, on the other hand, is definitely people oriented.

EPA must be given the authority to set aircraft noise levels at tolerable levels and they must be made mandatory.

The aviation industry has shown that no improvements in the area of noise abatement take place unless they are ordered to do so.

INTRODUCTION

A most aggravating source of noise pollution is that from jet aircraft during the hours from 11 p.m. to 6 a.m. These "sleeping hours" have a great bearing on the health of the individual.

Studies by Dr. Julius Buchwald demonstrated that a person whose dreams are continually interrupted may develop psychoses, hallucinations, suicidal and homocidal impulses and nightmarish memories. the cumulative effect of the subliminal interruptions may cause increasing irritability, anxiety and more rapid onset of fatigue.

Gerald D. Dorman, M.D., a past president of the American Medical Association agrees to the fact that the health hazard of noise is serious and says, "The sounds which bombard us day and night can be both a physical and psychological danger."

Our legislators in Washington, D.C., who have control over the Washington National Airport are aware of all of this because they have, long ago, compelled restrictions to be placed on night flights at that airport.

However, our requests for night flight restrictions locally have been turned down arbitrarily by the industry, prophesying bankruptcy and worse if such restrictions were placed on jet aircraft movements in a United States airport. Most peculiar, since for years in the past, these same airlines have operated and prospered under night flight restrictions around the world. What is so different about the same restrictions here?

The claim that scheduling times would not permit a restriction in night flights is groundless. A practical demonstration of scheduling would prove the fallacy of such a claim. The claim that passenger demand for night flights would not permit a restriction of such flights is equally fallacious. The demand for night flights originated not with the passenger but in the airline's advertising.

A restriction in night flights would not only place the airlines in a much more favorable economic position, it would also make friends where most needed—among the people surrounding the airports who would be able to get a good nights sleep.

Since there is little or no inclination from the majority of the airlines and airport operators to try to live and let live, the people have only this last recourse—federal and/or state legislation making night flight restrictions mandatory. The aviation industry must bring itself into the 20th Century. People have rights too.

TOWN OF HEMPSTEAD

The Town of Hempstead, N.Y. is located in Nassau County and is the largest Town in the United States. It is composed of 22 incorporated villages, 32 unincorporated areas and 1 city. It's population, at the last census, was 830,000. At present 38.06% or 315,898 of our residents are impacted, in some measure, by the noise of aircraft operations at John F. Kennedy International Airport in New York City, which abuts our border.

Total area, 142.6 square miles
Median family income, $14,222
Industrial zoned land, 2,403.60 acres
Listed businesses, 9,105
Occupied dwelling units, 228,958
Assessed valuation, $1,713,507,536

The Town of Hempstead has over 1200 acres operated for the exclusive use of town residents as parks, which include a nine hole golf course, indoor ice-skating rink, private ocean beach and indoor/outdoor olympic swimming pools.

There are 33 independent school districts, four colleges and universities and 27 local public libraries within our borders.

We are served by four lines of the Long Island Railraod and a highway network which includes Northern and Southern State Parkways, Meadowbrook Parkway, Wantaugh Parkway and the Seaford-Oyster Bay Expressway.

Air transportation is provided by John F. Kennedy International Airport, at our border, and nearby LaGuardia Airport.

We have one major daily newspaper located in the Town and are also serviced by the daily papers of New York City, who have news gathering offices in our Town.

We have 5 local radio stations and 1 educational television station in addition to the television and radio stations of New York City.

The 32 unincorporated areas are governed by a Town Board with six councilmen and two supervisors. The Presiding Supervisor serves as chief fiscal officer and chairman of the board. The 22 incorporated villages govern their local affairs including zoning and taxes.

HISTORY OF TVASNAC

The Town-Village Aircraft Safety and Noise Abatement Committee [TVASNAC] was instituted over 16 years ago when the elected local government leaders realized that in order to protect their constituents, in the area of aircraft noise and safety, an agency for that specific purpose was necessary. It was also necessary that the Town of Hempstead and it's Villages and city, most affected by the aircraft noise, work together towards a common goal—quieter and safer skies.

Each member village and city has a seat on the Committee with an equal vote. Our present Chairman is Town of Hempstead Presiding Supervisor Alfonse M. D'Amato and the Vice-Chairman is Town Councilman Eugene Weisbein.

MECHANICS OF SURVEY

A questionnaire was developed (figure 2) and sent to 252 airports throughout the world, including the United States. Realizing that airport managers are busy people, the questionnaire was designed to be short yet meaningful in the information requested.

Answers were received from a total of 115 facilities for a return of 46%.

	Airports queried	Answers received	
		Number	Percent
United States	69	37	54
Foreign	183	78	43
Total	252	115	46

Worldwide airport restrictions	United States	Percent	Foreign	Percent	United States and foreign	Percent
Flight and test restrictions	9	24	26	38	35	34
Flight restrictions only	1	3	9	13	10	9
Test restrictions only	15	41	8	11	23	21
No restrictions	12	32	27	38	39	36
Total	37	100	70	100	107	100



TOWN-VILLAGE AIRCRAFT SAFETY & NOISE ABATEMENT COMMITTEE

196 CENTRAL AVENUE • LAWRENCE, NEW YORK 11559
(516) 371-2330

TVASNAC

TOWN OF HEMPSTEAD
Villages of
ATLANTIC BEACH
CEDARHURST
EAST ROCKAWAY
FLORAL PARK
GARDEN CITY
HEMPSTEAD
HEWLETT BAY PARK
HEWLETT HARBOR
HEWLETT NECK
ISLAND PARK
LAWRENCE
LYNBROOK
NEW HYDE PARK
RUSSELL GARDENS
STEWART MANOR
VALLEY STREAM
WOODSBURGH
City of
LONG BEACH

Chairman
FRANCIS T. PURCELL
Presiding Supervisor
Town of Hempstead

Executive Director
JOSEPH R. LEWIS

FIGURE 2

NIGHTTIME AIRPORT OPERATION RESTRICTIONS SURVEY

AIRPORT_____

ADDRESS_____

AIRPORT OPERATOR_____

AIRPORT MANAGER_____

1. Are there any restrictions of operations, either arrivals or departures, at your airport during the night hours?

YES____ NO____

2. During what hours are they in effect? _____

_____

3. If any restrictions exist please indicate specific restrictions.

_____

_____

4. How long have they been in effect?

_____

5. Are there any other restrictions such as run-up or warm-up of engines at night?

YES____ NO____

6. If so, please specify. _____

_____

_____

7. What are the regular airport operation hours?

_____

FIGURE 2 continued

TVASNAC NIGHTTIME OPERATING RESTRICTIONS SURVEY

8. If other than 24 hours a day, please explain.

_____

_____

9. What is the average daily number of operations (24 hour period).

_____

10. Arrivals_____ Departures_____

11. What is the average daily number of nighttime operations (11 p.m.- 7 a.m. local time).

_____

12. Arrivals_____ Departures_____

13. What type of aircraft use your facilities?

_____

_____

14. Is your airport located close to heavily populated areas?

YES____ NO____

15. How close? _____

16. What is the approximate population in the heaviest noise impact area of your airport?

_____

17. Any other information or comments you may care to give to make this survey more meaningful.

_____

_____

_____

_____

_____

UNITED STATES AIRPORTS—NIGHT RESTRICTIONS

10 of the 37, or 27% of the airports answering our questionnaire reported night restrictions. The average restricted hours being from 11 p.m. to 6 a.m.

Stapleton International Airport reported that their restrictions have been in effect for the past 12 years. Three reported having restrictions for 10 years. Logan International Airport's restrictions have been in effect for the past 9 months.

	Number	Percent
10 years or more	5	50
3 years	2	20
Less than 3 years	3	30
Total	10	100

Among the restrictions listed were: only specified runways may be used, must cross the city (½ mile distant) at 5,000 feet MSL, only FAR Part 36 aircraft accepted and no aircraft over 12,500 pounds.

ENGINE RUN-UP AND WARM-UP RESTRICTIONS

25 or 68% reported restrictions on engine run-ups and/or warm-ups. The restrictions ranged from only in specified areas, only with permission, not allowed by city ordinance [Houston Intercontinental] to forbidden.

While not all operators commented, of those who did, we have selected a few that we believe show an enlightened airport management:

Bradley I.A.—Scheduling limits of arrivals and departures between 11 p.m. and 7 a.m. helps community-airport relations.

Ontario I.A.—(Even though homes encroach on the airport) we have good cooperation with our tenants.

Stapleton I.A.—Run-ups restricted to certain areas situated so as to not bother our neighbors.

Dulles I.A. had an interesting comment—Operations at night (11 p.m. to 7 a.m.) are suspended if they become annoying.

TABLE 1.—NIGHT RESTRICTIONS AT U.S. AIRPORTS

	Restrictions A/O curfew on aircraft movements	Restrictions on engine warm-ups A/O runups
Fairbanks International Airport, Fairbanks, Alaska		
Anchorage International Airport, Anchorage, Alaska		×
Tucson International Airport, Tucson, Ariz	×	×
San Francisco International Airport, San Francisco, Calif	×	×
Ontario International Airport, Ontario, Calif	×	×
Los Angeles International Airport, Los Angeles, Calif	×	×
San Diego International Airport, San Diego, Calif	×	×
Stapleton International Airport, Denver, Colo	×	×
Bradley International Airport, Windsor Locks, Conn		×
Miami International Airport, Miami, Fla		×
Fort Lauderdale-Hollywood International Airport, Fort Lauderdale, Fla		×
Jacksonville International Airport, Jacksonville, Fla		
Honolulu International Airport, Honolulu, Hawaii	×	
New Orleans, International Airport, New Orleans, La		×
Baltimore-Washington International Airport, Baltimore, Md	×	×
Logan International Airport, Boston, Mass	×	×
Falls International Airport, International Falls, Minn		
Muskegon County Airport, Muskegon, Mich		
Wolf Point International Airport, Wolf Point, Mont		
Billings Logan International Airport, Billings, Mont	×	×
Glasgow International Airport, Glasgow, Mont		
Lambert Field, St. Louis, Mo		×
McCarran International Airport, Las Vegas, Nev		×
Cleveland Hopkins International Airport, Cleveland, Ohio		×
Portland International Airport, Portland, Oreg		×
Erie International Airport, Erie, Pa		×
Philadelphia International Airport, Philadelphia, Pa		
Charles Air Force Base/International Airport, S.C		
El Paso International Airport, El Paso, Tex		×
Miller International Airport, McAllen, Tex		
Houston Intercontinental Airport, Houston, Tex		×
Dallas Love Field, Dallas, Tex		
Salt Lake City International Airport, Salt Lake City, Utah		
Burlington International Airport, Burlington, Vt		×
Spokane International Airport, Spokane, Wash		×
William P. Hobby Airport, Houston, Tex		×
Dulles International Airport, Washington, D.C		

UNITED STATES AIRPORTS—HOURS OF OPERATION

Of those airports responding, 34 are open 24 hours a day. One is open from 6 a.m. to 10 p.m. (Miller I.A.), one from 6 a.m. to 9:30 p.m. (Falls I.A.) and one did not specify their hours of operation.

	Number	Percent
Open for traffic 24 hours a day	34	91
Open 6 a.m. to 10 p.m	1	3
Open 6 a.m. to 9:30 p.m	1	3
Not specified	1	3
Total	37	100

AVERAGE DAILY OPERATIONS

The average number of daily operations reported by those responding ranged from a low of 25 to a high of 1429.

	Number	Percent
901 to 1500	4	11
801 to 900	5	14
501 to 800	12	32
251 to 500	6	16
25 to 250	9	24
Not reporting	1	3
Total	37	100

AVERAGE NIGHT OPERATIONS

30 or 81 percent reported the number of night operations which ranged from a low of 2 (Wolf Point I.A.) to a high of 200 (San Francisco I.A.)

7 or 19 percent did not report the number of night operations at their facility.

	Number	Percent
151 to 200	3	8
101 to 150	1	3
51 to 100	15	14
0 to 50	21	57
Not reporting	7	18
Total	37	100

TYPE OF AIRCRAFT ACCEPTED

The range of types of aircraft accepted at the airports responding ranged from small private aircraft up to 747's, etc. with one (Dulles) accepting the Concorde SST.

POPULATION OF AREA CLOSEST TO AIRPORT

Of the 27 operators who answered, populations ranged from a low of 30 to a high of 2,000,000. See Table 2 for a detailed breakdown.

	Number	Percent
0 to 5,000	8	22
5,000 to 500,000	17	46
500,000 to 2 million	2	5
Not reporting	10	27
Total	37	100

COMMENTARY ON FINDINGS AT U.S. AIRPORTS

The 69 U.S. airports were chosen in an effort to have a valid cross-section of facilities. While the response was 54 percent, a few of the largest airports are missing. There was no response from John F. Kennedy International Airport in New York and O'Hare in Chicago. Their absence, however, does not diminish the validity of this survey.

For example, the total number of operations at JFK for the month of January 1978 was 22,262 or an average of 742 per day. Four airports with heavier daily traffic did respond:

William P. Hobby	969
San Francisco International Airport	1,000
Stapleton International Airport	1,400
Los Angeles International Airport	1,429

All but Hobby have night restrictions. The fact that three major airports, all with heavier traffic than Kennedy Airport are able to operate with night restrictions, is proof positive, that similar night restrictions can be instituted at JFK, which has 52 percent less daily traffic than LAX. Both receive overseas flights and are major gateways. None of the mentioned facilities have as heavy a population density at its borders as JFK.

It must be remembered that there is a vast difference between a curfew and night restrictions. Curfew means a general shutdown of the facility except for emergencies while night restriction generally means that either certain runways can only be used or only equipment meeting specified criteria can use the airport during the "sleeping hours," or a combination of both. While a preferential runway system is a step in the right direction and JFK does have it, no exceptions should be allowed except for emergencies. To make PRS even more effective, it should be in conjunction with a restriction as to the type of aircraft that can use an airport at night.

TABLE 2.—POPULATION OF HEAVIST IMPACTED AREAS AND DISTANCE FROM AIRPORT, U.S. AIRPORTS

	Distance	Percent
Fairbanks International Airport, Fairbanks, Alaska	Not given	14,000.
Anchorage International Airport, Anchorage, Alaska	6 mi southwest of city center.	50,000.
Tucson International Airport, Tucson, Ariz	¾ mi	155 acres, 700 homes in NEF 40 contour.
San Francisco International Airport, San Francisco, Calif	At border	88,000
Ontario International Airport, Ontario, Calif	....do	Not given.
Los Angeles International Airport, Los Angles, Calif	800 feet	110,000.
San Diego International Airport, San Diego, Calif	Not given	Not given.
Stapleton International Airport, Denver, Colo	At border	300,000.
Bradley International Airport, Windsor Locks, Conn	Not given	10,000.
Miami International Airport, Miami, Fla	½ mi	500,000.
Fort Lauderdale-Hollywood International Airport, Fort Lauderdale, Fla	At border	Undertermined.
Jacksonville International Airport, Jacksonville, Fla	Not given	Not given
Baltimore-Washington International Airport, Baltimore, Md	....do	19,050 people exposed to LDN 65 or more.
Logan International Airport, Boston, Mass	At border	50,000.
Falls International Airport, International Falls, Mont	3 mi	1,000
Wolf Point International Airport, Wolf Point, Mont	200 mi	30.
Billings Logan International Airport, Billings, Mont	½ mi	10,000.
Glasgow International Airport, Glasgow, Mont	Not given	Not given.
McCarran International Airport, Las Vegas, Nev	At border	1,500.
Cleveland-Hopkins International Airport, Cleveland, Ohio	([1])	([1])
Portland International Airport, Portland, Oreg	1 mi	Unknown.
Erie International Airport, Erie, Pa	300 ft	20,000.
Philadelphia International Airport, Philadelphia, Pa	1 mi	5,000.
Charles Air Force Base/International Airport, Charleston, S.C	2 mi	350,000 in 10-mile radius.
El Paso International Airport, El Paso, Tex	1 mi	Not given.
Miller International Airport, McAllen, Tex	2 mi	52,000.
Houston Intercontinental Airport, Houston, Tex	Not given	Not given.
Salt Lake City International Airport, Salt Lake City, Utah	1 to 5 mi	35,000.
Burlington International Airport, Burlington, Vt	At border	Unknown.
Spokane International Airport, Spokane, Wash	4 to 5 mi	200.

[1] Distance given in questionnaire was approximately 13 miles from downtown Cleveland. Population given was 2,000,000 but also listed was a number of suburbs which indicated that there are people much closer impacted by noise from operations at this facility.

FOREIGN AIRPORTS—NIGHT RESTRICTIONS

A total of 183 airports were sent questionnaires with replies received from 70 for a return of 38 percent (table 3).

Of those airports answering, the results are as follows:

	Number	Percent
Flight and test restrictions	26	37
Flight restrictions only	10	14
Test restrictions only	9	13
No restrictions	25	36
Total	70	100

The average duration of night flight a/o test restrictions are from 11 p.m. to 6 a.m.

Night restrictions on flight operations go into effect as early as 9 p.m. at two facilities) Stockholm-Arlanda and Copenhagen) and as late as 1:30 a.m. at Bremen EDDW International Airport in Germany.

At Dusseldorf I.A., takeoffs are forbidden between Midnight and 7 a.m. and landings between 1 a.m. and 7 a.m.

Kristiansand I.A., in Norway, has mandatory noise abatement restrictions in effect during the entire time it is open for traffic, namely, Monday through Friday from 7 a.m. to midnight and on Saturdays and Sundays from 7 a.m. to 10:30 p.m. This airport has its nearest population (5–6,000) about 10½ miles from its borders.

Specific restrictions range from specific takeoff procedures, propeller driven aircraft only, use of specified runways, restrictions on the number of jet operations, no transit flights, only with special authorization, only noise certified aircraft to emergencies only. At Manchester I.A., in England, the only aircraft allowed to use the airport between 11 p.m. and 7 a.m. are those who do not exceed 102 PNdB. Their daytime noise limit it 110 PNdB.

Night flight restrictions have been in effect from 1957 (Belize I.A., Belize, Honduras) to 1975 at Helsinki-Ventaa I.A. in Helsinki, Finland.

	Number	Percent
Over 10 years	9	25
5 to 10 years	12	33
2 to 5 years	8	22
Not given	7	20
Total	36	100

ENGINE RUN-UP AND WARM-UP RESTRICTIONS

Many of the airports have regulations that call for the use of mufflers on engine run-ups and only in specified areas of the airport that are farthest from the closest population areas. At some airports, run-ups require special permission from the airport director. At most airports, warm-ups are restriced as to length of time.

Thirty-five or fifty percent of airports responding reported restrictions on engine run-ups a/o warm-ups.

HOURS OF OPERATION

Of those facilities responding, 56 or 80 percent are open for traffic 24 hours a day, 7 days a week. One, Alice Springs I.A. in Australia, is normally open only during daylight hours but is available for 24 hours a day.

At Montreal Dorval I.A., Canada, turbojets are only accepted between 7:05 a.m. and 10:55 p.m. with propeller driven aircraft accepted 24 hours a day.

The normal hours of operation at Hong Kong I.A. are from 6:30 a.m. to midnight. If a carrier wishes to use the facility between Midnight and 6:30 a.m., a written request must be made to the Director of Civil Aviation before Midnight and the reasons for such a request must be fully explained. This regulation has been in effect for many years and reiterated in 1972.

The average hours of operation of those airports not open 24 hours a day is from 6 a.m. to 11 p.m.

	Number	Percent
Open 24 hours a day	55	79
Other	14	20
Not specified	1	1
Total	70	100

AVERAGE DAILY OPERATIONS

The number of operations at the airports responding ranged from a low of 19 to a high of 900.

	Number	Percent
500 to 900	7	10
100 to 499	49	70
1 to 99	14	20
Total	70	100

AVERAGE DAILY NIGHT OPERATIONS

Sixty-five or ninety-three percent reported night operations that ranged from a low of 1 to a high of 85. Two were closed down completely at night.

	Number	Percent
61 to 90	3	4
31 to 60	6	9
0 to 30	61	87
Total	70	100

TYPE OF AIRCRAFT ACCEPTED

The type of aircraft accepted ranged all the way from small private planes up to B747's etc., with 2 (Bahrain I.A. and Bordeaux I.A.) are accepting Concorde's.

Fifty-one or seventy-three percent accept all types of aircraft byt Piarco I.A., Winnipeg I.A., and Lagos/Murtala Muhammed specifically noted "all except Concorde."

Sixteen or twenty-three percent of the airports responding said they were not equipped to accept the larger aircraft.

One respondent did not specify types of aircraft accepted.

It should be noted that while no question was specifically asked about Concorde, this should not be taken as an indication that all respondents are either equipped to, or necessarily willing to, accept the Concorde.

POPULATION OF AREA CLOSEST TO AIRPORT

Sidney (Kingsford-Smith) I.A. reported the population close in to the airport as 3,000,000.

Dacca—1,000,000 to the north, 25,000,000 to the south. Heavy populated area all around.

Twelve airports or 17 percent are surrounded by populations ranging from 200,000 to 600,000.

Twenty-three or 33 percent are surrounded by populations ranging from 10,000 to 77,000.

Fifteen or 21 percent are surrounded by populations ranging from 1,000 to 10,000.

Eight or 11 percent are surrounded by populations of less than 1,000 with 4 reporting less than 100.

Twelve or 17 percent of the airports did not report population data. See table 4 for details.

	Number	Percent
Population:		
Over 1,000,000	2	3
200,000 to 600,000	12	17
10,000 to 77,000	22	32
1,000 to 10,000	15	22
Less than 1,000	8	11
Not reporting	11	15
Total	70	100
Distance of populated areas to airport:		
At boundary	13	19
¼ to 12 miles	47	67
Not given	10	14
Total	70	100

GENERAL COMMENTS RECEIVED

Maiquetia I.A., La Guaira, Venezuela, open 24 hours a day, with average daily traffic at 180, and 11 night operations, indicated that by government decree, there is a land use program in effect.

Nairobi I.A. in Nairobi, Kenya reported no residential areas close to flight paths, yet they have a restriction on engine run-ups (not more than 50 percent power at all times). They are open 24 hours a day with an average of 100 daily operations and 16 night operations.

Oslo I.A., Fornebu, Norway commented that they work closely with a community noise abatement committee and the carriers. They have a night curfew between 11:30 p.m. and 6 a.m. They also allow no engine run-ups or warm-ups between 10 p.m. and 8 a.m.

Bangkok I.A., Bangkok, Thailand reported that night restrictions are planned for the near future. They have a population of 40,000 within 5 Km. of the airport.

Berlin Tegel I.A., Berlin, Germany reported that the population around their airport is also affected by operations at Schoenefeld Airport in East Berlin, and that they have installed sound proof windows in all buildings in their approach and takeoff sectors.

Dusseldorf I.A., Dusseldorf, Germany with a population of 9,000 at their border is working to get land use restrictions enacted.

Aeroport Francios de Valier, Port Au Prince, Haiti, normally closed from 10 p.m. to 6 a.m., commented that if they ever open for night traffic, they will consider night restrictions.

Bahrain I.A. State of Bahrain commented that the approach to their main runway is over the sea, but because of noise curfews in Europe and the Far East, all their mainline scheduled traffic arrives and departs at night. Other than Singapore I.A. (85 night operations), Bahrain has the second highest amount of night operations (60). It should be noted that Bahrain is, at present, a terminus for Concorde from London.

Melbourne I.A., Tullamarine, Victoria, Australia reported that land under the approach paths is clear of residential developments for 4½ miles except south of the airport where it is clear for only 2½ miles.

Alice Springs Airport, Northern Territory, Australia indicated that they are separated from the nearest town, population of 10, by 9 miles and a range of hills. The land around the airport was purchased by the government for a dust eradication project and will exclude building on the property.

Dacca I.A. is going to be shifted 5 miles NE of present site. Restrictions will be considered, if necessary, after new facilities open.

Essendon Airport has a noise abatement committee with representatives of the community, town planners, airport authority and airlines.

TABLE 3.—NIGHT RESTRICTIONS AT FOREIGN AIRPORTS

	Flight restrictions, night hours	Engine warmup A/O runup restrictions
Coolidge International Airport, St. John's Antilliqua		
Jan Smuts International Airport, Johannesburg, Republic of South Africa		
Dr. Albert Plesman International Airport, Curacao, Netherlands, Antilles	×	×
Princess Beatrix International Airport, Aruba, Netherlands, Antilles		
Bahrain International Airport, State of Bahrain		
Melbourne International Airport, Tullamarine, Victoria, Australia		×
Perth International Airport, Perth, Western Australia		×
Alice Springs International Airport, Northern Territory, Australia		
Sidney [Kingsford-Smith] International Airport, Mascot, New South Wales, Australia	×	×
Essendon Airport, North Essendon, Australia	×	×
Santa Maria International Airport, Santa Maria, Azores, Portugal		
Nassau International Airport, Nassau, Bahamas		
Dacca International Airport, Tejgaon, Dacca-15, Bangladesh		×
Calgary International Airport, Calgary, Alberta, Canada		
Winnipeg International Airport, Winnipeg, Manitoba, Canada		×
Toronto International Airport, Toronto, Ontario, Canada	×	
Montreal [Dorval] International Airport, Dorval, Province of Quebec, Canada	×	×
Edmonton International Airport, Edmonton, Alberta, Canada		
Hong Kong International Airport, [Kai Tak], Kowloon, Hong Kong	×	×
Eldorado International Airport, Bogota, Colombia, South America	×	
Ernesto Cortissoz International Airport, Barranquilla, Colombia		
Copenhagen Airport, Kastrup, Denmark	×	×
Birmingham International Airport, Birmingham, United Kingdom		×
Manchester International Airport, Manchester, England	×	×
Luton International Airport, Luton, Bedfordshire, England	×	×
Bole International Airport, Addis Ababa, Ethiopia		
Helsinki-Vantaa International Airport, Helsinki-Vantaa-Lento, Finland	×	×
Bordeaux International Airport, Merignee, France		
Berlin Tegel International Airport, Berlin, Germany	×	×
Cologne/Bonn International Airport, Cologne/Bonn, Germany	×	×
Bremen [EDDW] International Airport, Bremen, Germany	×	×
Dusseldorf International Airport, Dusseldorf, Germany	×	×
Frankfort/Main International Airport, Frankfort, West Germany	×	×
Munich-Rien International Airport, Munich, Germany	×	×
Nurnberg International Airport, Nurnberg, Germany	×	
Flughaffen-Hamburg International Airport, Hamburg, Germany	×	
Stuttgart International Airport, Stuttgart, Germany		
Timehri International Airport, East Bank Demorara, Guyana		
Aeroport Francois Du Valier, Port au Prince, Haiti	×	
Belize International Airport, Belize, Honduras	×	
Dublin International Airport, Dublin, Ireland	×	×
Shannon International Airport, Limerick, Ireland		
Ben Gurion International Airport, Ben Gurion Airport, Israel	×	
Napoli Airport, Napoli, Italy		
Leonardo DaVinci, Roma-Fiumicino, Italy	×	
Osaka International Airport, Osaka, Japan	([1])	×
Nairobi International Airport, Nairobi, Kenya		×
Singapore [Paya Lebar], Singapore, Maylasia		
Rotterdam International Airport, Rotterdam, Netherlands	×	×
Christchurch International Airport, Christchurch, New Zealand		×
Las Mercedes International Airport, Managua, Nicaragua		
Lagos/Murtala Muhammed, Ikeja, Nigeria		
Bergen International Airport, Bergen Norway		
Oslo International Airport, Fornebu, Norway	×	×
Kristiansand International Airport, Kjevic, Norway	×	×
Stavanger Airport, Sola, Norway		
Tocumen International Airport, Republic of Panama	×	×
Puerto Rico International Airport, San Juan, P.R		×
Khartoum Airport, Democratic Republic of Sudan		
Stockholm-Arlanda International Airport, Stockholm, Sweden	×	
Zurich International Airport, Zurich, Switzerland	×	×
Aeroport de Geneve, Geneve, Switzerland	×	×
Basel-Mulhouse, Basel, Switzerland	×	×
Bangkok International Airport, Bangkok, Thailand		×
Piarco International Airport, Piarco, Trinidad		
Maiquetia International Airport, LaGuaira, Venezula		
Pago Pago International Airport, American Samoa		
Edinburgh Airport, Edinburgh, Scotland	×	×
Vancouver International Airport, British Columbia, Canada	×	×
Schiphol Airport, Schiphol Airport, Netherlands	×	

[1] Normally closed at night.

TABLE 4.—POPULATION OF HEAVIEST IMPACTED AREAS AND DISTANCE FROM AIRPORT, FOREIGN AIRPORTS

	Distance	Population
Jan Smuts Airport, Johannesburg, Republic of South Africa	1 km	30,000
Coolidge International Airport, St. John's, Antigua	4 mi	5,000
Dr. Albert Plesman Airport, Curacao, Netherlands, Antilles	6 mi	[1] 2,000
Princess Beatrix Airport, Aruba, Netherlands, Antilles	½ nmi	15,000
Bahrain International Airport, State of Bahrain	2 mi	[2]
Melbourne Airport, Tullamarine, Victoria, Australia	2½ mi	10,000
Perth Airport, Perth, Western Australia	At border	30,000
Alice Springs Airport, Northern Territory, Australia	9 mi	10
Sydney [Kingsford-Smith] Airport, Mascot, New South Wales, Australia	At border	140,640
Essendon Airport, North Essendon, Australia	do	20,000
Santa Maria Airport, Santa Maria, Azores, Portugal	Not given	1,500
Nassau International Airport, Nassau, Bahamas	do	400
Dacca International Airport, Tejgaon, Dacca-15, Bangladesh	At border	1,000,000–25,000,000
Calgary International Airport, Calgary, Alberta, Canada	3 mi	[2]
Winnipeg International Airport, Winnipeg, Manitoba, Canada	At border	500,000
Toronto International Airport, Toronto, Ontario, Canada	do	77,000
Montreal [Dorval] International Airport, Dorval, Province of Quebec, Canada	do	200,000
Edmonton International Airport, Edmonton, Alberta, Canada	12 mi	15,000
Vancouver International Airport, British Columbia, Canada	3 mi	43,500
Copenhagen International Airport, Kastrup, Denmark	Not given	[2]
Hong Kong [Kai Tak] International Airport, Kowloon, Hong Kong	¼ mi	200,000
El Dorado Airport, Bogota, Colombia, South America	3 nmi	500,000
Ernesto Cortissoz Airport, Barranquilla, Colombia, South America	Not given	[2]
Birmingham Airport, Birmingham, United Kingdom	5.5 nmi	250,000
Manchester International Airport, Manchester, England	At border	40,000
Luton International Airport, Luton Bedfordshire, England	do	25,000
Bole International Airport, Addis Ababa, Ethiopia	3 km	200,000
Helsinki-Vantaa Airport, Helsinki-Vantaa-Lento, Finland	do	40,000
Bordeaux International Airport, Merignac, France	[3]	5,000
Berlin Tegel Airport, Berlin, Germany	Within	200,000
Cologne/Bonn Airport, Cologne/Bonn, Germany	4 to 5 nmi	2,000
Bremen EDDW Airport, Bremen, Germany	2 nmi	600,000
Dusseldorf Airport, Dusseldorf, Germany	At border	9,000
Frankfort/Main Airport, Frankfort, West Germany	2 nmi	53,000
Munich-Rien Airport, Munich, Germany	2 mi	61,000
Nurnberg Airport, Nurnberg, Germany	7 km	1,000
Flughaffen Hamburg Airport, Hamburg, Germany	Not given	[2]
Stuttgart Airport, Stuttgart, Germany	do	[2]
Timehri International Airport, East Bank Demorara, Guyana	2 mi	20
Aeroport Francois Du Valier, Port Au Prince, Haiti	6 mi	4,000
Belize International Airport, Belize, Honduras	½ mi	600
Dublin Airport, Dublin, Ireland	2 mi	35,000
Shannon Airport, Limerick, Ireland	1 mi	7,000
Ben Gurion International Airport, Ben Gurion Airport, Israel	2–4 mi	250,000
Napoli Airport, Napoli, Italy	2 km	200,000
Leonardo Da Vinci, Roma-Fiumicino, Italy	5 km	13,000
Osaka International Airport, Osaka, Japan	Not given	[2]
Nairobi International Airport, Nairobi, Kenya	do	[2]
Singapore International Airport, [Puya Lebar], Singapore, Malaysia	3–4 mi	60,000
Rotterdam Airport, Rotterdam, Netherlands	1 km	750
Schiphol Airport, Schiphol Airport, Netherlands	At border	[2]
Christchurch International Airport, Christchurch, New Zealand	½ mi	[2]
Las Mercedes International Airport, Managua, Nicaragua	5 mi	15,000
Lagos/Murtala Muhammed, Nigeria	1 to 2 km	50,000
Bergen Airport, Bergen, Norway	Not given	300
Oslo International Airport, Fornebu, Norway	8 km	[2]
Kristiansand Airport, Kjevic, Norway	17 km	5–6,000
Stavenger Airport, Sola, Norway	13 km	15,000
Tocumen International Airport, Republic of Panama	3 mi	10,000
Puerto Rico International Airport, San Juan, P.R	½ nmi	8,000
Stockholm-Arlanda Airport, Stockholm Sweden	3 mi	50
Zurich Airport, Zurich, Switzerland	500 m	45,000
Aeroport de Geneve, Geneve, Switzerland	4 to 5 km	20,000
Basel-Mulhouse, Basel, Switzerland	2 nmi	20,000
Bangkok International Airport, Bangkok, Thailand	5 km	40,000
Piarco International Airport, Piarco, Trinidad	Not given	50
Maiquetia International Airport, LaGuaira, Venezuela	800 m	5,000
Pago Pago International Airport, American Samoa	½ mi	2,800
Edinburgh International Airport, Edinburgh, Scotland	¾ mi	[2]
Khartoum Airport Democratic Republic of Sudan	Within	3,000

[1] Homes.
[2] Not given.
[3] Center of city—7 miles.

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

RESULTS OF

AIRCRAFT NOISE FLIGHT DEMONSTRATION

JUNE 17, 1978

DULLES INTERNATIONAL AIRPORT

JULY 1978

I. Introduction

On Saturday, June 17, 1978, at the request of Senator Howard W. Cannon, Chairman of the Aviation Subcommittee, Senate Committee on Commerce, Science, and Transportation, the Federal Aviation Administration conducted an aircraft flyover demonstration to provide a first-hand comparison of the noise levels of different airplanes. Senator Cannon considered the demonstration as a formal Subcommittee hearing, as part of his consideration of proposed legislation to assist airplane operators in financing the modification or replacement of older aircraft to comply with FAA noise regulations.

After careful analysis of all factors involving the protection of the public health and welfare, technological practicability, economic reasonableness, appropriateness to type of aircraft, and the highest degree of safety, the FAA on December 23, 1976, published Amendment 136 to 14 CFR 91. That regulation requires that all large civil subsonic turbojet aircraft in U.S. domestic service meet the noise limits of 14 CFR 36 (FAR, Part 36) by 1983 (two- and three-engine aircraft and previously excepted 747s) or 1985 (four-engine low-bypass-ratio engined aircraft), with earlier dates specified for partial compliance. At the beginning of 1977, approximately 1600 out of the U.S. air carrier fleet of 2100 airplanes did not comply with the noise limits of FAR, Part 36, and thus would have to be modified or replaced before 1983 or 1985, as appropriate.

Noncomplying aircraft may be modified through the addition of sound absorptive material within the engines and nacelles to reduce noise levels, and meet the noise standards of FAR, Part 36. This is the least expensive method for compliance, and was considered to be an economically reasonable requirement by the FAA in promulgating the 1976 regulation. Noncomplying aircraft may, in most instances, be re-engined with newer, higher-bypass-ratio engines to reduce noise levels. This modification offers the added advantage of improved fuel efficiency, but is a more costly option. Finally, noncomplying aircraft may be retired from service, and replaced with new aircraft which must meet the noise standards of FAR, Part 36, as a condition of an airworthiness certificate. New-technology aircraft, designed to meet the more stringent noise standards issued by the FAA in 1977 (called Stage 3 aircraft), offer the advantages of still lower noise levels, improved fuel efficiency, and generally higher productivity for air carrier use. This option is clearly the most costly for aircraft operators, and adequate replacements for much of the current, older fleet are still on the drawing board and not in production.

Legislation has been introduced in both houses of the Congress to assist aircraft operators in financing their compliance with the FAA noise regulation, and to provide incentives for replacements with new-technology aircraft, in the national interest. In the Senate, S. 3064 was introduced by Senators Cannon and Pearson for this purpose. During hearings for the consideration of this bill, and during hearings on similar proposed legislation in the House of Representatives, several witnesses raised questions regarding the relative effectiveness of retrofitting the smaller two- and three-engine air carrier aircraft in providing perceivable noise reductions. As a result, Senator Cannon asked the FAA to conduct actual flyover demonstrations of standard and retrofitted aircraft, in order to determine if the differences in their noise levels are perceivable. In addition, it was requested that an aircraft representative of the "new-technology" designs also be included in the demonstration, in order to compare the relative advantages of replacement in lieu of retrofitting.

Three aircraft were tested, a Boeing 727-200 with untreated engines, a 727-200 with acoustically treated engines and an A-300B Airbus. Each aircraft was measured four times in both simulated departure and approach operations. The A-300B is a "new-technology" aircraft and meets the Stage 3 noise requirements.

II. Objectives

The principal objectives of this demonstration were:

A. To provide actual flyover comparisons for a group of listeners between retrofitted and unretrofitted models of JT8D engine-powered aircraft typical of air carrier operations.

B. To obtain accurate noise level measurements to compare directly the actual noise levels of retrofitted and nonretrofitted air carrier aircraft.

C. To compare the noise level and tonal quality of new-technology aircraft with retrofitted and unretrofitted older aircraft.

III. Aircraft

A B-727-200 with no acoustical treatment was supplied by Braniff International Airlines. A retrofitted B-727-200 (with BG-19 hot section treatment and inlet treatment but no tailpipe treatment) was furnished by Trans World Airlines. Figure 1 illustrates the

difference between the 727 nacelle configurations. The A-300B Airbus was provided by Eastern Airlines. A brief description of each aircraft is contained in Appendix A.

IV. Flyover Procedures

Two representative flyover procedures were used:

A. Approach. Aircraft followed the Dulles 01R 2.75° glide slope, using minimum certificated landing flaps, landing gear extended and associated procedures. A go-around was executed at 100' AGL.*

B. Departure. Aircraft simulated a noise abatement departure procedure, with engine thrust reduced to a "cut-back EPR*" prior to passing over the listening site. The B-727s, in a clean configuration, at 210 knots and level at 2000' increased power to cut-back EPR and initiated a climb when approximately one mile from the monitoring site. At 3000' MSL* the aircraft reduced power, turned onto a race track pattern and descended to 2000' for the next simulated departure. The A-300 flew a similar pattern but initiated the climb at 2500' and climbed to 4000' MSL.

V. Test Site

The test site, one nautical mile south of the east runway at Dulles, met the following criteria:

A. Located approximately one nautical mile from the near end, and on the centerline extended of an active runway.

B. Generally open area, with no nearby large buildings or other reflecting surfaces, and few or no large trees.

C. Free of external noise intrusions, such as traffic or industry noise.

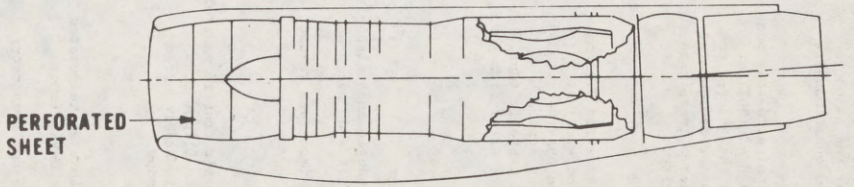
D. Reasonably accessible by bus or automobile, for convenience of listening group and measurement crews.

VI. Observers Reactions

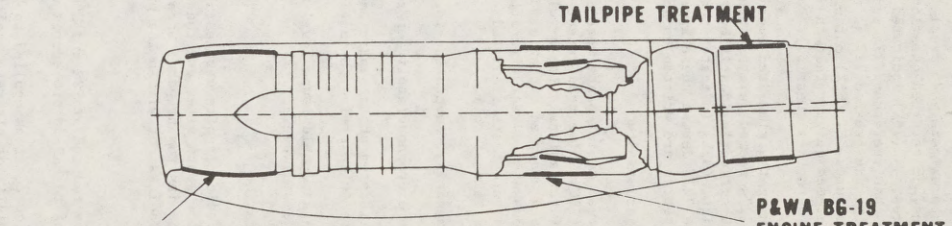
As a part of the flyover demonstrations, Senator Cannon requested that a questionnaire be distributed to all those who witnessed the flyovers on June 17, in order to determine if the noise level differences among the three airplanes were perceivable. The questionnaire is included as Appendix B, and simply asks each observer to indicate if he or she could tell the differences in loudness between the two 727s, and between the 727s and the A-300, during both the simulated departures and approaches. The witnesses were not told which of the two-727s was treated.

*AGL: Above Ground Level
EPR: Engine Pressure Ratio
MSL: Mean Sea Level

727 NACELLE CONFIGURATIONS



PRODUCTION STANDARD NACELLE



PRODUCTION QUIET NACELLE

—— ACOUSTIC TREATMENT

FIGURE 1

Of the approximately 75 people who witnessed the flyover demonstrations, 58 returned questionnaires. Considering the simulated departures, 44 (76%) indicated that one of the 727s seemed quieter than the other 727, and of those 44, 40 (91%) correctly identified the treated 727 as the quieter one. Still considering the departures, 37 (65%) out of 57 indicated that the A-300 Airbus seemed quieter than the 727s (one returned questionnaire did not mark this question).

Considering the simulated approaches, 50 (86%) indicated that one of the 727s seemed quieter than the other 727, and 48 (96%) of those 50 correctly identified the treated 727 as the quieter one. Forty-eight (83%) indicated that the A-300 Airbus seemed quieter than the 727s during these approaches. The number of responses to each question are written on Appendix B for clarity.

VII. Noise Measurements

Noise level measurements were made by the Transportation Systems Center (TSC) Noise Measurement and Assessment Laboratory at Dulles International Airpor within 100' from the observers. The noise data measured during simulated departure and approach operations of the test aircraft were recorded on magnetic tape. The departure tests simulated the noise level five miles from the start of takeoff roll.

Measurement instrumentation included:

A. Two microphone/amplifier/recorder systems.

B. Calibrated photographic equipment with wide-angle and telephoto lens to determine the altitude of the aircraft when overhead.

C. Two hand-held sound level meters to provide immediate readout of sound levels.

VIII. Communication

Common radio circuits were established among the air traffic control tower, the group site, and the test aircraft. The flight crew noted the instrument panel when over the test site and reported those readings not within the prescribed test window.

IX. Results

Data were reduced at TSC and EPNL and ancillary indexes calculated according to FAR-36 procedures with the following deviations:

A. No corrections applied to "As Measured" data for temperature, humidity or aircraft position.

B. Indexes calculated using slope corrected data; i.e., one-third octave band data, within 5 dB of local ambient levels, was

"rolled off" at a rate of 2 dB per one-third octave prior to calculations. Slope corrections applied up to a maximum of seven frequency bands.

Complete spectral noise-level data for each event within the 10 dB down points of the PNLT history are stored on computer diskettes for further reduction and/or computer analysis as required. Time history data of db(A), dB(D), OASPL, PNL and PNLT levels as well as the one-third octave frequency spectra time history tabulations are available from the FAA Office of Environmental Quality.

Tables I and II contain the summary noise index for each event and arithmetic averages for each series. Table III contains approach noise levels in dB(A) for the test aircraft as they flew over the Dulles Noise System monitor at Chantilly, approximately two miles south of the east runway at Dulles. Table IV lists aircraft altitude over the monitoring site obtained from photographs. Figures 2 thru 7 show representative radar flight tracks of the test aircraft.

The test data show that on departure approximately five miles from start of takeoff roll, the acoustically treated B-727 was nearly 3 EPNdB quieter than the untreated B-727, while the A-300B was nearly 4 EPNdB below the treated B-727. The test data also show that at the approach measurement point approximately one nautical mile from the runway threshold, the acoustically treated B-727 aircraft was approximately 3 EPNdB quieter than the untreated B-727. The A-300B was about 9 EPNdB and 6 EPNdB quieter than the untreated and treated B-727s, respectively. At Chantilly, the noise levels of the acoustically treated B-727 averaged 5.0 dB lower than those of the untreated B-727 while the A-300B was 3.7 dB less than the treated B-727. Figures 8 and 9 are graphs of noise level (PNLT) versus time of overflight for each of the three aircraft. Figures 10 and 11 depict the noise spectra for each aircraft during departure and approach, respectively.

Table No. I
JT8D Retrofit Demonstration
Summary Noise Level Data
As Measured *
Simulated Departure

Event	EPNL	DBA(M)	DBD(M)	OASPL	PNL(M)	PNLT(M)
1	95.5	84.0	90.8	86.7	97.7	99.5
4	92.9	80.4	86.5	84.4	93.3	95.0
7	93.7	81.3	87.8	85.0	94.6	96.0
10	94.0	81.1	87.6	84.7	94.9	97.7
Arithmetic Average =	94.0	81.7	88.2	85.2	95.1	97.0
2	91.4	81.3	86.1	85.6	92.7	93.7
5	91.4	81.2	85.8	85.6	92.4	93.2
8	91.0	80.0	85.3	84.2	92.1	92.8
11	91.2	80.2	84.9	84.6	91.5	92.6
Arithmetic Average =	91.2	80.7	85.5	85.0	92.2	93.1
3	87.4	73.8	78.9	77.7	85.9	87.6
6	86.8	73.3	77.7	77.0	84.3	86.1
9	87.9	74.2	80.2	77.9	87.0	88.3
12	88.2	75.1	80.0	77.4	86.7	88.8
Arithmetic Average =	87.6	74.1	79.2	77.5	86.0	87.7

Symbols:
- EPNL = Effective Perceived Noise Level in decibels.
- DBA(M) = Maximum A-Weighted Sound Level in decibels.
- DBD(M) = Maximum D-Weighted Sound Level in decibels.
- OASPL = Maximum Overall Sound Pressure Level in decibels.
- PNL(M) = Maximum Perceived Noise Level in decibels.
- PNLT(M) = Maximum Tone-Corrected Perceived Noise Level in decibels.

* Indexes (A, D, etc.) Calculated Using Slope Corrected Data.

Events: 1, 4, 7, 10 - Untreated Aircraft
2, 5, 8, 11 - Treated Aircraft
3, 6, 9, 12 - A-300 Aircraft.

Date: 6/17/78

Table No. II
JT8D Retrofit Demonstration
Summary Noise Level Data
As Measured *
Simulated Approach

Event	EPNL	DBA(M)	DBD(M)	DASPL	PNL(M)	PNLT(M)
13	108.6	100.1	108.1	100.7	114.2	115.3
16	108.6	100.0	108.2	101.1	114.5	115.7
19	109.0	100.5	108.7	101.4	114.7	115.7
22	109.6	100.6	108.8	101.3	114.6	115.8
Arithmetic Average =	109.0	100.3	108.5	101.1	114.5	115.6
14	106.6	97.6	104.4	99.6	111.5	112.6
17	106.5	97.5	104.1	99.5	111.3	112.4
20**	99.2	89.2	96.0	92.5	102.9	103.7
23	104.9	95.5	102.7	97.0	109.1	110.2
Arithmetic Average =	106.0	96.9	103.7	98.7	110.6	111.7
15	101.2	90.5	98.0	92.3	104.9	105.7
18	100.7	89.8	97.2	91.7	104.1	105.0
21	102.0	91.1	98.9	92.9	105.9	107.2
24	101.6	90.6	98.4	92.3	105.5	106.8
Arithmetic Average =	101.4	90.5	98.1	92.3	105.1	106.2

* Indexes (A, D, etc.) Calculated Using Slope Corrected Data.
** This value was omitted in calculating the average noise level because the flight path was high and the value far removed from the norm.

Events: 13, 16, 19, 22 - Untreated Aircraft
14, 17, 20, 23 - Treated Aircraft
15, 18, 21, 24 - A-300 Aircraft

Date: 6/17/78

Table III
JT8D Retrofit Demonstration
Approach Noise Levels at Chantilly

Time	Aircraft	dBA	Slant Range N.M.
10:31:31	Braniff B-727	96	0.13
10:33:09	TWA B-727	93	0.14
10:35:25	Eastern A-300	87	-
10:47:52	Braniff B-727	95	0.14
10:50:23	TWA B-727	91	-
10:52:03	Eastern A-300	87	0.15
10:58:52	Braniff B-727	95	0.15
11:00:20	TWA B-727	88	0.15
11:02:49	Eastern A-300	87	0.16
11:11:17	Braniff B-727	97	0.15
11:13:20	TWA B-727	91	0.16
11:15:13	Eastern A-300	87	0.15

Averages

Braniff B-727 (Untreated)	95.7 dBA
TWA B-727 (Acoustically Treated)	90.7 dBA
Eastern A-300	87.0 dBA

Date: 6/17/78

TABLE IV

JT8D RETROFIT DEMONSTRATION
AIRCRAFT ALTITUDE OVER MONITORING SITE

EVENT	AIRCRAFT	ALTITUDE (FEET AGL)
Departures		
4	Braniff B-727	2000
7	Braniff B-727	1900
10	Braniff B-727	2050
Average		1983
2	TWA B-727	1900
5	TWA B-727	1950
8	TWA B-727	2000
11	TWA B-727	2100
Average		1987
3	Eastern A-300	2900
6	Eastern A-300	2800
9	Eastern A-300	2400
12	Eastern A-300	2500
Average		2650
Arrivals		
16	Braniff B-727	390
17	TWA B-727	350
18	Eastern A-300	350

Event 1 - Not Measured.
Events 13-15 and 19-24 not photographed due to rain.

Date: 6/17/78

29-661 O - 78 - 26

FIGURE 2

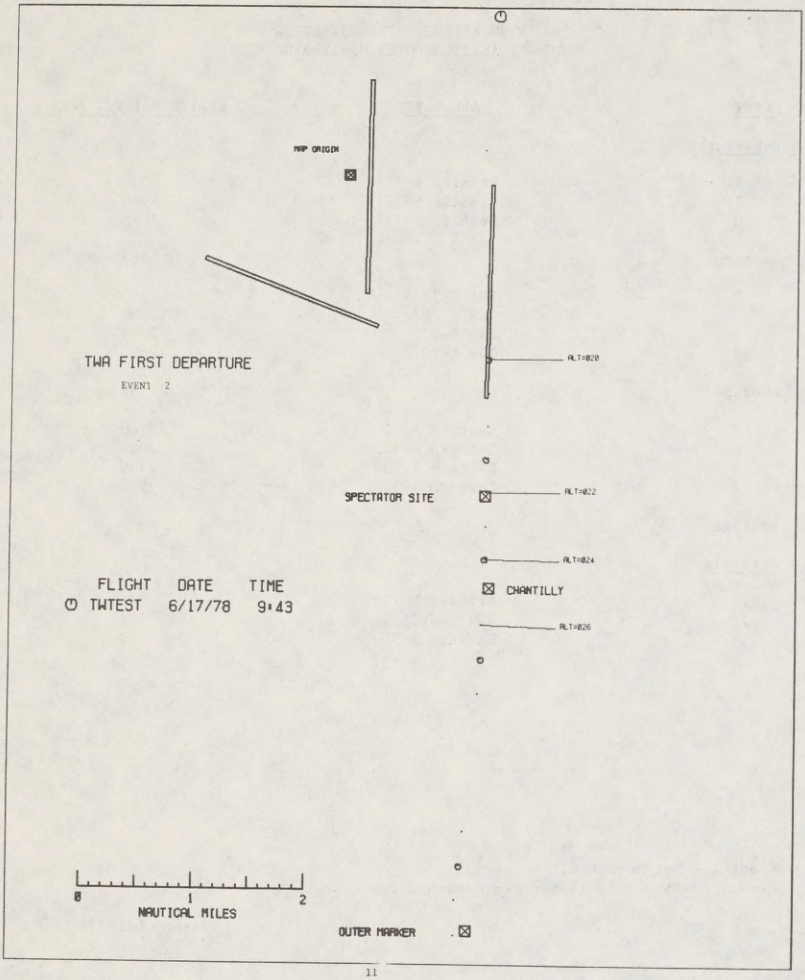

MAP ORIGIN
TWA FIRST DEPARTURE
EVENT 2
ALT=020
SPECTATOR SITE
ALT=022
ALT=024
CHANTILLY
ALT=026
FLIGHT DATE TIME
TWTEST 6/17/78 9:43
0
1
2
NAUTICAL MILES
OUTER MARKER

FIGURE 3

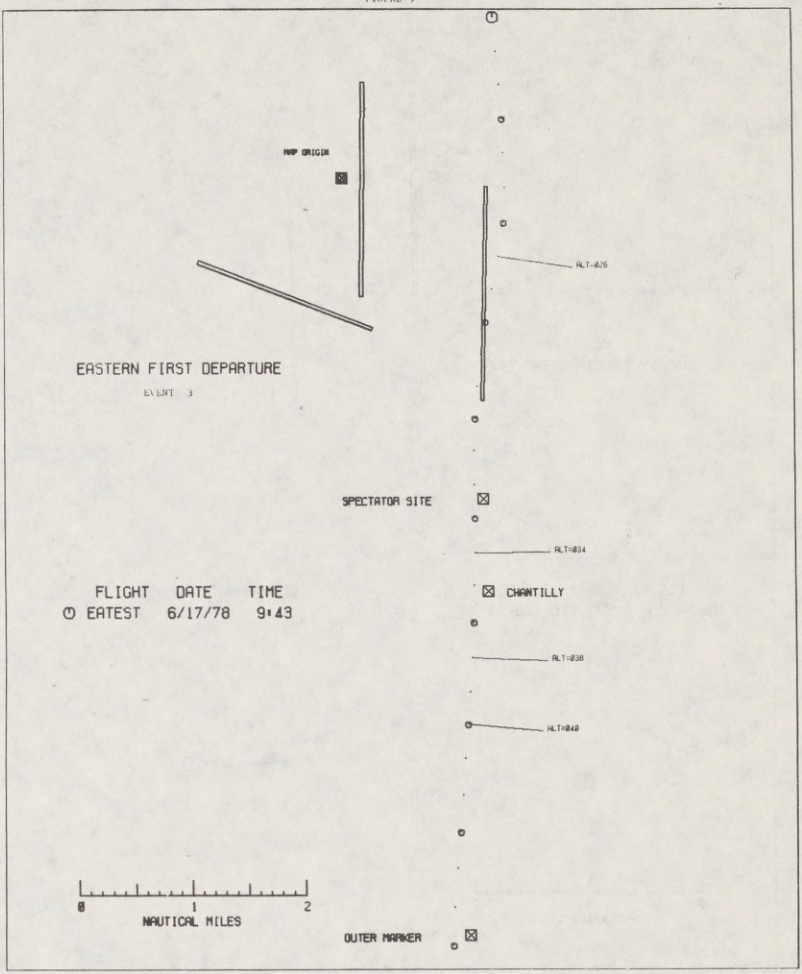

MAP ORIGIN
ALT-826
EASTERN FIRST DEPARTURE
EVENT 3
SPECTATOR SITE
ALT-834
FLIGHT DATE TIME
EATEST 6/17/78 9:43
CHANTILLY
ALT-838
ALT-848
0 1 2
NAUTICAL MILES
OUTER MARKER

FIGURE 4

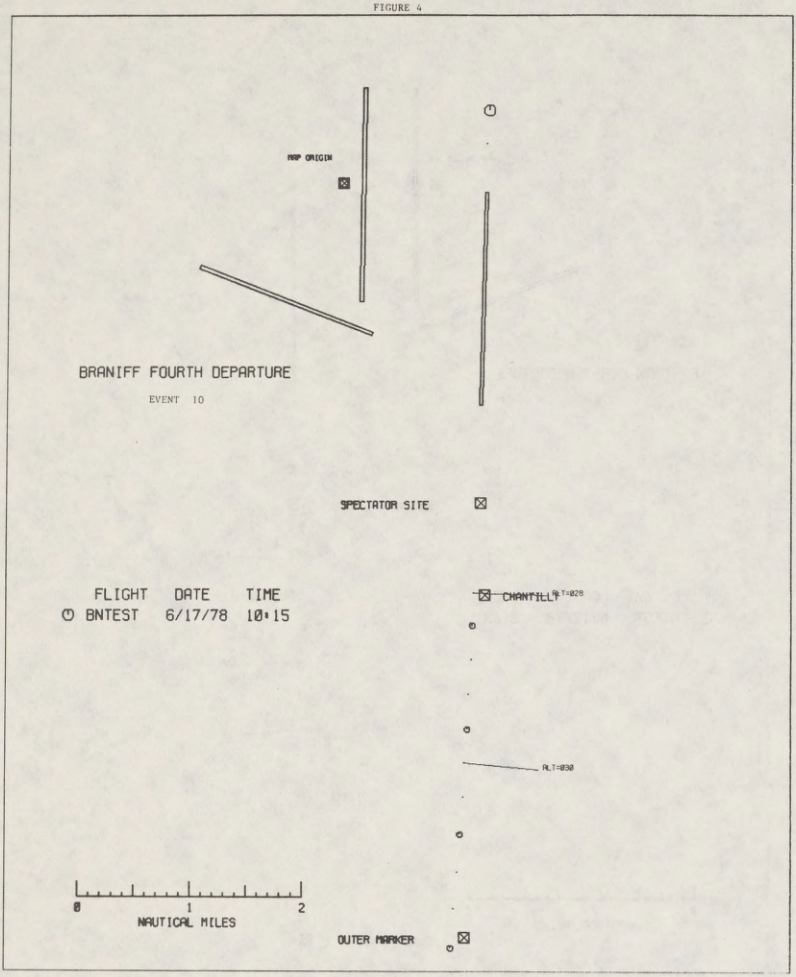

MAP ORIGIN
BRANIFF FOURTH DEPARTURE
EVENT 10
SPECTATOR SITE
FLIGHT DATE TIME
BNTEST 6/17/78 10:15
CHANTILLY
ALT=820
ALT=830
0
1
2
NAUTICAL MILES
OUTER MARKER

FIGURE 5

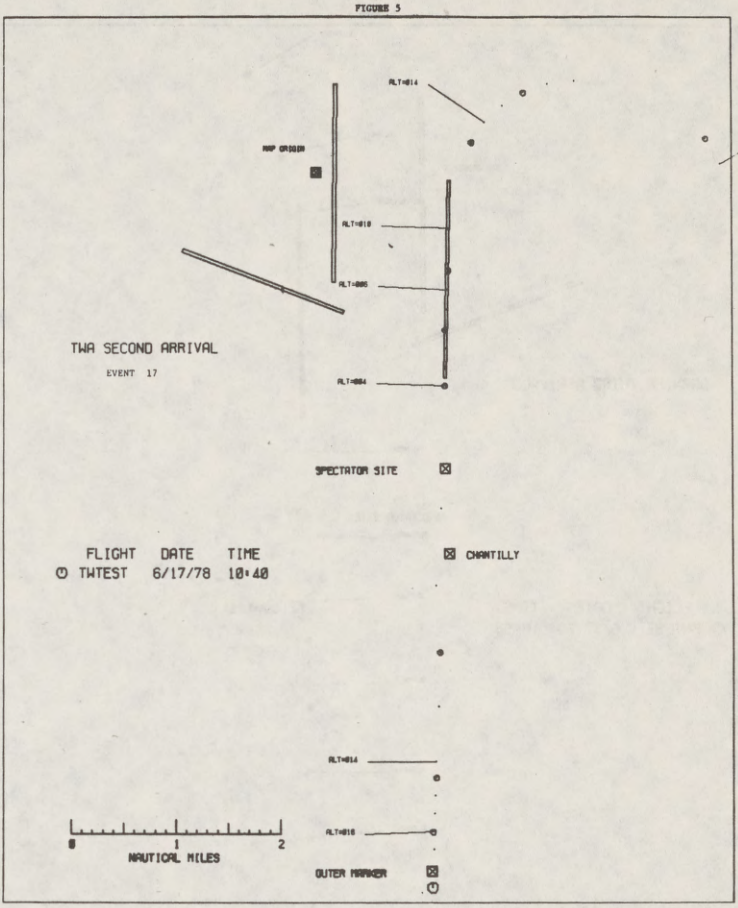
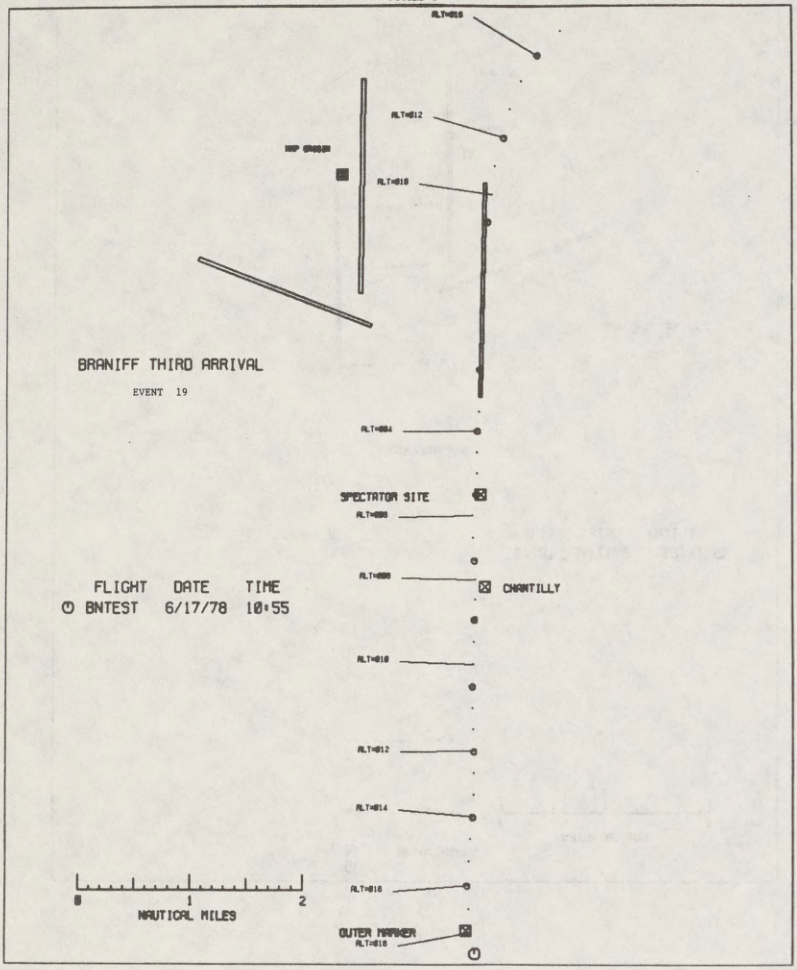
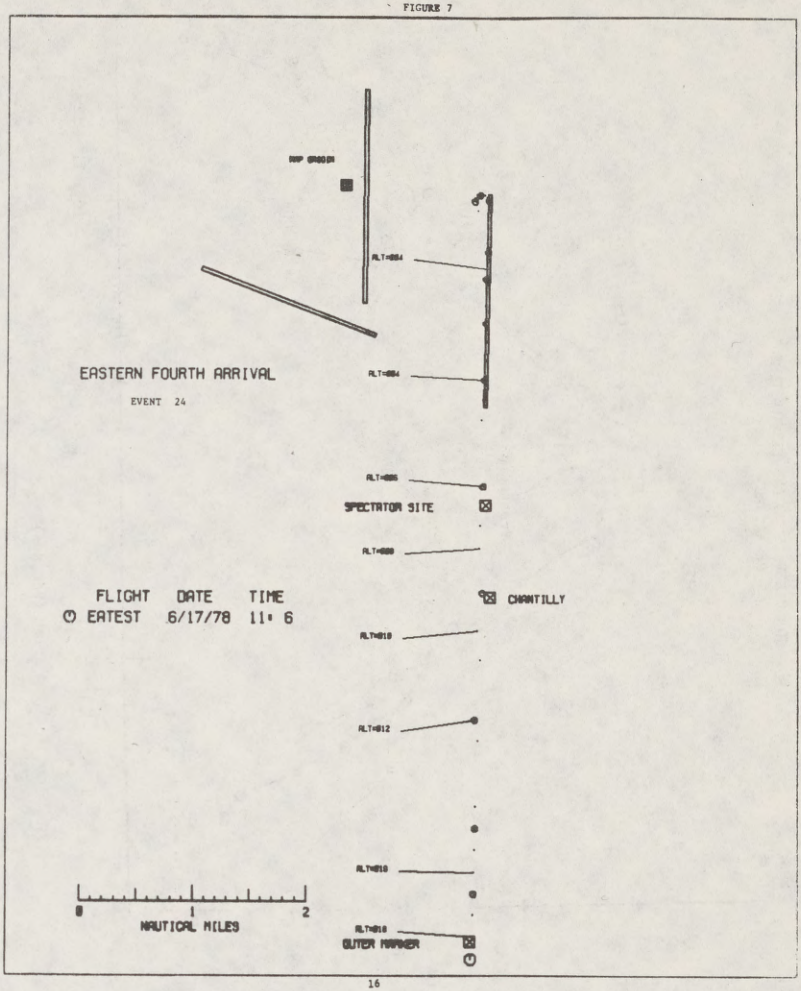

ALT=014
ALT=010
ALT=006
ALT=004
TWA SECOND ARRIVAL
EVENT 17
SPECTATOR SITE
FLIGHT DATE TIME
TWTEST 6/17/78 10:40
CHANTILLY
ALT=014
ALT=010
0
1
2
NAUTICAL MILES
OUTER MARKER

FIGURE 6


ALT=012
ALT=010
BRANIFF THIRD ARRIVAL
EVENT 19
SPECTATOR SITE
CHANTILLY
FLIGHT DATE TIME
BNTEST 6/17/78 10:55
ALT=010
ALT=012
ALT=014
0
1
2
NAUTICAL MILES
OUTER MARKER

15

FIGURE 7


EASTERN FOURTH ARRIVAL
EVENT 24
SPECTATOR SITE
CHANTILLY
FLIGHT DATE TIME
EATEST 6/17/78 11: 6
0
1
2
NAUTICAL MILES
OUTER MARKER

16

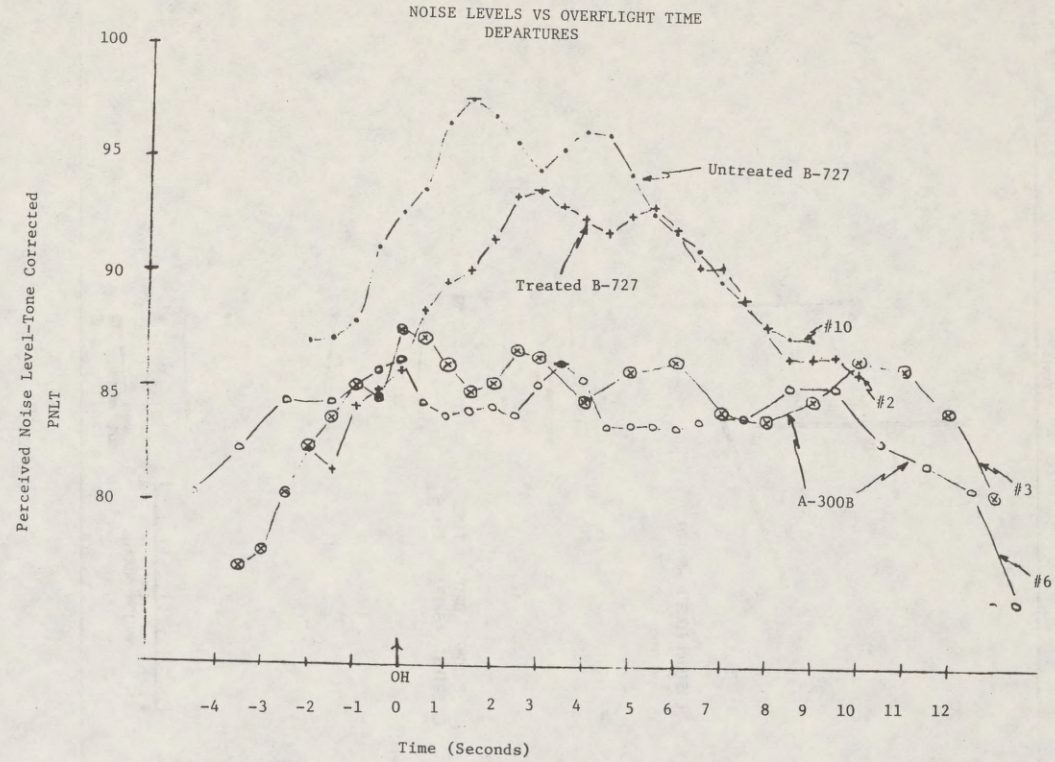

NOISE LEVELS VS OVERFLIGHT TIME
DEPARTURES
Perceived Noise Level-Tone Corrected
PNLT
100
95
90
85
80
Untreated B-727
Treated B-727
#10
#2
#3
#6
A-300B
OH
-4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12
Time (Seconds)

Figure 8

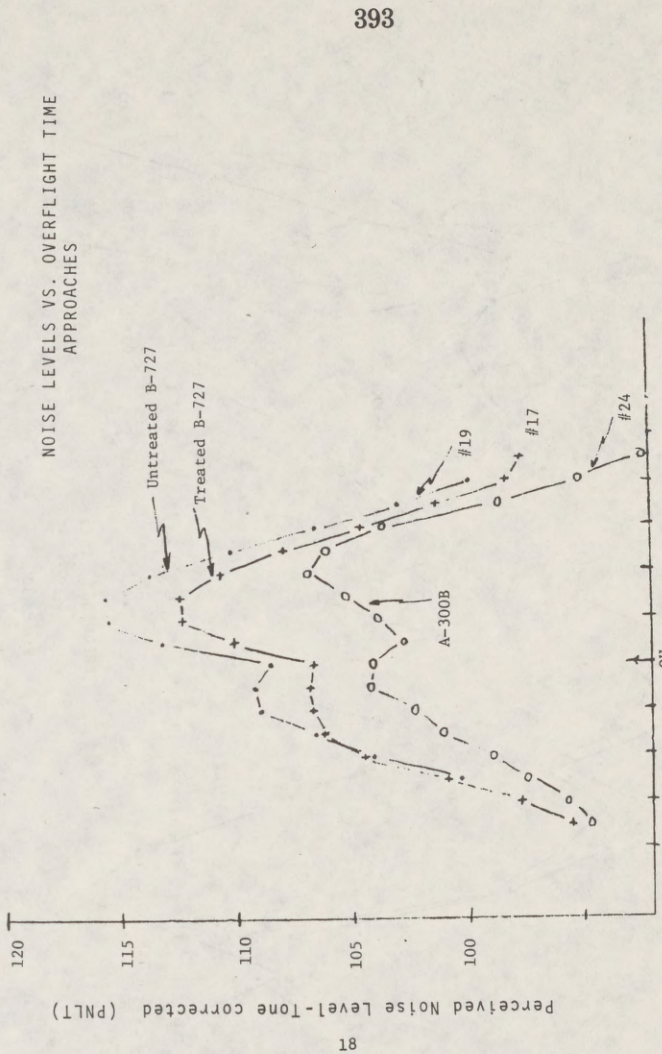

NOISE LEVELS VS. OVERFLIGHT TIME
APPROACHES
Untreated B-727
Treated B-727
#19
#17
#24
A-300B
Perceived Noise Level-Tone corrected (PNLT)
120
115
110
105
100
-4 -3 -2 -1 0 1 2 3 4 5
OH
Time (Seconds)

Figure 9

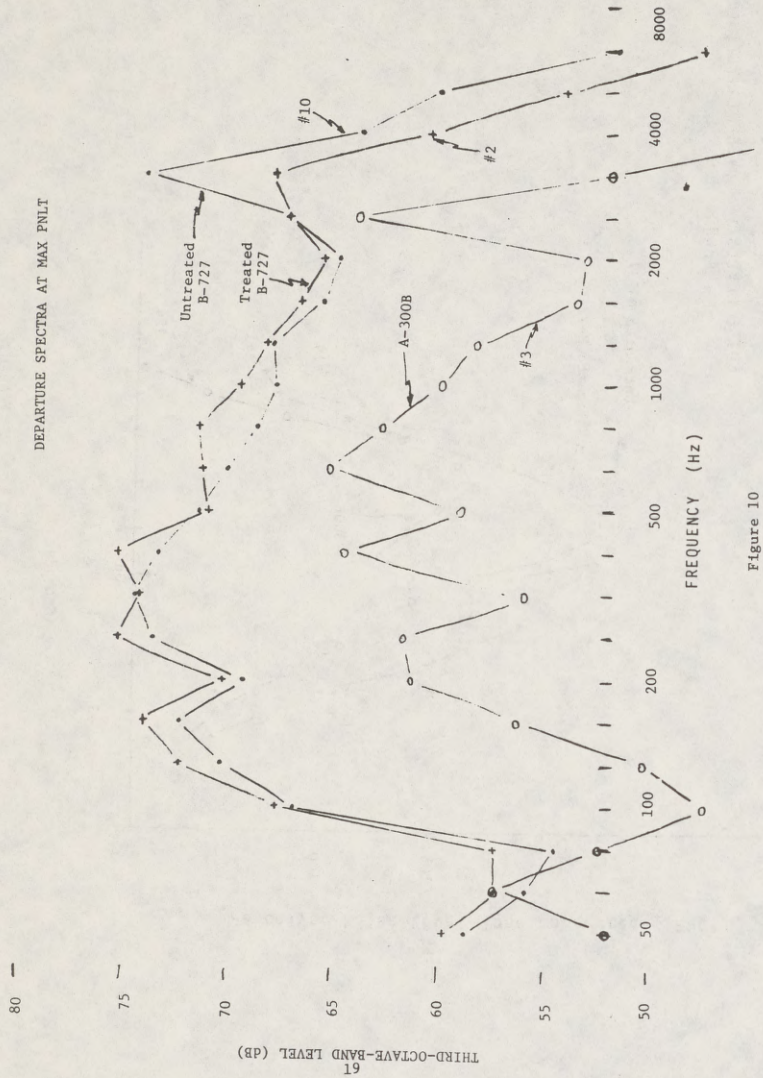

DEPARTURE SPECTRA AT MAX PNLT
Untreated B-727
Treated B-727
A-300B
#10
#2
#3
80
75
70
65
60
55
50
50
100
200
500
1000
2000
4000
8000
FREQUENCY (Hz)
THIRD-OCTAVE-BAND LEVEL (dB)

Figure 10

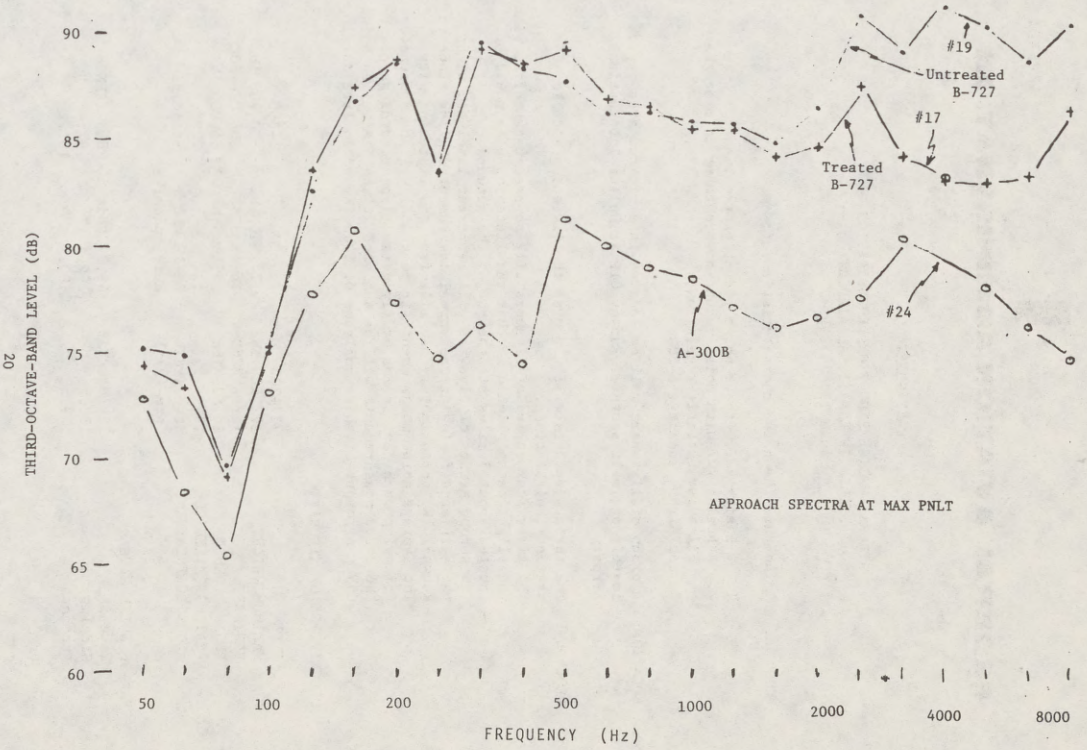

90
85
80
75
70
65
60
THIRD-OCTAVE-BAND LEVEL (dB)
20
#19
Untreated
B-727
#17
Treated
B-727
#24
A-300B
APPROACH SPECTRA AT MAX PNLT
50
100
200
500
1000
2000
4000
8000
FREQUENCY (Hz)

Figure 11

APPENDIX A

FEDERAL AVIATION ADMINISTRATION

FACT SHEET

AIRCRAFT NOISE REDUCTION DEMONSTRATION
DULLES INTERNATIONAL AIRPORT
June 17, 1978

PURPOSE: To compare the noise characteristics of:

1. A Boeing 727 without noise reduction treatment;
2. A Boeing 727 with noise reduction treatment to meet the FAA noise retrofit regulation;
3. An Airbus Industry A-300.

LOCATION: A group of listeners will be located in a cleared area approximately one mile south of Runway 01R at Dulles International Airport

PROCEDURE: The three airplanes will fly over the listening site in sequence, eight times.

*The first four series of flyovers will represent takeoffs, with the flight paths planned so that the listening site would be located about 3 miles off the end of the runway.

*The second series of flyovers will represent landings, with the airplanes following the normal instrumented glide slope to Runway 01R, approximately one mile from the listening site.

*The average noise measurement (in peak dBA) will be announced following each four series of flyovers. Tape recordings of the sound measurements will be analyzed at the FAA Dulles Noise Lab. A report of these analyses will be issued in late July.

DESCRIPTION OF AIRCRAFT:

TYPE	727-200	727-200	A-300
MAXIMUM WEIGHT	172,500 lbs	172,500 lbs	330,700 lbs
ENGINES	Three JT8D-9	Three JT8D-9	Two CF6-50C
ENGINE THRUST	14,500 lbs	14,500 lbs	51,000 lbs
SEATING (MIXED CLASS)	134	134	229
ACOUSTIC TREATMENT	Standard (pre-1974)	BG-19 kit + quiet nacelle	Standard
FAR-36 NOISE LEVELS			
Takeoff	101.0 EPNdB	99.0 EPNdB	89.0 EPNdB
Sideline	100.5 "	100.4 "	92.4 "
Approach	109.5 "	100.4 "	101.2 "

# # #

APPENDIX B

QUESTIONNAIRE
(Number of Responses Added)
AIRCRAFT NOISE REDUCTION DEMONSTRATION
June 17, 1978

During the FIRST group of four sets of flyovers which represent takeoffs by the three airplanes involved:

1. Did one of the first two airplanes in each set of flyovers (the two Boeing 727s) seem quieter than the other one?

   YES (44) NO (14)

2. If yes, which one seemed to be the quieter?

   FIRST 727 (4) SECOND 727 (40)

3. Did the third airplane in each set, the A-300, seem quieter than the first two airplanes in each set, the 727s?

   YES (37) NO (26)

During the SECOND group of four sets of flyovers, which represent landings by the three airplanes involved:

1. Did one of the first two airplanes in each set of flyovers (the two Boeing 727s) seem quieter than the other one?

   YES (50) NO (8)

2. If yes, which one seemed the quieter?

   FIRST 727 (2) SECOND 727 (48)

3. Did the third airplane in each set, the A-300, seem quieter than the first two airplanes in each set, the 727s?

   YES (48) NO (10)

We would appreciate any comments you would care to write on the back of this sheet, regarding the relative "acceptability" of the noise of these three airplanes for airport neighbors.