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REFLECTIONS ON THE ECONOMIC IMPLICATIONS
OF CURRENT NOISE ABATEMENT FINANCING
PROPOSALS

JOHN R. BOYER, JR.

The Federal Aviation Administration (FAA) on December 23, 1976, promulgated a regulation requiring existing large commercial jet aircraft to comply with noise limits which were formerly applicable only to aircraft entering service after December 31, 1974. Compliance with this regulation will cost the airline industry a minimum of approximately one billion dollars. The purpose of this paper is to discuss the various congressional proposals for providing financial assistance to the airlines to meet the costs of financing the noise reductions required by the new noise regulation.

Congress amended the Federal Aviation Act by passage of the Aircraft Noise Abatement Act in 1968. This amendment allows the FAA to "prescribe and amend standards, rules, and regulations in order to afford present and future relief and protection to the public from unnecessary aircraft noise." The primary response by the FAA to this extension of its rulemaking authority was the promulgation of Federal Aviation Rule (FAR) Part 36 in 1969.

Sections of the original FAR Part 36 regulation, applicable to large commercial jet aircraft, limited noise emissions of aircraft of new design only. The preamble to FAR Part 36, however, put the industry on notice that the FAA also planned to regulate noise emissions of the then existing jet fleet. The provisions of the original FAR Part 36 regulation, applicable to large jet aircraft of new design, require measurements of aircraft noise to be taken

2 See note 22 infra.
5 Id.
7 Turbojet powered civil aircraft over 75,000 pounds in weight.
at three precisely defined reference points, under specified parameters including such factors as wind velocity, temperature, and humidity. If an aircraft's emissions of noise exceed the limits set down in the original FAR Part 36, the aircraft is denied an FAA certificate of airworthiness, and thus, is effectively barred from use within the United States.

In 1973, the FAA amended FAR Part 36 to further inquire that newly produced aircraft of older design comply with the FAR Part 36 noise standards by December 31, 1974. On December 23, 1976, the FAA announced a final rule requiring that jet aircraft built prior to 1975 and designed before 1969 ("older jet aircraft") comply with the limits imposed by the original FAR Part 36. The December 23, 1976, amendment, effective January 1, 1977, requires that all civil jet aircraft weighing over 75,000 pounds meet the FAR Part 36 noise limits by January 1, 1983. It did allow one-half the fleet of four-engine aircraft built prior to 1975, with low bypass ratio engines, to be operated without modification until January 1, 1985. If under an approved plan new complying replacement aircraft have been ordered, older jet aircraft other than four-engine jets also may be operated until 1985. A further amendment to FAR Part 36 was promulgated on March 3, 1977. This amendment imposed even higher noise standards than those imposed by the January 1, 1977 amend-

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11 Id.
13 Low bypass ratio turbojet engines produce substantially more noise than high bypass ratio engines. Engine bypass ratios have increased with improved technology. The extended time period allowed for compliance of low bypass four engine aircraft by the regulation was made in contemplation of removal of a substantial number of such low bypass ratio engine aircraft from the domestic fleet, as aircraft powered by such engines compose the oldest segment of the U.S. fleet.
14 The regulation does not specify what an "approved plan" is, other than that the aircraft must be ordered and must comply with the FAR part 36 regulations. See 41 Fed. Reg. 56,055-56,056 (1976).
ment for aircraft of new design and for new modified versions of older jet aircraft designs.

The original congressional grant of authority to regulate aircraft noise was given in 1968. FAR Part 36 did not, however, become applicable to older jet aircraft until January 1, 1977. As a result of this seven year delay in regulating the older jet aircraft, FAR Part 36 has been largely ineffectual and has resulted in only minimal aircraft noise reduction. Until the January 1, 1977, amendment, FAR Part 36 was inapplicable to approximately eighty percent of the U.S. commercial jet fleet.\(^8\)

The FAA justified its failure to initially promulgate a noise rule applicable to older jet aircraft on its belief that it could not, without further study, promulgate such a regulation within the statutory constraint of the Noise Abatement Act\(^7\) and that such a noise rule must be economically practicable.\(^8\) In 1974 and 1975 increased congressional and public pressure forced the FAA to reconsider its original position, and efforts were made to formulate a noise rule applicable to the older jet aircraft.\(^9\) The agency then further delayed promulgation of a noise rule, as it was of the opinion that some type of financial assistance to the airlines should accompany a new regulation mandating compliance with FAR part 36.\(^10\)

The FAA's caution was certainly justified, as the financial status of the industry was very weak. During the five year period from January 1, 1972, to January 1, 1977, the airline industry recorded

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\(^7\) See note 4 supra.


\(^9\) The Noise Control Act of 1972, Pub. L. No. 92-574, 86 Stat. 1234 (1972) directed federal agencies to carry out the programs within their control in such a manner as to further that declared policy of the United States to the fullest extent consistent with their authority under federal law. This statute mandated several changes in the text of the Aircraft Noise Abatement Act of 1968 (see note 4 supra). The FAA attempted several rulemakings on jet noise created by the older jet fleet including, ones on November 4, 1970, January 30, 1973, and March 22, 1974. See note 16 supra at 1-2.

\(^10\) See note 16 supra at 1-3.
the lowest profits of any sector of American industry. In 1975, at the height of the congressional debate over whether to bypass FAA rulemaking authority and simply legislate noise standards for older jet aircraft, six of the twelve largest airlines showed substantial operating deficits. During the years 1974 through 1976, many banks refused to lend to air carriers.

In order for the industry to update the present fleet of older aircraft so as to comply with FAR Part 36, a minimum of approximately one billion dollars must be spent on aircraft engine modifications. There are three technically feasible methods of modification which would result in reduction of noise levels sufficient to allow an older jet aircraft to comply with FAR part 36.

The most inexpensive modification is a SAM retrofit of the aircraft's engines. SAM retrofit involves installation of sound absorbant materials in the interior nacelle surfaces of the jet engine. Such a retrofit would be required on virtually all of the smaller jet transports in domestic service, including the Boeing 707, 727, 737 and the McDonnell Douglas DC-8 and DC-9 aircraft, with the exception of a very few of such aircraft which were produced after December 31, 1974. The entire cost to the air transport industry of SAM retrofitting the noncomplying fleet is estimated at approximately one billion dollars.

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24 Id. at A83.


26 A "nacelle" is the outer covering of the turbojet engine.

27 The FAA estimates that approximately 1600 aircraft out of a total domestic fleet of 2100 aircraft would be noncomplying as of the date of the January 1, 1977, FAR Part 36 Amendment. 41 Fed. Reg. 56,046 (1977). Of the approximately 500 complying aircraft, 302 would be jumbo jets (L1011, DC-10, and 747), which, except for 100 747s, comply with the January 1, 1977 limits. Thus, approximately 83% of the smaller (non-jumbo jet) jet transports would require modification to meet FAR part 36.

A second alternative, refan retrofit, results in a much lower level of noise emissions than a SAM retrofit. Refan retrofit involves replacement of the old engines of older jet aircraft with new engines. The new engine is a modified or rebuilt version of the old engine, differing from the old engine primarily in that the new engine is equipped with a different turbojet fan. The new engine differs little in performance from the older engine, except that noise and pollutant emissions are lower than those emitted by the older engines. Measurements of noise levels of refan retrofitted aircraft have shown noise reductions twelve to five hundred twenty-five percent greater than SAM retrofitted aircraft, differences depending on which type of aircraft measurements are taken and at what location they are taken.

Technologically, refan retrofit is feasible for most of the older jet aircraft. Despite the much greater reductions in jet noise to be obtained by refan retrofitting, however, excessive costs prevent it from being a viable alternative. The most recent estimate for the cost of refan retrofitting the adaptable aircraft and SAM retrofitting the remainder of the older jet fleet is approximately five billion dollars. This figure is about seventy percent of the estimated value of all flight equipment owned by U.S. airlines as of January 1, 1974.

Turbofan is defined in Dictionary of Technical Terms for Aerospace Use, NASA (1965) as a "turbojet engine in which additional propulsive thrust is gained by extending a portion of the compressor or turbine blades outside the inner engine case."

These percentages are calculated from data on noise reductions achieved by different methods of turbojet modification published in Hearings on Aircraft Noise Abatement, 1975, supra note 25, at 27.

Currently there is one refan engine available for retrofitting on older aircraft, the JT8D-209 refan. See Av. Week & Space Tech., September 12, 1977, at 26-29. This engine is a variant of the JT8D-109 refan which was intended to be a replacement for the JT8D, the stock powerplants for the Boeing 737 and 727 and the McDonnell Douglas DC-9. Present plans, however, do not provide for installation of the JT8D-209 refan on such aircraft. There are now plans to retrofit the JT8D-209 refan on the DC-8 Av. Week & Space Tech. May 16, 1977, at 22-23. Apparently the only aircraft for which the JT8D-209 refan would not be available is the Boeing 707.


See Hearings on Aircraft Noise Abatement 1975, supra note 25, at 26. This figure does not include the cost of refan retrofitting, rather than SAM retrofitting, the DC-8. See note 31 supra.

This figure is arrived at by dividing the 5 billion dollar estimated cost of
A third possible method of altering the older jet aircraft so as to comply with FAR Part 36 is to replace the entire engine with a quieter engine of totally new design. Presently, only one such engine is available to be retrofitted on older jet aircraft, the CFM 56. This engine presently can be retrofitted only on the DC-8, although there has been some serious consideration of retrofitting the 707 with the CFM 56. The total number of 707's and DC-8's combined represented only twenty-four percent of the aircraft in the domestic commercial jet fleet as of 1976. The CFM 56, in addition to being considerably quieter than comparable SAM retrofitted engines, consumes approximately fifteen to twenty-one percent less fuel than its present counterparts in service.

The primary obstacle to engine replacement (CFM 56) as an alternative to SAM retrofit is again the prohibitive cost. The estimated cost of retrofitting new CFM 56 engines on a DC-8 is approximately ten to eleven million dollars per aircraft. This cost is in most cases greater than the original purchase price of a DC-8. According to Jack Hope of General Electric Co., the additional benefits of the CFM 56, greater noise reduction and fuel efficiency, may not justify the additional expenditures at the present time.

An alternative way to comply with the January 1, 1977, regulation is to replace the older jet aircraft with new aircraft which comply with the regulations. This possibility, although obviously the most costly of the alternatives, is being considered for several reasons. First, many of the aircraft which do not comply with the January 1, 1977, amendment have been in service for a very long time. There is concern over such factors as the aircraft's safety and whether such aircraft might soon become obsolete.

refan retrofitting the JT8D powered aircraft, and SAM retrofitting the remaining aircraft, (see note 33 id.) by the estimated net value of all flight equipment in service in the United States as of 1975.

41 Hearings on Aircraft Noise Abatement, 1975, supra note 25, at 144.
42 Id. at 98-100.
43 This concern is illustrated by the line of questioning in Hearings on Aircraft Noise Abatement, 1975, Id. at 147-48.
ment of these aircraft would alleviate this, as well as any concern as to whether money should be invested in retrofitting or re-engining such aging aircraft.\textsuperscript{41}

Use of these new aircraft equipped with the new engines may result in greater noise reductions than use of SAM retrofit methods. The CFM 56 engine also offers significant fuel savings.\textsuperscript{42} There is also a cost advantage; one reason replacing the engines of older jet aircraft is so costly is that structural modifications must be made to the old aircraft itself.\textsuperscript{43} Such expense is obviously not incurred when a new aircraft with new engines is purchased. There is, however, uncertainty as to when new aircraft using engines such as the JTD 209 refan or the CFM 56 might enter production. Several such aircraft are presently at the design stage;\textsuperscript{44} the primary obstacle to their introduction is a lack of sufficient firm orders from airlines to make production economically feasible.\textsuperscript{45}

Even after adoption of a final rule requiring application of FAR part 36 to the older jet aircraft, the financial questions which were responsible for the FAA's delay in requiring this compliance by older jet aircraft have not been resolved. These include what form of federal assistance, if any, should be given to the industry to enable it to meet the financial burden imposed on it by the January 1, 1977, FAR Part 36 amendment, and what would be the financial effect on the air transport industry of the regulation in the absence of any federal assistance.

\section*{I. Mineta Proposal}

At the present time there are four proposed alternative plans for financing the expenditures which will be necessary for the present commercial fleet to meet the new noise limits. The first proposal was a plan formulated by Congressman Norman Mineta of California. Mineta's bill,\textsuperscript{46} introduced before the promulgation of the January 1, 1977, amendment, would earmark three hundred mil-

\textsuperscript{41} But see text accompanying notes 110-17 infra.
\textsuperscript{42} See Hearings on Noise Technology, 1976, note 37 supra, at 21.
\textsuperscript{43} See \textit{Av. Week \& Space Tech.}, May 16, 1977, at 22-23.
\textsuperscript{44} \textit{Av. Week \& Space Tech.}, January 10, 1977, at 22-23.
\textsuperscript{46} H.R. 14027, 94th Cong., 2d Sess. (1976).
lion dollars annually of revenue from the Airport and Airway Trust Fund for the fiscal years 1977 through 1980 for grants to enable aircraft operators to make the modifications necessary to meet FAR Part 36 noise limits. Under the proposed legislation, the operator of an aircraft not complying with FAR Part 36 regulations would be entitled to a grant of the reasonable cost of a SAM retrofit. The older jet aircraft, if retrofitted, would be required to meet the FAR Part 36 noise limits. The operator could, at his option, replace the noncomplying aircraft with a new aircraft complying with FAR Part 36, the same grant of money also being available to be applied to the purchase price of the new aircraft. The bill provides no engine replacement option.

The Airport and Airway Trust fund was set up to provide for the expansion and improvement of the nation's airport and airway system. Mineta, in testimony before the House Subcommittee on Aviation of the Committee on Public Works and Transportation, stated that as of October 1, 1976, the trust fund had generated a surplus of 1.334 billion dollars and was expected to generate an additional surplus of 777 million dollars over the next four years. As the revenues of the Airport and Airway Trust Fund are generated by extraordinary taxes on air ticket and waybill fares, it would seem equitable to return any surplus generated by such taxes to the industry.

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48 H.R. 14027 provides that an operator must set forth "the price of purchasing the retrofit materials and the price of installing such materials" in his application for a grant. The FAA administrator approves the grant within sixty days (approval is conditioned on whether the administrator believes that the aircraft so modified will comply with the noise regulations and that the costs as set forth are reasonable). See H.R. 14027, 94th Cong., 2d Sess. § 5 (1976).

49 The bill makes no requirement that the aircraft be an aircraft currently in production, or one of the new design, only that it meet the applicable FAR part 36 noise limits. Id. § 6(a)(3).

50 The absence of a replacement option is probably due to doubt as to the viability of such an alternative, because of its prohibitive cost. See Hearings on Aircraft Noise Abatement, 1975, supra note 25, at 98-99.


II. WYDLER PROPOSAL

The second proposal, introduced by Representative Wydler of New York on February 22, 1977, was drawn up by former Transportation Secretary William Coleman, Jr. This plan would allow total appropriations of up to three hundred million dollars of Airport and Airway Trust funds to finance "modifications" of aircraft not complying with FAR Part 36. This bill, in addition, provides that if an operator preferred to replace his aircraft, rather than retrofit, the operator could petition the CAB for up to a two percent noise abatement surcharge on air fare and freight waybills. The CAB would be required to establish such a surcharge and formulate a plan for disbursement of the funds generated by the surcharge within one year of the date of the petition. This surcharge could be collected for up to ten years, the collected revenues being placed in a new trust fund for replacement of aircraft. The owner of an aircraft not complying with FAR Part 36 would be eligible for a grant out of the new trust of up to one-third of the purchase price of a new aircraft. The only conditions attached to the grant would be that: (1) the replacement aircraft must comply with FAR Part 36, and (2) an operator may buy planes of no larger aggregate seating capacity than the aircraft replaced.

The Wydler bill places a much greater emphasis on incentives for replacing older aircraft than the Mineta bill. Appropriations would, however, be correspondingly higher under the Wydler plan. Mineta's bill would have placed a ceiling of 1.2 billion dollars on expenditures over a four year period. The Wydler bill has no statutory ceiling, but Secretary Coleman estimated that approximately 3.3 billion dollars would be granted under the plan.

59 The Wydler bill is unclear in many respects. It does not specify a method of retrofitting, but rather, allows grants for "modifications" to meet the noise regulations. Id. § 4.
60 The size of the surcharge would be determined "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." Id. at § 2.
61 The bill, as does Mineta's bill, makes no requirement that the aircraft replaced be an aircraft currently in production, or one of new design. It must only meet the applicable FAR part 36 noise limits. Id.
62 Id.
Either proposal might be financed using the budget surplus of the Airport and Airway Trust Fund, as the trust fund is expected to have a surplus of 2.11 billion dollars by 1980.69 The Wydler bill provides for a 1987 expiration date for the surcharge, by which time the surplus should exceed 3 billion dollars. Due to the present size of the trust fund surplus, there would seem to be a serious question as to the necessity of legislat ing an additional surcharge, as proposed under the Wydler bill.

III. ANDERSON PROPOSALS

A. H.R. 4539

The third and fourth alternative plans for financing aircraft noise abatement have been formulated by the chairman of the House Subcommittee on Public Works and Transportation, Representative Glen Anderson of California. The two Anderson bills, although having some similarities, differ significantly enough from each other as to warrant separate discussion of each.

The first Anderson bill, H.R. 4539,69 was introduced and referred to the House Subcommittee on Public Works and Transportation. H.R. 4539 provides for the imposition of an industry-wide two percent surcharge on the price of a passenger ticket and cargo waybill. The revenues of this surcharge would be collected and held by the individual airline operators. Once the revenues of the surcharge collected by the operator equalled the respective allocations available to him under the bill, the additional revenues collected would be turned over to the Airport and Airway Trust Fund. Should the carrier not be able to collect sufficient revenue to meet his allocation under the plan, funds from the Airport and Airway Trust Fund would be made available to him in order to make up the difference. The surcharge would expire when all carriers had col-

69 Id. Title III § 303(b)(5). The bill would require the FAA Administrator to publish within 60 days of enactment of the bill, a list of all noncomplying aircraft in the U.S. Within 30 additional days, the owners of these noncomplying aircraft must determine which of the three available methods of compliance will be used. Following this 30-day period, the administrator must within 30 more days publish a list of the cost of retrofitting each aircraft. Therefore, within 120 days of the enactment of the bill the amount of money a carrier may receive under the provisions of the bill is set. Id. Title III, § 302.
lected their allocation under the bill or within ten years of the passage of the bill.

The funds collected would be available to the operator of an aircraft not meeting FAR Part 36 to finance seventy-five percent of the cost of a SAM retrofit. The bill would allow a grant of one and one-half times what it would cost to SAM retrofit an aircraft to finance engine replacement for the same aircraft. A grant of two and one-half times what it would have cost to retrofit the old noncomplying aircraft would be available to replace the old aircraft. As with the Wydler bill the obvious objective of this proposal is to encourage fleet replacement over alternative retrofit modification. H.R. 4539, however, would not provide as liberal a replacement incentive as the Wydler program. For example, the available grant under H.R. 4539 to replace a DC-9 would be approximately $350,000, representing 250 percent of the cost of retrofitting the DC-9. The DC-9 would have an estimated purchase price of three and one-half to ten million dollars. The Wydler plan, allowing grants of up to one-third the purchase price of the new aircraft, provides a much greater incentive for replacement than H.R. 4539.

H.R. 4539 has a hidden incentive for replacement in that it proposes an industry-wide two percent surcharge. The Wydler surcharge is a tax for which an operator voluntarily petitions the CAB. By petitioning for a surcharge under the Wydler proposal, a carrier would be putting itself at a competitive disadvantage if other carriers did not likewise petition for a surcharge. Thus, H.R. 4539 by requiring the surcharge for all operators, allows a carrier to participate in the replacement incentive program without sacrificing his competitive position.

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63 As with the Mineta and Wydler bills, this bill does not require that any advanced aircraft be purchased. It only requires that the replacement aircraft meet the applicable FAR part 36 limits. Thus, apparently either new aircraft presently in production or aircraft of new design could be purchased.

62 The figure given is calculated by multiplying the estimated cost of retrofitting a DC-9 by 2.5 (250%)—Hearings on Noise Technology, 1976, supra note 37, at 21.

64 Hearings on Aircraft Noise Abatement, 1975, supra note 25, at 144 (testimony of A. L. McPike).
B. H.R. 8124

The fourth alternative, and the second proposal submitted by Representative Anderson, H.R. 8124, was introduced to the House of Representatives and referred to the House Committee on Public Works and Transportation on June 30, 1977. H.R. 8124 is a much more comprehensive plan than any of its counterparts.

H.R. 8124 requires, as does H.R. 4539, a two percent surcharge on airline fares and cargo waybills. This surcharge would be used to finance significantly larger grants for engine or aircraft replacement than that provided for in H.R. 4539. In addition to providing much larger grants, the surcharge would be mandatorily effective for only five years under H.R. 8124, as opposed to the ten year period provided for in H.R. 4539. Under H.R. 8124, however, following the expiration of the five year period of mandatory imposition of the surcharge, an individual carrier could, by notifying the Secretary of the Treasury, collect the same revenues for up to five additional years.

Like H.R. 4539, H.R. 8124 would provide that the revenues collected under the plan be deposited by an aircraft operator in a separate bank account for purpose of aircraft retrofit or replacement. Funds collected by an operator having no noncomplying aircraft, and funds collected by an operator in excess of the amount of the grants statutorily available under the plan, would be turned over periodically to the Airway Trust Fund.

H.R. 8124 would allow an aircraft operator the option of SAM retrofitting, replacing the engines, or replacing the noncomplying aircraft. Unlike H.R. 4539, however, H.R. 8124 differs in that the size of the grant available for SAM retrofit would be dependent on the type of aircraft which is to be retrofitted. The size of the grant available for the purchasing of replacement aircraft would depend on the noise level of the aircraft purchased.

H.R. 8124 would allow an operator of a noncomplying aircraft a grant of fifty percent of the cost of the SAM retrofit to an operator who wishes to SAM retrofit an aircraft having fewer than...
four engines. The apparent rationale for providing smaller grants for retrofitting four-engine aircraft is that the majority of the four-engine aircraft which need modification, primarily the Boeing 707 and McDonnell Douglas DC-8, are much noisier than their two and three-engine counterparts. These four-engine aircraft also tend to be much older than the two and three-engine aircraft in service. The combination of age and inherently higher noise emissions of the four-engine aircraft make it desirable to provide relatively less incentive for their upkeep and relatively more incentive to replace these four-engine aircraft with newer FAR Part 36 complying aircraft.

H.R. 8124 also would allow an operator the option of replacing the aircraft's engines as an alternative to SAM retrofit or aircraft replacement. H.R. 8124 would provide a grant of seventy-five percent of the actual cost of replacing the engines, with the limitation that the cost of replacing the old engines may not exceed thirty-five percent of the cost of replacing the entire aircraft.

An aircraft operator choosing to replace a noncomplying aircraft has two options under H.R. 8124: he can purchase a new aircraft which meets the January, 1977 FAR Part 36 noise limitations and receive a grant of twenty percent of the purchase price of the new aircraft, or he may purchase an aircraft which meets the noise limits set down for new type aircraft by the March 3, 1977, FAR Part 36 amendments and receive a grant of thirty-five percent of the purchase price of the new aircraft. Aircraft currently on production would qualify only for the smaller grant, as they do not meet the stricter March 1977 noise limits.

A further provision of H.R. 8124 extends the deadline for compliance with the January 1, 1977 FAR Part 36 amendment for two engine aircraft and the Boeing 727-200 to January 1, 1990.

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68 The JT3 and JT8D are the stock engines for the Boeing 737 and 727, and McDonnell Douglas DC-8 and DC-9. The present replacement cost of the JT3D is approximately $600,000, and the cost of the JT8D is about $900,000. H.R. 8124 obviously provides larger incentives than does H.R. 4539 for engine replacement. As an example: H.R. 4539 would allow approximately $225,000 for engine replacement for a Boeing 727 (1.5 (150%)$ \times $152,000 (price of SAM retrofit)). H.R. 8124 would provide approximately $2,025,000 for engine replacement of the same aircraft (3 (number of engines) \times .75(75%) \times $900,000 (the cost of the JT8D which powers the 727)).

69 See note 15 *supra*. 
If an operator decides to take advantage of this extension, the grants available are reduced to (1) fifty percent of the cost of retrofit, (2) twenty-five percent of the cost of engine replacement, and (3) ten percent of the cost of any replacement aircraft. Receipt of the grants are dependent upon the operator meeting several further conditions. First, in the event that an aircraft is replaced, the bill provides that fifty percent of its price must result from work by United States manufacturers. A second condition of H.R. 8124 regarding replacement aircraft, also imposed by the Wydler bill, is that the new aircraft must have essentially the same seating and cargo capacity as the aircraft replaced. Plans as to seating capacity for aircraft of new design have not yet been solidified, so it is not yet certain that new aircraft designs would qualify for a grant under either bill.  

In addition, there would be restrictions on transferring new aircraft and on the aircraft for which new engines are purchased. An operator could not sell a replacement aircraft for fifteen years following its acquisition. An aircraft which has been re-engined could not be sold for five years. The statute, however, apparently places no limitation on an operator leasing either type of aircraft. This omission would frustrate the purpose manifested by the prohibition of aircraft sales, that of preventing a carrier from realizing a gain by selling or leasing an aircraft for which a grant had been given to purchase.

An important difference between H.R. 8124 and the other Congressional noise abatement financing proposals is that H.R. 8124 is the only bill which would provide incentives for the airlines to purchase aircraft quieter than the FAR part 36 complying aircraft currently being produced. A potential result of this incentive to

72 There is, however, doubt as to the significance of these reduced limits. The FAR part 36 March, 1977, amendment, see note 15 supra, requires noise reduction of approximately “1 to 6 EPNdB for four engine aircraft, 3 to 8 EPNdB for three engine types, and 3 to 9 EPNdB for two engine types”; see 42 Fed. Reg. 12,363 (1977). “EPNdB” stands for effective perceived noise level. This unit is the unit used for measurement of aircraft noise, and is a relative standard. See 14 C.F.R. § 36 app. A (1977) for the method of actual derivation or calculation of aircraft noise using this unit. Mr. A. L. McPike, of McDonnell Douglas Corporation, in testimony before the House Committee on Science and Technology (see Hearings on Aircraft Noise Abatement, 1975, supra note 25, at 146), when asked by Rep. Wydler if a 6-8 EPNdB noise reduction would be noticeable on the ground re-
purchase quieter aircraft is that it may encourage development of a new generation of commercial turbojet aircraft. Several new commercial jet transports are presently in the planning stage.\textsuperscript{73} The primary obstacle to their ultimate production is the reluctance of the major airlines to commit themselves to purchase sufficient numbers of such aircraft necessary to make their production profitable.\textsuperscript{74} The proposed transports will probably incorporate high bypass ratio technology engines,\textsuperscript{75} similar to those necessary to obtain the reduced noise emissions which would qualify an aircraft for a thirty-five percent grant under H.R. 8124. Thus, H.R. 8124 might very well provide sufficient incentive to purchase such new aircraft to make their introduction economically feasible.

H.R. 8124 seems to provide the largest actual incentive of all the present noise abatement financing proposals for replacing noncomplying aircraft with new jet transports.\textsuperscript{76} The grant of twenty percent of the purchase price of a new aircraft is not, in absolute terms, as large as the thirty-three and one-third percent grant available under the Wydler plan; however, a carrier would be much more likely to take advantage of Anderson's twenty percent grant. A carrier is more likely to receive a grant under Anderson's proposal because the grants under Anderson's proposal are generated by a surcharge which is mandatorily imposed upon all carriers regardless of whether one chooses to make use of the grants available.\textsuperscript{77} The Wydler bill, in contrast, provides for funding of grants by a tax which a carrier voluntarily imposes upon himself. The carrier, therefore, by accepting a grant under Anderson's H.R. 8124 would not put himself at a competitive disadvan-

\footnotesize{\textsuperscript{73} Av. WEEK & SPACE TECH., January 10, 1977, at 23.}
\footnotesize{\textsuperscript{74} See note 45 supra.}
\footnotesize{\textsuperscript{75} See note 73 supra, and see Av. WEEK & SPACE TECH., January 31, 1977 at 25.}
\footnotesize{\textsuperscript{76} Similarly, H.R. 8124, unquestionably provides the largest incentive for engine replacement, the only engine replacement incentive available under alternative proposals being the grant of 150\% of the cost of a retrofit available under Anderson's first bill, H.R. 4539.}
\footnotesize{\textsuperscript{77} H.R. 8124, 95th Cong., 1st Sess. § 303 (1977).}
The delay in the formulation of a final financing package has resulted from several circumstances. Perhaps the biggest obstacle to formulation of a final plan has been the personal disagreement of the two most prominent members of the Public Works and Transportation Subcommittee: Representatives Glenn Anderson and Gene Snyder. The extent of the differences between these two men's positions can be readily determined by contrasting the respective bills they have sponsored concerning the subject matter.

Anderson has submitted the two proposals already discussed in detail above, while Snyder, in March, 1977, proposed simply to exempt the noncomplying aircraft built before 1974 from compliance with FAR Part 36. The Snyder proposal is one which has generated little support and is probably not a realistic alternative.

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78 This deleterious effect is minimized in a third Anderson bill, H.R. 8729, 95th Cong., 1st Sess. (1977). This bill is very close in substance to H.R. 8124, being essentially a rewrite of H.R. 8124. It does have one important difference which, as stated above, minimizes the disruption of the relative competitive position of the individual airlines. This provision redefines "cost" of the replacement aircraft as follows:

For the purpose of subparagraph (C) [replacement grant provision] 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. Id. § 303(b)(3).

The apparent result of this provision is to provide a carrier operating an older aircraft with less federal assistance than an operator of a newer aircraft, as the owner of the older aircraft would have already taken a substantial amount, if not all, of the depreciation allowable on the older craft. Thus, "cost" of the new replacement aircraft, as defined in H.R. 8729, would be much smaller for the replacement aircraft and the operator of the older craft would get a smaller grant.

This above provision makes the entire scheme far less disturbing to the economic competitive equilibrium than H.R. 8124 would be. This cost provision is commendable in that it eliminates the windfall to those carriers with large numbers of older aircraft.

A second change in H.R. 8729 is that it increases the tax surcharges levied on foreign flights. It changes the $3 head tax, see note 66 supra, to a $2 head tax on flights costing less than $100 and to a $10 head tax on flights costing over $100. Id. § 303(a)(2). The bill changes the 2% surcharge on foreign freight waybills to a 5% tax. Id. § 303(a)(4).

The only other significant change allows the FAA administrator to waive temporarily, for a reasonable time, compliance with FAR part 36 if the Administrator finds good cause. Id. § 306.


in view of the overwhelming support of the various congressional bills enacted which provided the FAA with authority to regulate aircraft noise and which later encouraged the FAA to use this authority to extend regulation to the older fleet. It would also seem that public awareness and sentiment for noise control has reached a high level in recent months; this is clearly evident in the controversy over the granting of landing rights for the Concord SST.  

A further impediment to enactment of a noise abatement financing bill may be the efforts by various Congressmen to tie noise abatement financing to some form of deregulation reform. These diverse viewpoints among the members of the Public Works and Transportation Subcommittee make it very uncertain what type of bill will emerge from the committee. These differences suggest that careful consideration be given to the economic feasibility of requiring the airline industry alone to finance the fleet modifications necessary to comply with the FAR Part 36 limitations, and this requires an inquiry into the financial capacity of the industry to comply with the noise regulations.

The financial status of the industry would seem to indicate that there is not sufficient capital available within the industry to cover the cost of even the least expensive modifications, SAM retrofitting, of the present fleet. Thus, it is argued that obtaining the significantly larger finances necessary for aircraft replacement, engine replacement, or refan retrofitting, would appear to be totally beyond the economic capabilities of the industry. There are important factors, however, which indicate that substantial amounts of capital may be available to the airlines and that some type of modification is within their means. The overall airline industry financial picture improved considerably in 1976, as profits rose steadily due to significant increase in air travel. Only one of the

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83 See text accompanying notes 21-23 supra.
84 Estimates of the cost of all the various alternatives are not available. Secretary Coleman did estimate that the cost of Wydler's proposal would be approximately 3.3 billion dollars. See Av. Week & Space Tech., January 24, 1977, at 30.
twelve major airlines recorded a deficit in 1976, compared to six in 1975. Several of the larger airlines which had performed poorly in the past should show greatly increased profits for 1976. In 1977, record industry profits are anticipated.

In addition to improved profits in 1976, there have been substantial numbers of new aircraft ordered by the major airlines, representing a certain amount of net capital investment. The Wall Street Journal recorded from March, 1976, to March, 1977, orders by the twelve major airlines of one hundred fourteen new aircraft, including one hundred and four Boeing 727s, three McDonnell Douglas DC-10s, two Lockheed L-1011s and one Boeing 747. These purchases represent expenditures of over one billion dollars.

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86 See note 22 supra.
87 American realized an operating profit of 71.8 million dollars in 1976, compared to a loss of 19.7 million dollars in 1975. Trans World Airlines realized a profit of 103.1 million dollars in 1976, compared to a loss of 45.0 million dollars in 1975. United Airlines realized a profit of 59.3 million dollars in 1976, compared to a profit of 22.4 million dollars in 1975. See note 22 supra.
88 See note 85 supra.
89 See note 91 infra.
91 Aircraft purchases recorded from March 29, 1976, to March 31, 1977:
American Airlines purchases:
Braniff purchases:
Eastern purchases:
6 727's, Wall Street Journal, August 9, 1976, at 26, col. 4.
Delta purchases:
Northwest Airlines purchases:
UAL purchases:
28 727's, Wall Street Journal, October 1, 1976, at 11, col. 3.
92 This figure is based upon a calculation of the summation of the products of the number of specified aircraft purchased and the minimum price at which such aircraft presently sell. Depending on the model purchased, a 727 sells for about 10-15 million dollars, and a DC-10, 747, or L-1011 sells for a price in
Twenty-five aircraft disposals were noted for the same period. These planes, older DC-8s, DC-9s, and 737s, were sold to various foreign and domestic carriers. These aircraft purchases, although representing additional financial obligations, are largely new additions to the commercial fleet rather than replacement aircraft. Admittedly, some individual airlines, most notably Pan American World Airways, have not recently been able to purchase any aircraft, but the fact that the industry can make new additions to the stock of commercial aircraft would seem to indicate that the industry as a whole is somewhat more viable than its recent profit picture would indicate.

In addition to purchasing new aircraft during the past twelve months, several of the more financially distressed airlines have managed to acquire substantial sums of new capital. Pan American, which had the worst profit record of the twelve major airlines over the last ten years, substantially completed an offer to swap 341 million dollars in outstanding bonds for common stock in June 1976. In preparing for the offer, Pan American had obtained stockholder authorization to increase its number of shares of common stock from 80 million to 110 million. Later, in September 1976, Pan American sold a 75 million dollar issuance of convertible bonds in one day. A further promising headline reported that CAB, after extensive study, had decided that Pan American's survival did not require a federal subsidy. Although the financial viability of Pan Am is far from certain (these capital improvements being relatively minor), these capital acquisitions by the weakest airline help illustrate the general easing of the credit market and excess of 30 million dollars. This calculation results in a minimum cost of the 114 aircraft, of approximately 1.26 billion dollars. (Calculations taken from sales indicated in note 91, supra.)

The 25 aircraft were disposed of as follows:
19 DC-8 aircraft were sold by Delta to FBA Aircraft S.A. of Switzerland, Wall Street Journal, May 11, 1976, at 11, col. 3.
4 DC-9 aircraft were sold by Delta to Ozark Airlines, Wall Street Journal, September 9, 1976, at 8, col. 4.
2 Boeing 737 aircraft were sold by UAL to Frontier Airlines, Wall Street Journal, March 30, 1976, at 35, col. 5.

See note 91 supra.

Wall Street Journal, May 12, 1976, at 27, col. 3.
Wall Street Journal, April 21, 1976, at 8, col. 3.
general industry-wide financial improvement which has taken place in 1976 and has continued into 1977. Other major carriers have experienced a similar improvement in obtaining capital.\textsuperscript{99}

These acquisitions of new aircraft and new sources of capital indicate that given present conditions the industry can make certain net investments. Obviously, in most cases acquisition of aircraft and new capital are not separate indicators of financial strength, as new aircraft purchases require new capital. In addition, new aircraft purchases would be reflected in increased future profits, while investment in noise abatement would not increase future revenues. A further consideration is that certain individual airlines might not be able to bear the cost of even a SAM retrofit. The fact that a large amount of net investment is being made indicates, however, that the industry may be capable of financing some type of noise abatement program such as a SAM retrofit. Although a retrofit might be self-financed by the airlines, there is a question as to whether the airlines should go one step further and replace the older aircraft. Could the industry finance the replacement of a large percentage of the existing aircraft, and if not, should federal assistance be provided?

Evidence that the airline industry can purchase sufficient aircraft to meet its needs has been provided by a study conducted last year by Edmund S. Greenslet of the New York investment firm of Shields Model Roland.\textsuperscript{100} The study, taking into consideration such factors as recent lowerings of airline debt/equity ratios,\textsuperscript{101} anticipated further lowering of airline debt, improved profits in 1976 and further improvements anticipated for the foreseeable future, and favorable changes in federal income tax law, found that the investment capacity of the industry was more than sufficient to

\textsuperscript{99} Eastern Airlines, eleventh out of the twelve major airlines in profitability, obtained a possible 50 million dollars in financing in August of 1976, opening the way for the purchase of six 727 aircraft. See Wall Street Journal, August 27, 1976, at 10, col. 1. American Airlines, ninth in profit performance, has been particularly successful both in obtaining substantial financing and in purchasing new aircraft. In August and September of 1976, after turning down a 200 million dollar line of credit because it exceeded the prime interest rate by .5% American ordered 16 new Boeing 727s. Wall Street Journal, July 14, 1976, at 25, col. 1 and see note 91 supra. In March of 1977, American initiated an offering of five million shares of preferred stock, which represented 125 million dollars in new capital. Wall Street Journal, March 15, 1977, at 38, col. 3.

\textsuperscript{100} AV. WEEK & SPACE TECH., July 11, 1977, at 26-29.

\textsuperscript{101} Id. at 29.
meet future industry needs. The Greenslet study estimated that the investment needs of the United States carriers will be approximately $69.4 billion through 1990, while the investment capacity of the entire industry will be $82 billion dollars for the same time period.

The Greenslet study did find that several individual carriers will have difficulty in generating sufficient capital for aircraft replacement. In explaining why several of the airlines had very insufficient investment capacity, while the majority of the airlines have excess capacity, as does the industry as a whole, Greenslet concluded that those with insufficient capital had heavily overinvested in the past; they were spending far more for capital equipment than the earning power of the airline warranted.

The Greenslet study raises several questions for Congress to consider when formulating an aircraft noise abatement financing scheme. The first question is whether federal assistance is necessary or desirable. The Greenslet study found that seven of the eleven major airlines have the capacity to invest well above their present needs. In contrast, the other four airlines, including three of the four largest, do not have a sufficient capacity. The study found that the airlines with insufficient investment capacity were those which had had faulty asset and investment management in the past. These airlines also tended to be the airlines with the largest percentage of older noncomplying aircraft in their fleet. It is these airlines, with insufficient investment capacity, that the noise abatement financing bills will primarily benefit.

Concern over the economic viability of the airline industry seems to be the overriding factor motivating the enactment of a noise abatement financing bill. The various congressional bills, with the exception of the Wydler bill, all allow grants based on an airline’s need to modify or replace aircraft. The bills provide assistance through use of an industry-wide tax increase, or as in the Mineta plan, through use of surplus tax revenues from the Airway Trust Fund. The Greenslet study implies that such proposals in effect will reward those carriers who have made past management errors proportionately more than those carriers who through efficient management have maintained a quieter, more modern fleet of aircraft. Thus, a serious question arises as to
whether allocating benefits in such a manner furthers the goal of making the industry more economically viable.

The magnitude of this reverse compensation effect of the proposed bills varies with the individual proposal. The Mineta plan, although benefiting the inefficient carrier more, will produce an overall benefit to the industry, as it requires no tax increase to finance the grants which might discourage airline utilization. In addition, the maximum grants available under the bill's provisions are small when compared to the grants available under the other bills; they range from 140,000 dollars to 800,000 dollars per aircraft. The Anderson bills provide for much larger maximum grants. H.R. 4539 would provide two and a half times the size of the grant available under Mineta's proposal. H.R. 8124 provides twenty percent of the purchase price of a new aircraft or approximately two to three million dollars per aircraft.

A further question is whether, by providing large incentives for replacement of aircraft, as provided in the Wydler and Anderson bills, we are failing to take heed of the lessons to be learned from the past ten years? In other words, are we encouraging airlines, which are just emerging from financial difficulty, to repeat the same mistake of over-investment? Grants under the Wydler bill and Anderson's H.R. 8124, of twenty to thirty-five percent of replacement cost, amounting to several millions of dollars per plane, are certainly very substantial replacement incentives. The size of the proposed assistance is so great that it might encourage even the more viable airlines to make uneconomic aircraft purchases.

Even though the airlines may be financially able to comply with the January, 1977 FAR Part 36 noise regulations, and to purchase sufficient aircraft to meet their foreseeable economic needs, there may still be reason to provide a replacement incentive. The technology exists to produce aircraft which are quieter and more fuel efficient than the aircraft which are presently being purchased. There does not, however, appear to be a great deal of

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103 Hearings on Noise Technology, 1976, supra note 37, at 21.
102 This figure is based upon the present selling price range of a Boeing 727 (the only aircraft of non-jumbo-jet class currently being sold in quantity). See note 92 supra.
104 See note 100 supra.
sentiment among the airlines for purchasing quieter and more fuel efficient aircraft. One reason for this is that such aircraft will be more expensive than aircraft presently available. There are associated costs which must be borne when aircraft of new design are purchased. Such costs include buying spare parts and training crews and mechanics to accommodate new planes. These costs are avoided by buying current production models. Therefore, it may be desirable to provide financial assistance to the airlines to purchase the quieter and more fuel efficient aircraft to insure that such aircraft are utilized. A replacement incentive may be critical to the introduction of new aircraft such as the 7X7 or 7N7.

Another reason a replacement incentive might be appropriate is that the airlines are not likely to give proper weight to a goal such as reducing aircraft noise. While factors such as increased fuel efficiency would be reflected in airline profits, aircraft noise is not a factor which contributes to the profitability of an airline. It should be noted, however, that there is a serious question as to whether the available reductions in noise to be obtained by the aircraft replacement would be worth the large cost.

Another consideration is that through use of new technology such as the CFM 56 engine, reductions in fuel consumption of fifteen percent to twenty-one percent have been achieved. Although these reductions are significant, there are no firm plans to use this engine on aircraft which are presently in production. Boeing is considering use of the CFM 56 on the 7N7. Nowhere, however, in the available literature has there been a determination

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107 See note 100 supra at 29.
108 The 7N7 and 7X7 are two Boeing aircraft presently in the planning stage. The exact size, engines which will be utilized, and other specifications of these aircraft, are not yet final. These aircraft are, however, considered likely to be the next line of U.S.-produced aircraft to be introduced into commercial service. See generally, Hearings on H.R. 14027, 1976, supra note 16, at 12, and Av. Week & Space Tech., January 10, 1977, at 22-23.
109 See note 92 supra.
111 Several proposals have been made to utilize this engine on current production aircraft or as a retrofit engine. See Av. Week & Space Tech., May 16, 1977, at 22-23, and Av. Week & Space Tech., November 7, 1977, at 111. No carrier has, however, decided to either order such new aircraft or retrofit an aircraft under these plans.
of just how significant such fuel savings would be, or whether such fuel savings alone would justify introduction of aircraft using new engines.\textsuperscript{113}

A final concern in the issue of whether to provide a replacement incentive is whether safety should be an important factor or a goal. The concern over safety is primarily with regard to the long period of time many of the aircraft in the commercial jet fleet have been in service.\textsuperscript{114} Some aircraft, such as the DC-8, have been in service since as early as 1959.\textsuperscript{115} There is evidence, however, that this concern is not a viable reason for advocating substantial replacement of the present noncomplying aircraft. During testimony before the Committee on Science & Technology, Mr. A. D. McPike, of McDonnell Douglas, testified that his company had updated the company’s estimates of the life of a DC-8 aircraft to at least 80,000 hours, that no DC-8 had ever flown that long, and that such a life expectancy might be extended in the future.\textsuperscript{116} The figure of 80,000 hours represents 9.1 years of continuous flying. The substance of the testimony was essentially that modern jet transports have been built too well; as long as an airline properly maintains an aircraft it can be operated safely for a very long time.\textsuperscript{117}

The gains which are advocated by use of aircraft of totally new design are basically the same gains of fuel efficiency, noise reduction, and safety which have been discussed above. Encouraging introduction of new aircraft such as the 7X7 or 7N7, however, is probably the strongest motivating factor behind providing large replacement incentives. Both members of Congress and the FAA have expressed their opinion that such aircraft should be developed.\textsuperscript{118} The widespread concern over development of such aircraft seems to be motivated primarily by a concern for maintaining United States leadership in production of aerospace manufactures.

\textsuperscript{113} Frank Borman, of Eastern Airlines, stated that he did not believe that the fuel savings to be obtained by use of new aircraft designs would justify aircraft replacement at the present time. Wall Street Journal, November 2, 1976, at 5, col. 1.

\textsuperscript{114} See Hearings on Aircraft Noise Abatement, 1975, supra note 25, at 147-48.

\textsuperscript{115} See NEWSWEEK, September 14, 1959, at 99.

\textsuperscript{116} See note 114 supra.

\textsuperscript{117} Id.

\textsuperscript{118} See notes 105 and 106 supra.
This first goal is closely related to a second goal, that of maintaining United States capacity to produce sufficient military aircraft to meet national defense requirements.\(^{118}\)

No aircraft of new design, however, is expected to reach production until the Boeing 7N7 or 7X7 reaches production. The tentative timetable for introduction of these aircraft is early 1982. Boeing is presently uncertain which of the two proposed planes will be produced or whether both will be produced, how many engines each aircraft will have, and what engines will be used. Any speculation that substantial numbers of these aircraft could be purchased before January 1, 1985, FAR Part 36 deadline, or that if such aircraft were introduced, they would be substantially quieter or more fuel efficient than their present counterparts, is purely conjectural.

In addition to the doubt as to the benefits which can actually be obtained from aircraft replacement,\(^ {119}\) it should be noted that the bills providing large replacement incentives are not structured to require that the aircraft purchased further the goals of obtaining quieter, more fuel efficient, safe aircraft, and aircraft of new design. The new aircraft that airlines are presently purchasing differ from the older noncomplying aircraft primarily in that the engines of the new aircraft are manufactured incorporating the same SAM technology which could be used to SAM retrofit older aircraft.\(^ {120}\) In other words, these aircraft are no more fuel efficient, safe, or quiet than would be older planes which had been SAM retrofitted.

It should also be noted that there is no requirement under the provisions of most of the bills for the airlines to modify their present buying pattern. Only Representative Anderson's last two bills, H.R. 8124\(^ {121}\) and its later version, H.R. 8729,\(^ {122}\) would give an


\(^{119}\) For divergent discussions of whether new aircraft are necessary see Av. Week & Space Tech., October 25, 1976, at 31, Wall Street Journal, October 22, 1976, at 1, col. 6, and Wall Street Journal, November 2, 1976, at 5, col. 1.

\(^{120}\) See Hearings on Aircraft Noise Abatement, 1975, supra note 25, at 146-47.

\(^{121}\) See note 65 supra.

\(^{122}\) See note 78 supra.
operator a larger replacement grant if aircraft meeting the March FAR part 36 noise limits were purchased. Although the bills provide large incentives to purchase quieter aircraft it is not certain that the incentives will be sufficient to cause the airlines to purchase aircraft meeting the stricter March, 1977 noise limits, rather than aircraft meeting only the January, 1977 noise limits.

Should the airlines, under the bills, purchase present production aircraft the net result of the aircraft replacement would be that new aircraft would be acquired. Such a program of aircraft replacement might well be beneficial to the airlines. The same argument, however, applies equally to most other sectors of American industry. The net result of aircraft replacement would be that the airlines had been assisted in acquiring new capital assets. Why shouldn't the same reasoning require the government to invest in railroads, or modernize steel mills?

The primary driving force behind introduction of new aircraft is probably political in nature. Recent aerospace industry setbacks such as cancellation of the B1 bomber and reductions in production schedules of other military hardware, along with competition from various new foreign commercial aircraft, have created concern for the future of the United States aerospace industry. As mentioned, introduction of such new commercial aircraft is seen as a means of insuring continued United States predominance in production of aerospace manufactures. It should be noted, however, that this concern is not a concern specifically with the welfare of the airline industry, but more properly a concern with the welfare of the aerospace industry. The existence of these considerations helps explain the widespread support for aircraft replacement despite the uncertain benefits which may be available under the present proposals.

In summary, there is doubt as to the benefits to be derived from aircraft replacement and also as to whether the Wydler and Anderson bills are structured so as to insure that the available improvements in fuel efficiency are actually realized. In addition, the replacement bills all require an effective increase in the price of air travel. Although a large aircraft replacement incentive is prob-

124 See text accompanying note 69 supra.
ably not desirable, financial assistance to SAM retrofit aircraft may indeed be desirable. Although many of the airlines are financially solid, several are in difficulty. Conceivably, the added expense required to modify aircraft might be a death blow to certain carriers. There is a certain inequity in imposing noise abatement cost, at the present time, in view of the recent extraordinary economic difficulties of the industry.

Likewise, it would seem that if financial aid is given to SAM retrofit aircraft, then an operator should be given the option to use whatever assistance is given to retrofit an aircraft or to replace the aircraft. An operator should not be required to invest money in an older aircraft which for economic reasons should properly be replaced. The Mineta bill meets these twin goals of providing grants to SAM retrofit an aircraft and allowing an operator the option of applying the same sum of money to replace the aircraft.

The Mineta bill does not suffer from the major weaknesses of the Anderson and Wydler proposals. The Mineta bill does not provide a large incentive for replacement of older aircraft at a time when it is not certain such replacement is needed. Further, it does not, as do the other proposals before the House, result in an increase in the effective cost of air travel. Appropriations under the Mineta bill are derived from surplus revenues of a trust fund designed to further commercial aviation. These industry-raised revenues should properly be returned to the industry from which they originate. The Mineta plan facilitates this return. For the above reasons, the Mineta plan appears to best further the goals of a noise abatement financing scheme; therefore, it should be re-introduced for serious consideration by the Ninety-Fifth Congress.