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This paper was prepared by the staff of the Civil Aeronautics Board. It is a preliminary rather than a final statement discussing the issues and potential problems concerning airport access. It is intended to initiate a dialogue among members and representatives of the airline industry and concerned local, state and federal officials. The preliminary views expressed are those of the staff and have not been approved by the Board.

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I. INTRODUCTION

At least since the enactment of the Airline Deregulation Act, 1/ it has been the established national policy to encourage, develop, and maintain competition in the air transportation industry. An integral part of the effort by the Civil Aeronautics Board to further this policy has been the elimination of the regime of restrictive licensing under section 401 of the Federal Aviation Act that predated the section's amendment by the Deregulation Act. There is now virtually no federal legal impediment to an airline's decision to institute domestic service once the airline has demonstrated its fitness, willingness, and ability to provide the service. Existing airlines have exercised their new freedom by moving rapidly to realign their route systems. Many have instituted services to and from communities that they had never previously served and many have expanded existing services to and from communities already served. In addition, numerous newly created airlines have instituted services.

The increase in services caused by deregulation has placed a strain on the use of existing airport facilities in many communities. Yet other airports may experience similar difficulties as the full effects of deregulation unfold. In some instances, the increase or prospect of an increase in service has been regarded as inconsistent with other local activities and concerns. As a result, there have been varying pressures to restrict access or limit operations by airlines at certain airports. The need or desire of a state or local

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1/ Pub. L. 95-504, October 24, 1978.

authority to restrict access to an airport carries an obvious potential for conflict with the national policy of maintaining and promoting competition in the provision of air transportation services. Freedom of entry and exit constitutes a fundamental premise of efficient free market operation.

This paper examines sources of potential conflict and assesses the extent to and manner in which state and local concerns, balanced against the national policy favoring competition and other federal policies and laws, affect a proprietor's ability to determine how an airport's facilities may be best utilized. It focuses specifically on three areas of concern that may give rise to limitations on the use of an airport's facilities: (1) the need to control airport noise pollution; (2) the need to limit airport "airside" congestion; and (3) the need to manage scarce airport terminal facilities. In connection with each, it discusses whether the concern is one that legally may be addressed by the relevant state or local authority, i.e., whether the concern reflects a legitimate governmental or proprietary interest that has not been federally preempted. Where the concern is found to fall within the legitimate domain of the state or local authority, it further discusses whether particular actions that the authority might take to meet the concern would be consistent with the federal policy favoring competition and other federal policies and laws.

This paper is a preliminary rather than final statement. It is intended to initiate a dialogue among members and representatives of the airline industry, airport operators, and concerned federal, state, and local authorities.

A. The Federal Policy Favoring Competition in the Air Transportation Industry.

Over the years, Congress has passed legislation regarding airports and air transportation generally which clearly enunciates Congress' intention that free competition and open access be guiding principles of national air transportation policy. In the Federal Aviation Act of 1958, 2/ Congress provided that "[t]here shall be no exclusive right for the use of any landing area or air navigation facility upon which federal funds have been expended." 3/

Similarly, in the 1976 Amendments to the Airport and Airways Development Act of 1970 (AADA), 4/ Congress replaced a very general provision requiring non-discriminatory treatment of interstate and foreign air carriers serving federally funded airports with a more explicit limitation regarding non-discriminatory treatment of air

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2/ Pub. L. 85-726, August 23, 1958.

3/ Section 308(a), 49 U.S.C. § 1349(a) (1976). Former U.S. Attorney General Robert H. Jackson explained the purpose of this provision:

> Legislative history shows that the purpose of the provision is to prohibit monopolies and combinations in restraint of trade or commerce and to promote and encourage competition in civil aeronautics in accordance with the policy of the Act * * * The grant of an exclusive right to use an airport for a particular aeronautical activity, such as an air carrier, falls within Section 303 proscribing any exclusive right for use of any landing area.

Quoted in City of Dallas v. Southwest Airlines Co., 371 F. Supp. 1015, 1030 (N.D. Tex. 1973), affirmed 494 F. 2d 773 (5th Cir., 1974), cert. denied 419 U.S. 1079 (1974), rehearing denied 420 U.S. 913 (1975)1

4/ Pub. L. 91-258, May 21, 1970.

carriers. 5/ Thus, in enacting the AADA, the purpose of which was to establish a nationwide system of public airports, Congress was careful to ensure that all interstate air carriers would be reasonably able to utilize air transportation facilities and services on a non-discriminatory basis. Finally, in 1978, Congress decided to phase out its forty year old program of economic regulation of interstate air carriers, and subject them to the pro-competitive policies of the antitrust laws. Reliance upon competitive market forces became the guiding operative principle for the air transport industry. 6/

B. The Federal Policy Favoring Competition in the Air Transportation Industry Constrains Actions of State and Local Authorities

The Federal Aviation Act explicitly vests the federal government with exclusive jurisdiction and authority to enact and enforce laws and regulations "relating to rates, routes, or services" of any air carrier authorized to provide interstate transportation. 7/ No state,

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5/ Airport and Airway Development Act Amendments of 1976, (AADA) 10 (a) 49 U.S.C. § 1718(a) (1976). Senator Cannon, then Chairman of the Senate Commerce Committee, explained that "The need for this amendment arises because at some airports, not all but some, there has been and is discrimination between classes of carriers. Also, it is my understanding that some airports have not readily permitted air carriers to become tenants." 122 Cong. Rec. 8146, (March 25, 1976).

6/ 49 U.S.C. § 1302(a) (4)(7)(9)(10) (Supp. II 1978).

7/ 49 U.S.C. § 1305(a) (Supp. II 1978).

state's political subdivision or interstate agency, in its governmental capacity, may enact or enforce such measures. One effect of this blanket statement of preemption is to preclude a state or political subdivision from taking actions which conflict with the procompetitive policies just discussed.

The Act further provides, however, that nothing in the preemption provision limits any state, state's political subdivision, or interstate agency, as owner or operator of an airport, in the exercise of its proprietary powers and rights. 8/ This does not imply, however, that there are no constraints on the exercise of such proprietary powers and rights. An airport proprietor may not pursue its interests in a way that would frustrate the federal statutory scheme. In the course of exercising those powers and rights, it must act in a manner that best promotes, or at least accords with, the achievement of expressed federal air transportation policies such as that favoring competition. 9/ This means specifically that the proprietor not only should consider the public interest values enumerated in Act before acting, but may not unjustly discriminate between or within classes of airport users or unduly interfere with the federally preempted regulation of routes, rates, and services of federally (CAB) certificated air carriers in so acting. 10/ Additionally, any state or local action must, at a minimum, be both reasonable and rationally related to the achievement of the stated objectives so as not to burden unduly the

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8/ 49 U.S.C. § 1305(b) (Supp. II 1978).

9/ See British Airways Board v. Port Authority of New York, 558 F.2d 75, 84 (2d Cir. 1977) ("Concorde I").

10/ Id. at 84-85.

interstate commerce that Congress sought to foster. 11/ Thus, although actions taken by local airport proprietors are not explictly and wholly preempted by federal statute as are those of state and local governmental authorities, they are similarly constrained in pursuing their legitimate interests.

In sum, the local airport proprietor may not place restrictions or conditions on the use of the landside or airside facilities which (a) in effect regulate the routes, rates, or services of air carriers authorized by the CAB to provide interstate air transportation; (b) unduly burden interstate commerce (meaning, at a minimum, that all restrictions and conditions must be reasonable and rationally related to the achievement of a legitimate objective); (c) unjustly discriminate between or within classes of users of the airport's facilities; or (d) have the effect of granting an exclusive right for the use of the airport's facilities. In addition, the proprietor has the duty to structure any restrictions or conditions so that they promote, or at least minimally interfere with, the Congressional declaration of policy set forth in section 102 of the Federal Aviation Act.

With these objectives in mind, we can suggest several alternative methods of allocating access at airports which experience legitimate constraints. For example, Appendix B describes a method of allocation based on a system of landing fees which are directly related to airport constraints. This proposal, which was developed by the Board's Office of Economic Analysis, would both control airport operations and allocate take-off and landing rights based on various factors that

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11/ Id. Action inconsistent with the federal policy favoring competition may also result in liability under the antitrust laws. See infra, p. 30 et seq.

might limit airport capacity, such as airside congestion, groundside congestion, or airport noise. This system offers numerous advantages. For example, this proposal recognizes the legitimate need to control noise and suggests a fee structure designed so that noise could be maintained at current levels or even reduced. Since the fee system would reward use of quieter aircraft, the actual number of flights could be increased with no cumulative adverse effect on the community. Similarly, differential landing fees related to the peak periods of demand would control congestion while permitting optimal use of the airport. We recommend this proposal as one which airport proprietors might give serious consideration since it allocates airport resources in a competitive manner, appears to meet the requirements set out above, and permits growth consistent with the airport's actual operational constraints.

A closely related method of allocation, which also allows competitive market forces to determine the type of services to be provided to the maximum extent consistent with the operational limits set by the airport proprietor, is an auction system. Under this method, carriers would be able to bid for the right to use quiet or noisy equipment, or to operate at certain peak hours. Carriers, therefore, would have the ultimate decision on the type, time and quality of operations they will operate, consistent with the limits placed on the airport by the proprietor. Both auctions and fee systems can be used to allocate airport terminal facilities as well as to allocate to reduce noise and airside congestion.

An administrative allocation method or a lottery system would appear to frustrate the federal policies set forth above. They may be acceptable, however, if they include a provision that permitted the selling or trading of rights however initially allocated. Indeed, the use of such an "aftermarket" would appear to be an important aspect of any allocation system, since it would permit the economic incentives of the market place to guide carriers' decisions consistent with the limits sought to be achieved by the proprietor.

II. AIRPORT NOISE

A. Control of Airport Noise is a Legitimate Interest of the Local Airport Proprietor

A local airport proprietor may take actions designed to limit the level of aircraft flight noise resulting from use of its airport. 1/ Concomitant with its liability for compensable takings by low-flying aircraft, the local airport proprietor has the right to restrict the use of his airport as a means of limiting such liability. 2/ A state or local government, acting in a proprietary rather than governmental capacity, also has such a right. 3/ Moreover, it is within a state or local authority's police power to regulate the level of ground noise at an airport located within its jurisdiction for the benefit of surrounding communities if it can be done in a form that does not "intrude upon or affect flight operations and airspace management in commerce." 4/

1/ Concorde I; see § 105(b)(1) of the Act.

2/ Concorde I at 83.

3/ See City of Burbank at 635, n.14.; National Aviation v. City of Hayward, Cal., 418 F.Supp 417, 420-425 (N.D. Cal. 1976), ("National Aviation"); San Diego United Port District v. Gianturco, 457 F.Supp 283, 290-294 (S.D. Cal. 1978); Greater Westchester.

4/ Air Transport Association of America v. Crotti, 380 F.Supp. 58, 64-65 (N.D. Cal. 1975) Griggs v. Allegheny County, 369 U.S. 84 (1962) ("Griggs"); See also Greater Westchester Homeowners Ass'n v. City of Los Angeles 603 P.2nd 1329, 1334-5 (S.Ct. Cal. 1979), cert. den. ___U.S.___ ("Greater Westchester").

By contrast, attempts by a state or local authority acting in its governmental capacity to regulate noise emmitted by aircraft in flight not connected with the use of an airport are impermissible. Authority to take such action is vested exclusively in the Federal Aviation Administration (FAA) in conjunction with the Environmental Protection Agency (EPA) as part of its plenary power to control the navigable airspace and in light of the existing federal scheme for such regulation. City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624, 633-640 (1973) ("City of Burbank"); Concorde I at 83-4; Air Transport Association v. Crotti, 380 F.Supp. 58, 65 (N.D. Cal. 1975).

The Commerce Clause of the U.S. Constitution may attach a requirement of reasonableness to an airport proprietor's choice of noise control objective. It can be argued that because control of airport noise is a legitimate proprietary interest and is peculiarly a matter of local concern, the proprietor should be completely free to establish any level of noise, no matter how low, as the maximum that will be permitted at his airport. 5/ However, there also is authority to support the proposition that a proprietor may not pursue a local objective if the burden on interstate commerce would clearly be excessive in relation to the putative local benefits. 6/ Whether or not there is a reasonableness requirement, an airport proprietor clearly has broad discretion to choose a specific noise control objective. As the Second Circuit observed, "the inherently local aspect of noise control [airport noise] can be most effectively left to the operator, as the unitary local authority [that] controls airport access. . .[on the warranted assumption that it] will act in a rational manner in weighing the commercial benefits of proposed service against its costs, both economic and political [including his nuisance liability]." 7/ If for no other reason, the local proprietor

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5/ See National Aviation v. City of Hayward, 418 F.Supp. 417, 426 (N.D.Cal. 1976) and Santa Monica Airport Association v. City of Santa Monica, 481 F. Supp. 927, 936-938 (C.D. Cal.1979) ("Santa Monica").

6/ Id; See Great Atl. and Pacific Tea Co. v. Cottrell, 424 U.S. 371, (1976); Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970); Huron Portland Cement Co. v. City of Detroit 362 U.S. 440 (1960).

7/ Concorde I at 83.

is likely to be in the best position to balance the competing interests of air commerce and noise pollution control because, being locally situated, he is in the best position to determine just how highly the local community values noise control. We concur with the judgment that, "every individual reacts differently to noise," and the local proprietor can, better than anyone, "assay the subjective attitudes of airport neighbors." 8/

Because the validity of a proprietary restriction depends on whether it is reasonable, rationally related to its objective, non-discriminatory, and otherwise structured so that it promotes or does not unduly hinder federal aviation policies, a proprietor has the responsibility to articulate as precisely as possible its noise control objective, and the articulation must be in terms other than of the restriction itself. We believe that the maximum acceptable level of noise in the area surrounding the airport must be specified quantitatively. 9/ To do otherwise would make it difficult, often impossible, to determine whether the selected restriction was valid, in view of the fact that such a determination involves assessing comparative merits of alternative means to a stated end.

For example, a stated objective of "permitting residents within a ten mile radius of airport X to sleep between the hours of 11 p.m. and 6 a.m.," without more, is insufficient. The proprietor must attempt

8/ British Airways Board v. Port Authority of New York, 564 F.2d 1002, 1007 (2d Cir. 1977).("Concorde II").

9/ For instance, the noise control objective might be stated in one of the following terms:

a. the size of the area in which the cumulative noise level exceeds a specified value shall not exceed x square miles.
b. the population exposed to a specified cumulative noise level shall not exceed x people.
c. the day-night sound level of the nearest residential community shall not exceed x dB.

to determine the maximum level of noise that would permit a nearby resident to sleep without disturbance. Without this further step, there would be no way to determine, for example, whether the airport should be completely closed during those hours, or whether one could permit certain low noise operations to continue throughout the period. Similarly, the proprietor may not be able to state as its noise control objective "the complete prohibition of jet aircraft operations." Such a prohibition is a method of reducing airport noise, not an objective; by definition, the best -- indeed the only -- means of achieving the stated "end" is to prohibit all jet operations, even though some other less restrictive prohibition might result in a lower level of noise. Here again, the proprietor is obliged to state its noise control objective in terms of some appropriate measure of noise.

There appear to be two disturbing aspects of airport noise with which airport proprietors, on behalf of communities situated near airports, have expressed concern. One is the disturbing effect of a single operation ("single event disturbances"). The second is the disturbing effect of numerous operations over a period of time ("cumulative disturbance"). We believe that the most useful objective is the reduction in exposure to high cumulative noise levels. Casting the objective in terms of total exposure to noise recognizes that of all noise descriptives, measures of cumulative noise most closely relate to human response. 10/ Nonetheless, courts have made clear that operators have discretion in determining the objective to be sought. 11/

10/ For further discussion of this point, see studies on the measurement of aircraft noise impact, available from Mr. Arnold Konheim, Director, Office of Environmental Programs, CAB, B-89, Room 616, 1825 Connecticut Ave. NW, Washington, DC 20428.

11/ See, Santa Monica Airport Assn. v. City of Santa Monica, No. 79-3350 (9th Cir. 1981), at 1706, fn. 5, affirming 481 F. Supp. 927 (C.D. Calif., 1980).

B. Methods Used Attempting to Achieve Airport Noise Control Objectives

In addition to airport and airspace use controls, there are two other basic approaches for mitigating environmental noise. First, operators can make physical adjustments to the airport such as changing the landing threshold, relocating, redesigning or adding runways, relocating terminals, maintenance and test locations such as engine runup test sites, and installing noise barriers. Second, they can ensure compatible land use within the vicinity of airport through the acquisition of land, the purchasing of noise easements, the installation of insulation in nearby buildings, and the requirement that noise levels be disclosed to perspective purchases of property. 12/

Placing a curfew on the use of an airport's facilities, restriction on use in some fashion during a specified period of time may be a component of any of the methods described below. While the validity of the restriction chosen -- aircraft type, aircraft weight, etc. -- will depend upon which type of disturbance, single event or cumulative, that the proprietor seeks to control it is clear that limiting the restriction's application to particular times of the day, days

12/ Of all possible noise abatement measure that are available to a community, aircraft useage restrictions are perhaps the most significant method for reducing noise. In contrast to many other approaches, aircraft useage restrictions reduce noise impact by targeting the source. One can expect that with deregulation, some airports will experience significant increases in aircraft activity. However, aircraft useage controls can prevent increase noise. In contrast, effecting physical changes to the airport or instituting a land use policy in the surrounding community may not be sufficient. Additionally, useage controls can be put into effect very quickly with no capital costs. Hence, useage controls are perhaps the most important mechanism available to airport operators to reduce noise from airport operations.

of the week, etc. is not only reasonable, but necessary, where there are discrete, identifiable periods during which airport area residents are particularly sensitive to airport noise. Failure to so limit a curfew's application would be unduly restrictive and thus inconsistent with the federal policy of relying on competition to the maximum extent possible to determine the quality and variety of available air services. Most cumulative noise measures already recognize the increased nighttime sensitivity to noise by incorporating a penalty for nighttime disturbances.

1. Where the Objective is to Limit Cumulative Disturbances.

The method of limiting cumulative disturbance most compatible with Federal law and policy would appear to be the creation and distribution to air carriers wishing to serve an airport rights or entitlements to make a certain amount of noise at the airport during a specified period of time. The objective of controlling cumulative noise is achieved by distributing no more rights than would collectively amount to the established cumulative limit. At the same time, such a system would permit each air carrier that holds noise rights to exercise in its business judgment about how best to exercise those rights. So long as a carrier makes no more noise than that to which it is entitled, the carrier would remain free to decide what route to serve and with what equipment to serve it. Proprietor-imposed perimeter rules 13/, or restrictions on the type or weight of aircraft etc., would be neither necessary nor desirable. As discussed above, it would be essential to incorporate into any allocation system

13/ A perimeter rule is a prohibition on non-stop flights to points located beyond a specific radius of the airport.

guidelines for the distribution of the noise rights that provide all air carriers desiring to serve a given airport an equal opportunity to acquire those rights.

While there is limited experience with controls that attack the cumuulative level directly, we believe that cumulative noise control approaches can meliorate noise impact more effectively than approaches that are directed only to components of the impact. An allocation system need not be difficult to administer. The cumulative noise impact on any airport by operations of different types of aircraft can be compared, allowing for tradeoffs between operations of different aircraft types at any given noise level. 14/ In this way efficiency is promoted, airside congestion may be minimized, and carriers receive equal treatment. 15/

14/ See, for example, the Area Equivelant Method developed by the Board's Environmental Programs Division, available from Mr. Arnold Kohneim, CAB, B-89, Room 616, 1825 Connecticut Ave. N.W. Washington, D.C. 20428

15/ A restriction on the permissible number of operations per hour, day, week, or other specified time period is a method of controlling the maximum number of operations per unit of time, and does to a limited extent conrol the cumulative noise level experienced by the community. The method, however, is inefficient in that it does not maximize the level of service that carriers can provide to the community. An allocation through an auction method, such as the one proposed in Appendix B, would remove the anti-competitive concerns inherent in committee or administrative allocations within such a ceiling. Since total cumulative noise is a function of both the noise level of each aircraft taking off and the and the number of aircraft taking off, this approach, or limiting the amount of noise per operation, does not in itself address the problem of achieving the noise control objective.

2. Where the Objective is to Limit Single Event Disturbances

A wide variety of restrictions have been used or considered for use as a means of limiting the level of noise resulting from a single aircraft take-off or landing at an airport. Listed below are few of the more common types, some of which would appear to be compatible with the federal policy and which appear to be related to the stated objective, others of which do not. As discussed, the issues remains the same in each case: Is the restriction narrowly tailored to the achievement of the objective so that it interferes minimally with the business decisions of airlines to provide air services? Does the restriction treat all airlines in a nondiscriminatory, evenhanded manner?

a. Perimeter rules

A perimeter rule would not appear to be a valid device to reduce single event noise levels. The judgment that a perimeter rule will invariably have a positive effect on controlling the level of noise in the vicinity of an airport is based on the erroneous assumption that larger, noisier aircraft will not be used in short-haul markets because such use would not be economical. Because of recent technological advances, certain types of aircraft are able to operate on long-haul routes which are quieter than some of the aircraft used on short-haul routes.

A perimeter rule is also unjustly discriminatory in the sense that it treats carriers desiring to serve cities outside the stated radius differently than carriers serving cities within the circle. 16/

Perimeter rules could also operate in direct conflict with the federal policy favoring competition in the provision of air transportation services. Under such a rule, only service to and from points within the perimeter would be permitted, whether or not there was sufficient demand for service to or from points outside the perimeter. The rule could have the effect of negating all route awards conferred by the Board which authorized service to or from points outside the perimeter. 17/

b. Number of operations

A restriction on the permissible number of operations per hour, day, week, or other specified time period clearly is not a valid method of controlling single event disturbances. The number of separate noise interferences resulting from different operations bears no relation to the level of noise resulting from a single operation.

c. Type of aircraft

An aircraft type restriction is based on the assumption that different types of aircraft create different amounts of noise when operated. In effect, aircraft type serves as a proxy for the level of noise associated with a single operation. Because there is a relatively high correlation between aircraft type and noise level per

16/ In hearings of the House Subcommittee on Aviation, held June 19, 1980, Chairman Anderson that observed all perimeter rules are discriminatory because they operate to prohibit non-stop service to and from cities situated outside the established perimeter.
17/ Because CAB awards are to points, not specific airports, if two or airports are controlled by the same entity, open access to only one without a perimeter rule might satisfy this federal interest in competition.

operation, an aircraft type restriction probably is a reasonable method rationally related to controlling single event disturbances. 18/ The correlation is not a perfect one, however; noise emitted from a particular aircraft type can vary significantly depending on type of engine, payload weight, operational procedures, and pilot skill. Therefore, to avoid a charge of unjust discrimination a restriction on the basis of aircraft type should be drawn with care in an effort to include within the restricted category all aircraft whose operation ordinarily would exceed an established level and exclude all whose operation ordinarily would not. It also may be necessary to provide an air carrier the opportunity to demonstrate, consistent with established operational safety procedures, that operation of its particular aircraft would not exceed the established decibel level even though that type of aircraft falls within the restricted category.

d. Weight of aircraft

A restriction on the use of an airport's facilities based on aircraft weight would not appear to be a legitimate means of achieving a single event noise control objective. Due to technological advances the level of noise emitted by one type of aircraft is not invaribly greater than the level of noise emitted by another type of aircraft of lower weight. Such a restriction therefore could be viewed as unreasonable and as unjustly discriminatory against carriers wishing to use heavier but quieter aircraft.

18/ Concorde I.

C. Conclusion.

A state or local authority, as proprietor of an airport, may act to limit airport noise by restricting access to an airport, but may not do so in a manner that would frustrate the federal statutory scheme for the regulation or deregulation of air transportation. The proprietor should select measures that are narrowly aimed at the achievement of an articulated noise control objective so as to minimize the restrictions on access, and to apply such measures in an even-handed, nondiscriminatory fashion. The preceding discussion is intended not to be exhaustive in its treatment of possible noise control measures, but merely to provide, by way of example, an analytical framework within which contemplated measures may be evaluated.

III. AIRPORT AIRSIDE CONGESTION

It is our belief that Congress, by enacting § 307 of the Act, 1/ vested the FAA/DOT with plenary authority to take actions designed to control airport airside congestion. "Airport airside congestion" refers to delays experienced by air carriers and their passengers when they are forced to queue either on the runway before take-off or in a holding pattern before landing because all available runway space is currently in use. Absent FAA/DOT approval airport proprietors may not place a ceiling on the number of operations permitted per hour, day, or other time period for the purpose of reducing or eliminating airside congestion. Nor, absent FAA/DOT approval, can the proprietor implement a method to distribute landing and take-off rights.

The proprietor is free, of course, to inform FAA/DOT that airside congestion is a problem and to suggest that steps be taken to correct it. A proprietor can also suggest various methods of allocation of landing and take-off rights. In making recommendations, a proprietor should consider the principles discussed above regarding exclusive use, non-discrimination, and competitive policies.

The balance of this section is a discussion of the legal principles leading to the conclusion that the FAA/DOT has plenary authority to act in this area.

1/ 49 U.S.C. § 1348. Section 307(a) provides:

> The Secretary of Transportation is authorized and directed to develop plans for and formulate policy with respect to the use of the navigable airspace; and assign by rule, regulation, or order the use of the navigable airspace under such terms, conditions, and limitations as he may deem necessary in order to insure the safety of aircraft and the efficient utilization of such airspace. He may modify or revoke such assignment when required in the public interest.

Legal Discussion

An implicit Congressional purpose to preempt may be evidenced in any one of several ways. 2/ First, the scheme of federal regulation may be so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it. 3/ This does not mean that Congress must have legislated extensively and comprehensively in the field, although it certainly would be relevant if it did. Rather, it is sufficient if there is persuasive evidence that a particular broadly worded section of a statute was itself intended to confer pervasive regulatory authority in the field. 4/ Most persuasive in this connection is broad statutory language directing or commanding, as distinguished from merely authorizing, the agency to enact rules or regulations in the field as necessary. 5/

A second manner in which a Congressional intent to preempt may be evidenced relates to the nature of the field to be regulated and the size of the federal interest in that field and its regulation. Specifically, the field to be regulated may be one in which the federal interest is so dominant that the federal system will be assumed to preclude enforcement of state and local regulation on the same subject. 6/

2/ Congressional purpose to preempt, of course, can also be evidenced explicitly in a statute. See, e.g., § 105 of the Act discussed supra, pp.4-6. There are no explicit statements in § 307 or elsewhere in the Act that express an intent to preempt the field of airside congestion.

3/ Rice v. Santa Fe Elevator Corp., 311 U.S. 218, 230 (1947) ("Rice").

4/ See City of Burbank.

5/ See Ray v. Atlantic Richfield Co., 435 U.S. 151, 160-168, 171-173 (1978) ("Ray").

6/ Rice at 230.

Finally, examination of the objective sought to be obtained and the character of the obligations imposed by the federal statute may reveal a purpose to foreclose state and local regulations in the area completely. 7/

We believe that Congress, by enacting § 307(a), implicitly preempted all state and local efforts to regulate the navigable airspace through measures designed to control airport airside congestion. A reading of the section itself, its legislative history, and the relevant case law demonstrate a legislative purpose to establish a pervasive federal scheme for the management of the navigable airspace (of which control of airport airside congestion is a part) and a judgment that the federal interest in that management, more than dominant, is paramount.

1. Pervasive Federal Scheme

Section 307(a) "authorizes and directs" the Secretary of Transportation to develop plans for and formulate policy with respect to the use of the navigable airspace, and to enact rules, regulations, and orders, under such terms, conditions, and limitations as he may deem necessary, assigning the use of that airspace in order to ensure its efficient and safe utilization. This broad, all encompassing directive on its face appears to vest the DOT/FAA with plenary authority to enact regulations and take other actions designed to reduce airport airside congestion and otherwise manage the navigable

7/ Rice at 230. In discussing and applying each of these standards under which an intent to preempt may be inferred, the Court in Rice "start[ed] with the assumption that the historic police powers of the States were not to be superceded by the Federal Act unless that was the clear and manifest purpose of Congress." 331 U.S. at 230. This assumption may not necessarily apply here; control of airport airside congestion has not traditionally been left to the states. See S.Rep. No. 1811, 85th Cong., 2d Sess. 5 (1958).

airspace to ensure its efficient use. The section thus strongly suggests a legislative purpose to establish a pervasive federal regulatory scheme leaving no room for state or local regulation in the field. 8/

The legislative history of, and case law construing, the section support this interpretation. The Senate report accompanying the 1958 Act 9/ explicitly stated that the new legislation was intended to correct "two fundamental deficiencies" in the air transportation regulatory scheme established under the Civil Aeronautics Act of 1938, one of which was "the [lack] of clear statutory authority for centralized airspace management." 10/ The report described § 307(a) as the "heart" of the new Act, removing once and for all any ambiguity concerning management of the navigable airspace by "vesting unquestionable authority for all [of its] aspects" in a single federal agency. 11/ The report accompanying the House bill likewise viewed the new Act as vesting the FAA with "plenary authority to . . .[a]llocate airspace and control its use by both civil and military aircraft." 12/

8/ See Ray at 160-168.

9/ S.Rep. No.1811, 85th Cong., 2d Sess. (1958).

10/ Id. at 9-10.

11/ Id. at 14-15.

12/ H.R. Rep. 2360, 85th Cong., 2d Sess. 2 (1958). Other statements in the report include:

1. "The Administrator . . . (2) would be charged with the management of the national airspace, including responsibility for establishing and enforcing air traffic rules . . ." Id. at 1-2.

2. The bill as introduced proposed to "[g]ive the Administration the authority to regulate the use of all airspace over the United States . . ." Id. at 6 (Emphasis added).

Thus, while the propriety of state and local actions was never considered explicitly in either, both the Senate and House reports make clear that the 1958 Act was intended to consolidate into one federal agency all authority over airspace management.

In City of Burbank, the Supreme Court has held invalid by reason of preemption a city ordinance imposing a nighttime curfew on jet aircraft. The curfew was enacted by the city acting in its governmental rather than proprietory capacity as a noise control measure. The Court found the scheme of federal regulation of aircraft noise set forth in the Federal Aviation Act of 1958 and the Noise Control Act of 1972 "so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it . . ." 13/

It affirmed the view that:

> [f]ederal control [of air commerce] is intensive and exclusive. Planes do not wander about in the sky like vagrant clouds. They move only by federal permission, subject to federal inspection, in the hands of federally certified personnel and under an intricate system of federal commands. The moment a ship taxis onto a runway it is caught up in an elaborate and detailed system of controls. It takes off only by instruction from the control tower, it travels on prescribed beams, it may be diverted from its intended landing, and it obeys signals and orders.Its privileges, rights and protection, so far as transit is concerned, it owes to the Federal Government alone and not to any state government. 14/

Section 307(a) of the Act was central to the finding of preemption in City of Burbank. The Court observed that curfews such as the one at issue not only would aggravate the noise problem if left standing, but also would increase congestion and cause a loss of efficiency. 15/ It viewed section 307 as requiring a "delicate

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13/ 411 U.S. at 633.

14/ Id., quoting Northwest Airlines, Inc. v. Minnesota, 322 U.S. 292, 303 (1943) (Jackson, J., concurring).

15/ Id. at 628.

balance" between safety and efficency on the one hand and the protection of persons on the ground on the other that could be achieved only by a single centralized decision-maker:

> [T]he interdependence of these factors [safety, efficiency, and protection of persons on the ground] requires a uniform and exclusive system of federal regulation if congressional objectives underlying [the Act] are to be fulfilled . . . If . . . the Burbank ordinance [were upheld] and a significant number of municipalities followed suit, it is obvious that fractionalized control of the timing of takeoffs and landings would severely limit the flexibility of the FAA in controlling air traffic flow, [thus hampering its ability to insure efficient and safe use of the navigable airspace]. The difficulties of scheduling flights to avoid congestion and the concomitant decrease in safety would be compounded [under such circumstances]. Id. at 628, 638-9. (Emphasis added) 16/

It would be extremely difficult, in light of this reasoning, to argue against a construction of § 307(a) that did not completely foreclose state and local exercise of police power to limit airport airside congestion. 17/ Indeed, the considerations identified by the Court in City of Burbank provide the basis for a finding of preemption on the independent ground that regulation of airport airside congestion is a field in which the federal interest is "so dominant". 18/

16/ The Court also examined the legislative history of the Federal Aviation and Noise Control acts in finding the Congressional intent to preempt.

17/ It is worth noting that the dissent in City of Burbank limited its objection specifically to the majority's conclusion that Congress intended to preempt state and local government measures controlling airport noise. It had no quarrel with the majority's view that Congress, per section 307(a), intended "to regulate federally all aspects of . . . airspace management [of aircraft in flight]." 411 U.S. at 644.

18/ See infra, pp. 8-10.

The Court did not, however, address the issue of whether a state or local authority acting as proprietor of an airport rather than in its governmental capacity may enact and enforce airport noise control measures. Subsequent lower court decisions have established that there is such a right -- that Congress did not intend to preempt airport noise control actions taken by airport proprietors, provided that such actions do not unduly burden interstate commerce, are not unjustly discriminatory, and are consistent with federal air transportation policies. The reasons that led to the finding of a proprietary exception to the general rule that state and local control of aircraft noise is federally preempted, however, seem to provide no basis for the finding of a similar exception with regard to an attempt to control airside congestion. The finding that local airport proprietors, unlike state or local government authorities, may enact airport noise control measures derived from three considerations. First, statements in the legislative history of the Federal Aviation Act specifically indicated that the Act was not intended to preempt such measures. Second, such a right was considered a necessary corollary to the rule that airport proprietors may be held liable under nuisance law for takings due to low-flying aircraft. Third, control of airport noise was considered peculiarly, if not exclusively, a local concern.

None of these considerations suggests that an exception to the rule of preemption should be made permitting proprietory action to limit airside congestion. As indicated above, nothing in the Act itself or its legislative history suggests that there should be such an exception. Nor is there any source of nuisance or other liability

which would warrant one. Moreover, airport airside congestion, far from being peculiarly local, is, as discussed below, peculiarly a federal concern.

The conclusion that, in enacting § 307, Congress intended to establish a pervasive scheme for regulation of airport airside congestion and other problems of airspace management, completely foreclosing state and local actions in the area is further reinforced by a recent circuit court decision. 19/ The court in that case was asked to determine the validity of a rule devised by FAA/DOT that allocated landing and take-off rights ("slots") at Washington National Airport among air carriers serving the airport. The airport is one of four subject to the "High Density Rule", 20/ a rule issued by the FAA designed to alleviate airside congestion by placing a cap on the permissible number of IFR landings and take-offs at each airport per hour. The limited number of available slots traditionally had been allocated among the interested air carriers through a process of voluntary agreement among the carriers. 21/ The FAA/DOT acted to distribute the slots when in a particular instance the carriers were unable to reach agreement. The court upheld the FAA/DOT action, citing the legislative history of § 307(a). It found that the section vested the FAA/DOT with responsibility not only for the safe use, but also for the efficient use of the navigable air space. And while the

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19/ Northwest Airlines, Inc. v. Goldschmidt, No. 80-2015 (8th Cir., April 2, 1981).

20/ 14 CFR 93.121 et seq.

21/ This process was sanctioned by the CAB pursuant to its authority under §§ 412 and 414 of the Act. See Orders 68-12-11, (Dec. 3, 1968); 79-1-119, (Jan. 19, 1979); 80-9-148, (Sept. 24, 1980).

question of preemption was not directly in issue, the court did state in that context that "federal control of the navigable airspace is exclusive and comprehensive." 22/

2. Dominant federal interest.

State and local airport airside congestion regulations also should be considered preempted on the independent ground that airspace management is a dominant federal interest. The Senate report accompanying the section expressed the general view that:

> . . . aviation is unique among transportation industries in its relation to the Federal Government - it is the only one whose operations are conducted almost wholly within the Federal jurisdiction, and are subject to little or no regulation by States or local authorities. Thus, the Federal Government bears virtually complete responsibility for the promotion and supervision of this industry in the public interest . . . 23/

and took specific note of the increasing demands on the navigable airspace, recognizing it as a finite resource:

> . . . a drastic rationing of the airspace will soon be inescapable, unless we at once set about installing a more efficient system for controlling its use. Either we must address ourselves without delay to the task of making more economical and effective use of our airspace, or else we shall witness the beginning of a slow strangulation of the most buoyant element in our national existence. Id. at 13 (quoting the Curtis report) (Emphasis added).

The House in its report also indicated that there was a dominant federal interest in the us of the navigable airspace:

> Clearly, an agency is needed now to develop a sound national policy regarding useof the navigable airspace . . . 24/

22/ Id. at 10.

23/ S. Rep. No. 1811, 85th Cong., 2d Sess. 5 (1958).

24/ House Report at 9.

Finally, the Court in City of Burbank, discussing the FAA's use of centralized "flow control" to ensure the efficient and safe use of the navigable airspace, also made clear its view that airspace management is primarily a federal concern. See 411 U.S. at 639 and n.22.

Thus, there appears to be little dispute that, in contrast to airport noise, use of the airspace is peculiarly a matter of federal rather than local concern. 25/ State and local regulation of airside congestion should be considered preempted for this reason as well. 26/

25/ See also GAO Report, "Aircraft Delays at Major U.S. Airports Can Be Reduced," LED-79-102, September 4, 1979; and FAA/CAB Congressional Airport Congestion Study, December 1970-January 1971.

26/ In Aircraft Owners and Pilots Association v. Port Authority of New York, 305 F.Supp. 102 (E.D.N.Y. 1969), the court upheld a $25 peak hour fee imposed on general aviation by the Port Authority of New York at La Guardia. The fee was intended to (and did) ease airside congestion during the peak hours. The court upheld the fee even though the FAA never expressly approved it on the ground that it complemented, rather than conflicted with, the FAA's High Density Rule. The court found the fee to be "united in purpose" with the High Density Rule, "simply hav[ing] the tendency further to restrict the traffic restricted by the federal regulation, but [doing] so in a direction . . . and for an aim common to both sets of regulations." 305 F.Supp. at 105. The local rule was not preempted, in the court's view, because it neither required conduct prohibited nor prohibited conduct required by the federal regulations. Id.

It is true that a state or local law will be considered invalid by reason of preemption if it conflicts directly with federal regulation. American Airlines, Inc. v. Town of Hempstead, 398 F.2d 369 (2d. Cir. 1968). As discussed, however, it is equally true that state and local actions will be considered preempted whether or not a federal agency has affirmatively acted in a field where the enabling legislation was intended to preempt all state and local activity ab initio. The court in AOPA v. Port Authority failed to consider this possibility in upholding the peak hour fee, and for that reason, particularly in light of Burbank, the rationale of the decision should not be considered good law. The peak hour fee should have been upheld, not on the ground that it did not conflict with the High Density Rule, but because it was implicitly approved by the FAA. See 305 F.Supp. at 105.

IV. AIRPORT TERMINAL ACCESS

A. Introduction

Access to airport terminal facilities is essential for the ease of route entry and service expansion on which deregulation is premised. For this reason, our staff has been conducting an informal inquiry into the practices of airports and carriers in the allocation of landside facilities. Months of research and conversations with representatives of air carriers and airport proprietors prompt several general observations:

1. Many persons in the airline industry and many airport operators recognize that the need for open access and the increased exposure to antitrust liability require that practices and procedures for allocating terminal facilities be re-examined.

2. The variety of the lease arrangements, revenue bases, airport organizations and political environments at airports throughout the country is a significant factor that must be recognized in any discussion of terminal access.

3. Despite this variety, however, certain lease arrangements, allocation procedures and airport practices are fairly common at major airports and several of these either individually, or in combination, have potentially significant anti-competitive implications.

This chapter examines certain common lease provisions and practices relating to airport terminal facilities leases

and discusses their potentially anticompetitive implications. As a necessary predicate, the issue of the applicability of the federal antitrust laws to airports and persons dealing with them is discussed. 1/ The "state action" and Noerr-Pennington exemptions from the operation of those laws in particular are examined.

B. Applicability of the Federal Antitrust Laws to Airports and Persons Who Deal With Them

As explained more fully in Appendix A, we believe that the federal antitrust laws apply to virtually all airport activities that relate to commercial aviation. It is also our view that, in most situations, those who deal with airports are fully subject to the federal antitrust laws if their actions lessen competition in air transportation. If those persons are air carriers or agents of air carriers, they are also subject to Section 411 of the Federal Aviation Act. 2/ These conclusions are based primarily on recent decisions of the Supreme Court and the lower federal courts concerning the so-called "state action" and "Noerr-Pennington" exemptions to the antitrust laws, and the interplay of federal pro-competition air transportation policies with those doctrines.

1. The "State Action" Exemption

The "state action" exemption to the federal antitrust laws emanates from the Supreme Court's decision in Parker v.

1/ In addition, the procompetitive policies of the Airline Deregulation Act, as well as the preemption doctrine, both of which are discussed earlier, are also applicable.

2/ Section 411 of the Federal Aviation Act prohibits "unfair methods of competition in air transportation." 49 U.S.C. §1381 (1976).

Brown. 3/ In Parker, the Court held that Congress did not intend the Sherman Act to prohibit restraints of trade imposed by the states in their sovereign capacity, at least to the extent that such restraints were not inconsistent with other federal policies. Until 1975, Parker was interpreted broadly so that state and local governmental bodies and officials were generally considered to be covered by the "state action" exemption. Then, in a series of decisions, the Supreme Court substantially circumscribed the ability of state and local agencies to engage in anticompetitive practices free of antitrust scrutiny. Most notably, the Court held that the state action exemption applies to the actions of cities, counties or other political subdivisions of a state only where the anticompetitive restraint is "clearly articulated and firmly expressed as state policy" and is "actively supervised" by the state itself. 4/ Local governmental agencies, particularly municipal and county airports, have generally not fared well in arguing that their activities are exempt from antitrust liability under the Supreme Court's more stringent standards.

Airport proprietors must keep in mind not only this general limiting of the state action exemption but also the particular impact of the clear Congressional mandate to

3/ 317 U.S. 341 (1943).

4/ City of Lafayette v. Louisiana Power & Light Co., 435 U.S. 389, 410 (1978). Accord, California Liquor Dealers v. Midcal Aluminum, 445 U.S. 97, 105 (1980).

maintain open access and free competition upon the scope of that exemption. 5/ This federal mandate significantly restricts the scope of Parker protection available to airports, since it severely limits the range of anticompetitive actions that even a state itself can take with respect to airports and air transportation generally.

A fuller discussion of the Development of the Parker doctrine is contained in Appendix A.

2. The Noerr-Pennington Doctrine

The applicability of the federal antitrust laws to individual or concerted efforts to persuade public officials to adopt anticompetitive policies or programs has also been a much-litigated issue in recent years. In the seminal Supreme Court decisions, Noerr 6/ and Pennington, 7/ the Court held that Congress generally did not intend the antitrust laws to apply to such activities. Actions such as lobbying public officials, running advertising campaigns and the like were simply a different sort of behavior than the traditional anticompetitive agreements forbidden by the antitrust laws. The Court also feared that an attempt to restrict such activity would violate the First Amendment right to petition government.

5/ See discussion in IA & B, supra.

6/ Eastern Railroad Presidents' Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961).

7/ United Mine Workers v. Pennington, 381 U.S. 657 (1965).

Despite the breadth of the Court's decisions, however, the opinions themselves and subsequent rulings by the lower federal courts have recognized notable exceptions to the Noerr doctrine that are especially important in any antitrust analysis of terminal access problems. Courts have been particularly reluctant to find an antitrust exemption in situations where the restraint was truly not the result of valid governmental action either because the anticompetitive activity was contrary to an overriding public policy or because the "petitioners" themselves were integrally involved in the decision-making process. Similarly, a number of courts have interpreted Noerr as applying to policy-making decisions rather than to commercial or proprietary activities of the government.

Especially in view of the strong federal policies favoring competition in air transportation and the consequent limitations on an airport's authority to restrain such competition, the Noerr doctrine would seem to provide little or no protection in most situations where airlines endeavor to persuade an airport to reduce competition by restricting the availability of airport facilities to their competitors. The rationale for applying Noerr is undercut further when the imposition of the restraint is essentially a commercial matter, as most decisions regarding the allocation of terminal facilities seem to be. Moreover, to the extent that competing airlines themselves are the effective decision-maker, Noerr may not be applicable at all.

A fuller discussion of the development of the law in this area is contained in Appendix A.

In summary, airport proprietors and air carriers alike should not ignore potential antitrust exposure in their business planning and practices. Whatever the courts may ultimately determine to be the boundaries of the "state action" and Noerr-Pennington exemptions to the antitrust laws, prudent planning must now take into account the very real possibility that the federal antitrust laws will be interpreted to apply to the entire gamut of airport activity relating to terminal facilities for air carriers.

C. Common Lease Provisions and Practices That May Affect the Allocation of Terminal Facilities

A number of lease provisions and airport-airline practices may tend to impede efficient allocation of, and access to, terminal facilities at airports. Our informal staff inquiry into practices of airports and carriers that affect access to terminal facilities indicates, however, that three of the most common factors that may pose the most substantial competitive problems -- particularly when found in combination -- are long-term leases, majority-in-interest clauses and airline negotiating committees. 8/ In this section, we have described these factors and the possible ways in which they may potentially limit competition. In the next section, we analyze their antitrust implications and suggest some steps that might be considered to minimize the antitrust risks that such lease provisions and practices may present.

8/ The Board's staff currently is surveying a percentage of the nation's airports to ascertain the extent of the use of long-term leases, majority-in-interest clauses and negotiating committees.

1. Long-Term Leases.

The long-term lease (from 15-30 years) is common in many airports across the country. Historically, airport operators have wanted long-term leases to insure continued service at the airport, and carriers backing the financing of an airport have desired the long-term lease in order to have an amortization period for their investment. In the period of airline regulation, service patterns at an airport were static, and entry of new carriers or exit of carriers from service was hardly an everyday affair. Since deregulation, free entry and exit of carriers are being encouraged. Because most airports had standing leases at the time of deregulation, airports with long-term leases are generally still operating with terminal allocations which were in effect when entry and exit were strictly regulated.

Where airports have leased all of the existing terminal space on a long-term basis, that space is held by incumbents who may or may not make efficient use of the gate and counter-space which they hold under the lease. Thus, when new entrants want space, the airport operator has to inform them that all of the terminal space is leased. The airport operator, in his role of landlord, then has done all that there is in his power to do other than to suggest that the new entrant contact one of the long-term signatories who may be inclined to sublease to the new entrant. In most instances, airport operators do not have the authority to "step in" if an incumbent carrier does not utilize, or only minimally utilizes, terminal space. Therefore, a new entrant who desires space

must negotiate with a tenant who has extra or unused space. Rather than permit the new entrant to assume the lease of a gate as tenant of the airport, the incumbent carrier generally will sublease space to the new entrant. The sublease is usually short term so that the incumbent can re-enter the space should its needs at the airport change. In this manner, the long lease term ties up the space at an airport so that the landside space is not necessarily utilized in the most efficient manner.

In the past, long-term leases were considered necessary security for marketing the bonds required to build airport facilities. It is suggested, however, that it is not the length of the lease term which ensures market confidence in the bond but it is rather the nature of the "market" -- i.e., the demand of air transportation -- which builds confidence in the airport bond investment. The market is enhanced not by long-term leases with incumbents but by encouraging the growth of air transportation at the airport through the most efficient use of the facilities.

The long-term lease, therefore, may tie up space at the airport without regard to any dynamic change which may take place in the service pattern at the airport. The result -- the static allocation of terminal space -- has potential to limit new service either by new entry or by service expansion. This limitation on airport access is heightened when the long-term lease is found in combination with a majority-in-interest clause.

2. Majority-In-Interest Clause.

In many airport leases, the incumbent carriers have the advantage of a clause known commonly as a majority-in-interest clause (MII). This clause gives the majority of signatory carriers (determined either by number of carriers or number of enplanements) some authority to disapprove -- and in some instances to veto absolutely -- capital improvements, added debt, or new bond issues for the airport.

The majority-in-interest clause may be embodied in any of several types of provisions in the airport lease which give the signatory carriers at least nominal approval power. The clause has received a great deal of attention because in its most radical manifestation, the absolute veto of capital expenditures, it understandably is considered a potentially anticompetitive device.

Where the MII exists in a lease, it will appear in a context such as the following:

> Notwithstanding the maximum costs set forth . . . it is understood that there may be a need . . . to adjust such costs to comport with the then current conditions . . . . Accordingly, the parties agree to periodically review such maximum costs and adjust the same as may be reasonably necessary, subject to the approval of a majority-in-interest of the airlines.

The definition of the term majority-in-interest is, of course, contained in the glossary of the lease, and may be defined by a percentage of enplanements or operations, or simply by a majority

of signatory carriers. While a majority-in-interest clause may be used to delay or prevent expenditures which could make entry easier, not all MII's are susceptible to such competitive abuse. These clauses are present in many airport leases throughout the country. As the leases at different airports and the airports themselves vary greatly, so does the power of the MII clause differ from airport to airport. At some airports, the MII may be so specifically or narrowly defined that the use of the clause raises little or no competitive concern. At other airports, the MII could have severe anti-competitive implications if the MII provides a mechanism for excluding competitors from an essential and finite resource.

Long-term leases have added impact when they are combined with a majority-in-interest clause. The greatest anticompetitive potential exists where incumbents have effective control over the use of space because all of the terminal space is leased on a long-term basis and where, through veto of capital expenditures at the airport, they may limit the construction of gates or other facilities which an entrant could lease directly from the airport. In this way, incumbents may maintain control over the allocation of space in the essential facility (the airport) for service to that market. If this situation enabled incumbents to preclude or delay access by other carriers, it could raise substantial concerns under the antitrust laws and Section 411 of the Federal Aviation Act.

The force and effect of long-term leases and the majority-in-interest clauses have clear anticompetitive potential. The combination of the long-term lease, the majority-in-interest clause, and strong negotiating committees have even more serious anticompetitive implications.

3. Negotiating Committees.

Airline-airport affairs committees, generally called "negotiating" or "top" committees, are the principal device for presenting the signatory airlines' position to airport management on significant topics. Most airports in the United States have such committees which co-ordinate the responses of incumbent carriers regarding airport affairs. They are also the chief mechanism through which the collective power of the airlines is exerted upon an airport operator.

The negotiating committees are composed of representatives of each airline that has signed or is willing to sign a lease or use agreement with the airport. Generally, the airline representatives are officials from the airlines' properties departments, who usually sit on a number of negotiating committees at airports throughout the region. Indeed, regular committee meetings at airports in a geographic area are often scheduled on consecutive days for the convenience of airline representatives. While other representatives of the carriers at an airport (station managers, technical staff, etc.) may also meet from time to time to discuss specialized problems, such committees are clearly subordinate

to the negotiating committee, which discusses and develops positions on all matters affecting airlines at a given airport.

As envisioned by the Air Transport Association and as generally followed in practice, the negotiating committees operate as the vehicle for developing a unified airline position to present to the airport operator. Airlines and airport operators are strongly encouraged to communicate with each other through the chairman of the negotiating committee, who is usually the representative of the airline with the greatest presence at the airport. Agendas for meetings with the airport management, including the topics to be discussed, are developed or approved by the committee chairman. Representatives of the carriers normally meet prior to sessions with the airport operator to develop a common position on each topic to be discussed. Even though the carriers may have different interests and objectives, the perceived benefit of presenting a unified position may be sufficiently great that individual carriers will abide by the committee's decisions in all but exceptional cases.

If the negotiating committee acted only in an advisory capacity, the anticompetitive concern might not be noteworthy. However, negotiating committees at many airports exert substantial influence in virtually all aspects of airport affairs. This influence stems from several sources. First, the committee normally has the power to vote on an airport's capital budget. Depending on the airport, a negative vote may be an absolute veto or set in motion a budgetary review and justi-

fication process before the local city council and/or the negotiating committee. Second, majority-in-interest clauses often empower the major carrier or carriers at an airport to veto any significant capital expenditure which affect carrier fees and charges. Third, because carriers can hold the airports to the terms of long-term leases, airport managers have an incentive to defer to the carriers on certain issues to encourage them to renegotiate or revise the terms of leases to meet the airport's objectives. Fourth, many airport staffs may defer to the carriers' technical and business expertise. Finally, carriers often can wield substantial political influence, particularly if they are headquartered or are major employers in the locality.

The gravest anticompetitive risks that negotiating committees may present involve (1) efforts to delay or circumscribe the growth of carriers at an airport and (2) the potential for collusion among airlines. Many decisions relating to an airport directly or indirectly affect the ability of an airline or group of airlines to expand service from that city. Such decisions may relate to matters as diverse as the timing of new gate construction, the allocation of ticket counter and baggage facilities, the airport policy on gate utilization and its policy toward subleasing facilities to other airlines. With respect to each of these matters -- and many more -- there are often a range of feasible alternatives each with its positive and negative aspects. The challenge of optimizing the efficiency of airport operations,

of course, lies in analyzing the various alternatives to find those that are feasible and maximize utilization of the airport's facilities, thereby providing the greatest procompetitive potential.

The traditional operating procedure of most negotiating committees, however, may limit the consideration of alternatives and thereby raise the potential at least of limiting or delaying procompetitive entry or expansion by aggressive carriers. Such a result can be attributable in part to the overriding emphasis among carriers in presenting, and adhering to, a unified committee position. Faced with a uniform carrier position, the airport operator is less likely to explore less anticompetitive alternatives.

The carriers' emphasis on presenting a unified front also means that the crucial decision-making process -- that involved in developing the negotiating committee's position -- occurs in a nonpublic context where the dominant carriers at an airport can most effectively exert their power. Negotiating committee representatives appear to be keenly aware of the power of dominant carriers and the implications to them if they oppose those carriers. They realize that, where a carrier or group of carriers can exert a veto power under its lease or through its political influence, there is little reason not to accede to its demands. They also recognize that they will need the future backing of the dominant carrier or carriers to obtain things they deem important. For these reasons, it is not surprising that dominant carriers at major airports appear to run the negotiating committees

and almost never have to actually exercise their contractual veto power. Unfortunately, this can mean that expansion and reallocation of airport facilities that competitors need to expand their service occurs largely at a pace determined by the dominant carriers. Thus, the dominant carriers can constrain, or at least circumscribe, the growth of their competitors.

This situation leads to yet another concern -- possible collusion among carriers. Each airline is represented at a network of airports, and capacity constraints at airports within the network naturally lead to give and take among the airline representatives (e.g., "You handle my flights in Miami and I'll handle yours in Atlanta"). Many such arrangements may not present competitive problems and, indeed, may promote competition. However, due to their ability to limit a competitor's expansion generally -- and perhaps directly -- the dominant carriers may be in a position to exact anti-competitive commitments from carriers that desire certain airport facilities.

Again, let us emphasize that we are indicating here the anticompetitive potential of certain lease arrangements and airline-airport relationships which are common at the nation's airports. We merely wish to indicate that negotiating committees which demonstrate an ability to curb carrier entry or expansion at an airport would be well advised to guard against committee decisions or positions which could be interpreted as a combination or conspiracy in restraint of trade or as unfair trade practices.

Of course, negotiating committees also serve in an advisory capacity to the airport and in representing a type of tenant's organization. It must be remembered, however, that an airport is not simply a common lease-hold but is an essential facility. The right of entry and exit and the right of reasonable service expansions must not be abridged by the exertion of exclusionary power by dominant tenants.

The effect of the combination of a long-term lease, majority-in-interest clause and powerful negotiating committee may be to limit or delay access to airport landside facilities. The importance of the airport as an essential facility and the antitrust risks that those three factors may present is discussed in the following section.

D. The Antitrust Implications of Terminal Access

Contractual provisions and airline-airport practices that limit the availability of terminal facilities to carriers seeking to initiate or expand service from an airport have potentially significant antitrust implications. While antitrust risks can only be fully assessed in the context of specific factual situations, certain basic antitrust principles are applicable to most airport access issues. A discussion of these principles and how they might apply -- particularly to long-term leases, majority-in-interest clauses and the activities of negotiating committees -- may therefore provide a general framework for considering the types

of antitrust issues that are involved in airport access problems and for initiating a dialogue to explore practical means of reducing antitrust concerns.

The primary antitrust risks flow from the fact that access to certain airport facilities is necessary for an airline to compete effectively, or sometimes to provide any service at all, to a particular locality. Historically, the antitrust laws have been concerned especially about situations where a firm or firms are able to determine or strongly influence whether an actual or potential competitor will be given access to such essential facilities. Thus, the principal antitrust implications of long-term leases, majority-in-interest clauses and negotiating committees arise from their potential, in certain situations, to give an incumbent carrier or carriers at an airport the power effectively to deny or delay access by a competitor to the airport facilities it needs.

1. Airports as "Essential Facilities"

The seminal antitrust decision in the essential facility area is United States v. Terminal Railroad Association. 9/ In that case brought under the Sherman Act, a corporation owned by several railroads operating into St. Louis had control of facilities which, because of the physical limitations of the countryside, were the only feasible terminal facilities in the area for railroad traffic coming to St. Louis from the west. The Court held that the company must

9/ 224 U.S. 383 (1912).

provide access to nonmember railroads upon reasonable and nondiscriminatory terms. The concept that, where essential facilities cannot practicably be duplicated by would-be competitors, those in control of them must allow the facilities to be shared with competitors on fair terms, has been recognized in a number of subsequent Supreme Court and lower federal court decisions. 10/ In addition, in order for a facility to be considered "essential" it need not be indispensable. It is enough that access to the scarce resource confers significant competitive advantages as against those who are excluded. 11/

Applying the "essential facility" doctrine to airports, it is readily apparent that access to certain terminal space and facilities (such as gates and ticket counter space) is required if a carrier is to be able to provide service from that airport. Moreover, in most cases, an airline must serve a specific airport in a given locality in order to avoid being placed at a competitive disadvantage. Of course, where alternate airports actually are available in a community, the determination of whether a carrier will be competitively

10/ See, e.g., Silver v. New York Stock Exchange, 373 U.S. 341, 347-49 (1963); Associated Press v. United States, 326 U.S. 1 (1945); Hecht v. Pro-Football, Inc., 570 F.2d 982, 992-93 (D.C. Cir. 1977); Gamco v. Providence Fruit & Produce Bldg., 194 F.2d 484 (1st Cir. 1952).

11/ Associated Press v. United States, 326 U.S. 1, 17-18 (1945); See, Silver v. New York Stock Exchange, 373 U.S. 341, 348-49, (1963); Hecht v. Pro-Football, Inc., 570 F.2d 982, 992 (D.C. Cir. 1977); Tyson's Corner Regional Shopping Center, CCH Trade Reg. Rep. ¶20,933 at 20,773-74 (FTC 1975).

hampered by exclusion from a particular airport will depend on a number of factors including the type of carrier, the nature of the service to be provided, the need for access to interline traffic, the importance of close proximity to the city, the necessity of facilities to handle international traffic, and passenger preference for one airport over another. Relatively seldom, however, does a carrier not at least perceive a distinct competitive benefit in providing service from a specific airport.

Because an airport is an "essential facility" in most cases, the key consideration under the antitrust laws is the degree to which a carrier or group of carriers can restrict entry or expansion by competitors at the airport. This constraint may be accomplished directly by the carriers themselves or indirectly through the airport operator, depending on the nature of the power or influence the carrier or group of carriers possesses. Indeed, the mere possession of the power itself may be anticompetitive and raise substantial antitrust concerns, even though it is never actually exercised. For example, the airport operator may feel compelled to act with an eye to the competitive interests of the incumbent carriers. Where the effect of such unexercised power is exclusionary or significantly anticompetitive, the possession of the power itself may be deemed "an unfair method of competition" under Section 411 of the Federal Aviation Act. The Federal Trade Commission, applying the same legal standard

as that found in Section 411 (Section 5 of the FTC Act), found illegal provisions in a shopping center lease which permitted a tenant to veto the entry of a new store even though that veto power was never exercised. 12/

2. Antitrust Implications of Long-Term Leases and Majority-In-Interest Clauses

Examining common lease provisions and airport practices in terms of the potential exclusionary power they may confer on incumbent carriers, one can assess the antitrust risks that they may present. Long-term leases, for example, may present few problems where unleased terminal space is available, but could present significant potential antitrust problems if all space is under long-term lease and new entrants must obtain the space they require from an incumbent carrier under the terms and conditions that carrier may impose. The antitrust concern is particularly significant in situations where the only space practically available is under the control of a carrier with which the new entrant intends to compete. Clearly, in such circumstances, the incumbent carrier controls the essential facilities for all practical purposes and is in a position either to exact anticompetitive concessions from the new carrier or to impose restrictions on the use of the facilities that impair the newcomer's ability to compete effectively. While the antitrust laws do not require that the incumbent deprive itself of the terminal facilities necessary to serve its own customers

12/ Tyson's Corner Regional Shopping Center, supra, at 20,773-6 (FTC 1975).

adequately, they do prohibit agreements that limit competition between carriers as well as unjustified restrictions that disadvantage a competitor.

The anticompetitive potential of long-term leases may be compounded if certain types of majority-in-interest clauses are contained in the airport's leases or use agreements. Clauses that give a carrier or small group of carriers the legal right to veto any significant capital expenditure or airport expansion may operate to confer even greater power on incumbent carriers to exclude or delay entry by competitors. In addition to their control over existing facilities, incumbent carriers can stop terminal expansion that might enable a new or expanding competitor to lease directly from the airport.

In discussing majority-in-interest clauses, it must be emphasized again (See Section C.2.) that such clauses vary greatly from airport to airport. At some airports, the one or two carriers with the largest number of enplanements can veto an expansion program. At others, several carriers must oppose the proposal for it to be defeated. Likewise, the effect of a negative vote by carriers comprising a "majority-in-interest" differs from airport to airport. At some airports, it is an absolute veto, while at others the airport may still be able to proceed under certain circumstances. Of course, the fewer the number of carriers that can veto an expansion plan and the fewer alternatives the airport has if

that veto is exercised, the greater the potential competitive and antitrust implications.

While carriers seldom actually exercise their veto power, it appears that not only are airport operators and other carriers keenly aware of the veto power that a major carrier or carriers at an airport have, but the power may be a significant consideration in the planning and preliminary approval process. Thus, the fact that the power is not exercised does not necessarily mean that its influence is significantly diminished. Of course, as noted at the beginning of this section, even legal authority not actually exercised may give rise to an "unfair method of competition" if the power itself has the effect of excluding competitors or otherwise restraining competition.

The principal potential for competitive abuse of majority-in-interest clauses arises from the fact that the power given by the clauses may be unbounded. Carriers may exercise their veto power whether their opposition to the proposed expansion is based on legitimate business and financial considerations or is prompted by a desire to impede competitive entry and expansion. Historically, majority-in-interest clauses were incorporated into airport leases as a means of protecting carriers from the increased fees and rents that carriers feared would result if they had no power to check airport proposals for unnecessary and extravagant capital expenditures or debt financing programs. But if the effect of the veto authority -- whether exercised or not --

is to restrain trade, it is subject to antitrust scrutiny to determine whether the legitimate objectives can be accomplished in a less anticompetitive manner.

3. Antitrust Risks and Negotiating Committees

The ability of an incumbent carrier or group of carriers to inhibit competitive entry or expansion at an airport also is determined to a considerable degree by the strength of the airline negotiating committee vis-a-vis the airport operator and the extent to which one or a few carriers can control the positions taken by the committee in its discussions with the airport management. As noted in the previous section (Section C.3.), the relative power that a negotiating committee may have at a particular airport depends on numerous factors. The committee's power tends to be considerably greater in situations where terminal facilities are effectively controlled by incumbent carriers through long-term leases and/or where contractual provisions (such as majority-in-interest clauses) confer on the negotiating committee the power to disapprove the airport's capital and/or operating budget and terminal expansion programs. In such situations, airport managers may recognize the futility of attempting to take initiatives that do not take into account the competitive interests of the incumbent carriers, especially those with the greatest influence or power.

In assessing the antitrust implications of the operation of negotiating committees, the committee's methods of operation are particularly significant. In certain situa-

tions, the committee's method of operations can magnify the ability of the airport's dominant carrier or carriers to delay or circumscribe the growth of competitors. The committee's procedures can also enhance the incentives and opportunities for collusion among the committee members.

The increased antitrust risks result from the combination of several facets of committee operation that are relatively common. First, the airlines place great emphasis on developing a single position on every issue and presenting a unified front before the airport management. Second, representatives on the committees seem to be keenly aware of the power that a carrier (or group of carriers) has because of its ability to veto certain proposals or its political influence in the locality. Third, the development of the negotiating committee's positions normally occurs in private meetings or telephone conversations where the dominant carriers at an airport can most effectively exert their power and side agreements can be more easily arranged. Finally, the committee (and often the airport operator) usually confers considerable power on the committee chairman. The chairman has the authority to develop the agenda for the meetings with the airport operator and to act as the sole or principal representative of all the carriers in discussions with airport management.

From an antitrust standpoint, the positions taken by the negotiating committee as well as any side arrangements made between carriers are "conspiracies" within terms of the Sherman Act, and therefore would be illegal if they unrea-

sonably restrained competition. Obviously, all agreements -- even those that may have some anticompetitive effect -- do not give rise to antitrust violations. The issue is whether the restraint imposed has some reasonable business or other justification and whether that legitimate objective can be achieved by less anticompetitive means.

It is with regard to this issue that traditional methods of operation of negotiating committees present the greatest antitrust risk. Those operating procedures make it difficult to determine the real basis of the committee's action. Therefore, it is difficult to assess the feasibility of less restrictive alternatives and to ascertain whether the airport's adoption of the committee's position represented a truly independent decision on its part. Particularly in situations where a competitor or group of competitors may have the power to exclude or disadvantage competitors, the courts have stressed the need for the alleged conspirators to demonstrate that their actions were in fact prompted by legitimate considerations that could not be reasonably achieved by other less anticompetitive means. And, the Supreme Court has found that decisions which may exclude or disadvantage a competitor may require certain procedural safeguards to assure that such collective action is justified and can be effectively reviewed by an antitrust court. 13/

13/ Silver v. New York Stock Exchange, 373 U.S. 341, 361-367 (1963).

In sum, common contractual provisions and airport-airline practices individually or in combination may present significant antitrust risks in certain situations. While the foregoing analysis has concentrated on long-term leases, majority-in-interest clauses and strong negotiating committees and their interaction, other lease provisions or airline-airport practices may have similar effects. The circumstances vary so much from airport to airport that any general antitrust analysis can only suggest the types of competitive problems and antitrust risks that might be present at any particular airport.

4. Alternatives and Antitrust Risk Avoidance

The foregoing analysis indicates that the greatest antitrust risks arise where a dominant carrier or group of carriers has the power to restrict entry or expansion by would-be competitors. Our analysis also suggests some ways of reducing the exclusionary power or influence such carriers may possess without necessarily removing their ability to achieve legitimate business objectives. We offer these suggestions not as a directive of what must be done but to challenge airlines, airports and other interested parties to explore feasible alternatives to those aspects of terminal allocation that pose the greatest exclusionary potential.

With respect to the contractual provisions and practices discussed, the foregoing analysis suggests that competitive concerns could be alleviated to some degree by

measures such as the following. Right-to-recapture and mandatory sublet clauses, giving the airport operator the authority to make underutilized terminal space available to another carrier under terms and conditions established by the airport, might lessen the antitrust concerns about long-term leases in certain situations. Obviously, moving to shorter-term leases would also enable the airport to respond more quickly to a dynamic competitive situation.

From a preventative antitrust standpoint, serious consideration should be given to limiting the scope of majority-in-interest clauses. Limitations in scope might include confining such clauses to major expansion or debt financing programs which would substantially affect existing carriers' rates and charges, and replacing the unbounded veto power of carriers with standards that an airport operator has to satisfy before proceeding with further expansion or debt financing. In addition, broadening the definition of "majority-in-interest" so that one or two dominant carriers at an airport cannot force their will on the airport or their competitors might significantly reduce the likelihood that majority-in-interest clauses would be used in an anticompetitive manner.

Finally, the antitrust risks of carriers and airport operators alike could be substantially reduced by basic changes in the operating procedures of airline negotiating

committees. Such changes might include, for example, encouraging individual airlines to present alternative proposals and views to airport management, and providing that negotiating committees (both in their meetings to formulate their position and in their meetings with airport management) keep minutes that describe the alternatives considered and the basis for their decisions. Where the situation warrants, carriers and management may want to consider opening meetings between the committee and airport management to the public.

Likewise, encouraging meetings between airport officials and individual carriers, rather than meetings with a single group of carriers, might also be helpful in permitting the carriers to express their individual concerns and objections to plans. This should cause better communications than the present negotiating committees where usually only consensus positions are put forward. Although time consuming, this process is not significantly different from the process that other landlords use in presenting plans for changes to existing tenants.

While procedural changes in and of themselves may not prevent all antitrust violations, increased emphasis on the presentation and consideration of different alternatives and points of view together with documentation indicating the reasons a position was adopted or a decision made should lessen the potential for antitrust violations to occur.

E. Conclusion

This chapter has outlined our view of the potential competitive problems in the allocation of airport terminal space. We have discussed the relevance of the antitrust laws to airport access, and the applicability of the antitrust laws to those problems. We have defined certain conditions which we believe may have particular anticompetitive potential. We have also suggested some general steps to reduce the antitrust risks that such conditions present. It is our goal to meet the challenge of deregulation by working with both airport operators and carriers to prevent and resolve airport terminal access problems.

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APPENDIX A

In Chapter IV on Airport Terminal Facilities, we summarized our view of the present state of the law regarding the "state action" and Noerr-Pennington exemptions to the antitrust laws. For those who may be interested in a more complete legal analysis, we have provided a fuller discussion of the case law in this Appendix.

1. The "State Action" Exemption

The "state action" exemption to the federal antitrust laws emanates from the Supreme Court's decision in Parker v. Brown, 317 U.S. 341 (1943). In that case, the Supreme Court was asked to consider the applicability of the Sherman Act to a prorate marketing program established by the State of California for regulating the handling, disposition and pricing of raisins produced in that state. The Court reviewed the Sherman Act and its legislative history and concluded that Congress did not intend that Act to prohibit official action undertaken by a state. "In a dual system of government in which, under the Constitution, the states are sovereign, save only as Congress may constitutionally subtract from their authority, an unexpressed purpose to nullify a state's control over its officers and agents is not lightly to be attributed to Congress." Id. at 351. The Court held that the State of California "in adopting and enforcing the prorate program made no contract or agreement and entered into no conspiracy in restraint of trade or to establish monopoly but, as sovereign, imposed the restraint as an act of government which the Sherman Act did not undertake to prohibit." Id. at 352.

The Court also concluded that the state's program did not impermissibly interfere with interstate commerce. The Court noted that Congress in passing the Agricultural Marketing and Agricultural Adjustment Acts had encouraged federal agencies to implement programs similar to the California marketing plan. Furthermore, the United States Secretary of Agriculture had cooperated with the State and provided federal loans for the California program. The Court declared that it could not say "that the effect of the state program on interstate commerce is one which conflicts with Congressional policy or is such as to preclude the state from this exercise of its reserved power to regulate domestic agricultural production." 317 U.S. at 368.

Subsequent lower court decisions interpreted the "state action" exemption broadly. Governmental bodies, officials and employees at the state and local level were generally considered to be immune from attack under the federal antitrust laws. In the past five years, however, the Supreme Court has considered the "state action" exemption in a number of contexts and has severely narrowed the previously-prevailing view of its breadth.

In Goldfarb v. Virginia State Bar, 421 U.S. 773 (1975), the Supreme Court struck down a minimum fee schedule enforced by the Virginia Bar Association, a state agency under the laws of Virginia. The Court made it clear that not every act of a state agency was that of the state acting as sovereign: "It is not enough that . . . anticompetitive conduct

is 'prompted' by state action; rather anticompetitive activities must be compelled by direction of the State acting as a sovereign." Id. at 791 (emphasis added).

Three years later, the Court considered the applicability of the "state action" exemption to municipalities and other state subdivisions. The Court emphasized that sovereignty was an attribute of statehood, and held that the "state action" exemption of Parker was applicable to a subsidiary governmental body only where that body was acting "pursuant to state policy to displace competition with regulation or monopoly public service." City of Lafayette v. Lousiana Power & Light Co., 435 U.S. 389, 413 (1978). Most recently, the Court held that a resale price maintenance program clearly mandated by the State of California but not actively supervised or administered by it was not immune from antitrust scrutiny. California Liquor Dealers v. Midcal Aluminum, 445 U.S. 97 (1980). The Court reasoned that its prior decisions established "two standards for antitrust immunity under Parker v. Brown. First, the challenged restraint must be 'one clearly articulated and affirmatively expressed as state policy'; secondly, the policy must be 'actively supervised' by the state itself." 445 U.S. at 105, citing Lafayette, 435 U.S. at 410 (opinion of Brennan, J.)

The limited protection now afforded by Parker is narrowed further in the case of airports and airport proprietors by the presence of a strong federal policy of open access

and free competition in the nation's airport system. See discussion in IA, supra. Federal prohibition of grants of exclusive rights, requirements of non-discriminatory and substantially comparable treatment of air carriers, and preemption of state regulation of routes, rates and services all indicate that Congress has specifically limited the power of both local authorities and the states to take any action that may lessen competition in air transportation. Thus an airport operator seeking protection from antitrust liability bears a particularly heavy burden. The operator must be able to show not only that the state has clearly articulated and actively supervised the challenged restraint, but also that the restraint does not run afoul of Congress' pro-competitive policies in air transportation -- policies that even the states themselves cannot contravene.

While the standards set forth in Lafayette and Midcal must be applied on a case-by-case basis, their implications for most airports throughout the country are clear. No state of which we are aware has a policy of restricting competition at airports, and few states actively supervise the management of airports within their jurisdiction. Lower federal courts which have considered the antitrust immunity claims of municipal and county airport authorities in the post-Lafayette era have almost uniformly rejected the Parker defense. Guthrie v. Genesee County, 494 F. Supp 950 (W.D.N.Y. 1980); Woolen v. Surtran Taxicabs, Inc., 461 F. Supp. 1025 (N.D. Tex. 1978); In re Airport Car Rental Antitrust Litigation,

474 F. Supp. 1072 (N.D. Cal. 1979); Pinehurst Airlines, Inc. v. Resort Air Services, Inc., 476 F. Supp. 543 (M.D.N.C. 1979).

We are aware of the recent decision in Pueblo Aircraft Service, Inc. v. The City of Pueblo, Colo., 498 F. Supp. 1205 (D. Colo. 1980), in which the court ruled that Colorado's "Home Rule" cities are to be treated as the state for purposes of Parker immunity determinations. It is our view, that the Court's interpretation of Colorado law on this point is erroneous. Pueblo's power to run its airport is derived not from its Home Rule Charter, but from an act of the Colorado legislature. Furthermore, the assertion that municipalities are states vis-a-vis federal federal antitrust policy is flatly inconsistent with the position of a majority of the Supreme Court. Lafayette, 435 U.S. at 415-416 (opinion of Brennan, J.), 425-426 (opinion of Burger, C.J.)

Thus, Lafayette and Midcal provide the basic standards governing the applicability of the "state action" exemption to airports and those who deal with them. Applying those standards in light of the strong federal policy in favor of competition in air transportation, activities of airports that may lessen competition in the provision of airline services are fully subject to the federal antitrust laws.

2. The Noerr-Pennington Doctrine

In Eastern Railroad President's Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961), the Supreme Court was asked to determine whether certain concerted activitites

of private persons directed toward the government could be the basis of a complaint under the Sherman Act. A group of trucking companies alleged that twenty-four eastern railroads, the association of the presidents of these railroads, and a public relations firm had conspired to monopolize the long-distance freight business by conducting a "publicity campaign against the truckers designed to foster the adoption and retention of laws and law enforcement practices destructive of the trucking business." Id. at 129. Through extensive lobbying the defendants succeeded in persuading the Government of Pennsylvania to veto the "Fair Truck Bill", which action was alleged to be the sole basis of the plaintiff's damage.

Justice Black, speaking for a unanimous Court, accepted as a starting point that "no violation of the Act can be predicated upon mere attempts to influence the passage or enforcement of laws." Id. at 135. The Court thought this the corollary to the holding in Parker that the Sherman Act was not intended to reach monopolization that was the result of "valid governmental action." 365 U.S. at 136. Furthermore, there was an "essential dissimilarity between an agreement jointly to seek legislation or law enforcement and the agreements traditionally condemned by §1 of the Act," which when considered with two additional difficulties, was conclusive on the construction of the statute. Id. at 136. These two additional concerns were that (1) finding a Sherman

Act liability would substantially impair the power of government to take action in anticompetitive areas, since the people would be unable to make their wishes known to government; and (2) such a construction of the Act would imply a purpose in the Act to limit the First Amendment right to petition the government, an intent which the Court would not lightly impute to Congress. The Court went on to state explicitly that any anticompetitive purpose of the defendants in seeking government action could not subject them to Sherman Act liability, since that result would tend to eliminate from government decision-making the very people who are most concerned and perhaps best informed about specific issues. Id. at 139. The Court did leave room for Sherman Act liability in cases where the action of the defendants was "a mere sham to cover what is actually nothing more than an attempt to interfere directly with the business relationships of a competitor." Id. at 144.

In United Mine Workers v. Pennington, 381 U.S. 657 (1965), the Court reiterated the Noerr doctrine in a different context, stressing that "Noerr shields from the Sherman Act a concerted effort to influence public officials regardless of intention or purpose." Id. at 670. The Court determined that although the agreements between the plaintiff union and large coal operators to force nonsignor operators into accepting the same wage scale were not immune to Sherman Act liability, their joint efforts to influence public officials were. Furthermore, "(s)uch conduct is not illegal, either standing alone, or as part of a broader scheme itself

violative of the Sherman Act." Id. at 670. Nor could damages which flowed from the Secretary's minimum-wage promulgation be assessed under the Noerr rule. Id. at 671.

Finally, in California Motor Transport Co. v. Trucking Unlimited, 404 U.S. 508 (1972), the Court noted that the Noerr-Pennington doctrine also applied in the context of administrative and judicial proceedings, reasoning that "the same philosophy governs the approach of citizens or groups of them to administrative agencies (which are both creatures of the legislature, and arms of the executive) and to courts, the third branch of the Government." Id. at 510. Despite the applicability of Noerr to administrative and judicial proceedings, the Court found that the alleged conduct of the defendant trucking firms -- to defeat and delay their competitors' efforts to obtain motor carrier certificates by systematically raising spurious challenges to their applications before administrative agencies and the courts -- was not exempt from the antitrust laws under Noerr. In the Court's view such alleged conduct could represent an abuse of the administrative and judicial processes and, indeed, could effectively deprive the plaintiffs of their right of access to such forums.

While the Supreme Court's decisions appear to enunciate an exemption of broad applicability, its decision in Trucking Unlimited and many other decisions by the lower courts have recognized that Noerr may not be applicable at all in a number of situations. Since the basis of Noerr is the right to

petition public officials and bodies to adopt and effectuate restrictive policies through "valid governmental action" (365 U.S. at 136), the courts have been particularly reluctant to apply Noerr to situations where the imposition of the restraint was not within the public official's authority or was contrary to an overriding public policy. Likewise, Noerr has generally been found inapplicable where the petitioning parties were integrally involved in the decision-making process: e.g., conspiring with governmental officials or effectively making the decisions themselves. Moreover, the Supreme Court's emphasis on the right of the people to inform public officials of their desires regarding the passage and enforcement of laws (365 U.S. at 139) has led a number of courts to interpret Noerr as applying to significant policy determinations in the application of statutes, not to the commercial or proprietary activities of the government.

While the applicability of the Noerr-Pennington exemption must necessarily be determined in the factual context of each case, the likelihood that a party's dealings with public officials will be found subject to the antitrust laws significantly increases the more factors that are present which have led the courts to find the Noerr doctrine inapplicable. Of particular pertinence to activities relating to allocation of airport terminal facilities are the extent to which the anticompetitive action contravenes federal (or state) policy, relates to the airport's proprietary functions, and/or is effectively imposed by decision of the carriers rather than the airport.

The leading case stressing the importance of public policy considerations, especially in a basically commercial context, is George R. Whitten, Jr., Inc. v. Paddock Pool Builders, Inc., 424 F.2d 25 (1st Cir.), cert. denied, 400 U.S. 850 (1970). The case involved companies trying to sell their swimming pool products to public agencies, under various competitive bidding procedures. Paddock, a very large company, was extremely successful in persuading the architects engaged by many local authorities to design their pools according to Paddock's specifications. By the time the competitive bidding cycle began, many manufacturers were effectively eliminated because they could not meet the specifications in the proposed designs. Paddock moved for a summary judgment of plaintiff's antitrust claims, on the basis of an immunity derived from Parker and/or Noerr-Pennington.

In rejecting the Noerr defense, the court noted that to exempt the alleged activity from the antitrust laws would frustrate the explicit state policy of competitive bidding.

> The state legislatures by enacting statutes requiring public bidding, have decreed that government purchases will be made according to strictly economic criteria. Paddock is free to seek legislative change in this basic policy, but until such change is secured, Paddock's dealings with officials who administer the bid statutes should be subject to the same limitations as its dealings with private consumers. Indeed, to hold otherwise might impair the effectiveness of competitive bidding . . . We conclude, therefore, that the immunity for efforts to influence public officials in the enforcement of laws does not extend to efforts to sell products to public officials acting under competitive bidding statutes.

424 F.2d at 33.

In addition the court stressed that

> "the entire thrust of Noerr is aimed at insuring uninhibited access to government policy makers . . . . By enforcement of laws we understand some significant policy determination in the application of a statute, not a technical decision about the best kind of weld to use in a swimming pool gutter.

Id. at 32.

Consequently, the Court interpreted Noerr to be inapplicable to commercial dealings between the government and private parties.

Both factors highlighted in Whitten -- the importance of overriding public policies and the political-commercial distinction -- have been widely recognized by other courts in subsequent decisions. See, e.g., Duke & Co. v. Foerster, 521 F.2d 1277, 1282 (3rd Cir. 1975); Woods Exploration & Producing Co. v. Aluminum Company of America, 438 F.2d 1286 (5th Cir., 1971), cert. denied, 404 U.S. 1047 (1972); Kurek v. Pleasure Driveway and Park District 557 F.2d 580 (7th Cir., 1977), vacated for reconsideration in light of City of Lafayette v. Louisiana Power & Light Co. 435 U.S. 992 (1978), judgment reinstated 583 F.2d 378 (7th Cir., 1978), cert. denied, 439 U.S. 1090 (1979); and Sacramento Coca-Cola Bottling Co. v. Local 150, International Brotherhood of Teamsters, 440 F.2d 1096 (9th Cir. 1971), cert. denied, 404 U.S. 826 (1971).

It is our judgment that the negotiations of the airlines with the airport operator on questions such as landslide terminal allocations of space, the entry of new carriers, and the expansion of services are generally commercial in nature

and thus would not be protected from antitrust scrutiny by the Noerr doctrine if they resulted in restraints contrary to federal policy. The court decisions that have considered analagous situations relating to airports support this view. Pinehurst Airlines, supra; In re Airport Car Rental Antitrust Litigation, supra; See In re Airport Car Rental Antitrust Litigation, ____ F. Supp. ____, M.D. Cal., April 16, 1981.

Moreover, to the extent that airline negotiating committees or individual airlines are effectively both petitioner and decision-maker, the court decisions indicate that the Noerr protection may not be available. In Woods the court found that the state commission was extremely dependent upon the production forecasts provided by the defendant, which were necessary in order to formulate the state's production allocations among competitors. The Commission had no effective way to check the defendants' figures, and was in fact merely rubber-stamping the defendants' judgments. The Court did not think that Noerr ought to shield this sort of private control of governmental action. In U.S. v. Southern Motor Carriers Rate Conference, Inc., 467 F. Supp. 471 (N.D. Ga. 1979), the court thought it important that the association's involvement in rate setting "surpasses mere petitioning, and renders the industry, in part, a decision-maker." Id. at 485. Similarly, in Pinehurst Airlines, the Court concluded that allegations, if proven, that the defendant monopolist fixed-based operator actually controlled the decisions of the airport commissioners

would remove Noerr protection. 476 F. Supp at 556. In examining the role of negotiating committees it is appropriate and important to consider the extent to which they are makers of airport policy: the distribution of authority as per the lease agreement; the impact of their unified front upon airport authorities; the degree to which the airport is dependent upon the negotiating committees for information critical to current management and future development of the airport; and the existence of veto powers over issues relating directly or indirectly to accessibility. Note, too, that under the "state action" doctrine, the degree of involvement of private parties in the governmental decision-making process greatly influences the issue of whether the Parker immunity should be extended to those private parties. See Cantor v. Detroit Edison, 428 U.S. 579 (1976).

From this analysis of recent Supreme Court and lower court decisions, the Noerr-Pennington exemption would seem to provide little or no protection for airlines in most situations where they attempt to persuade or utilize airport officials to restrict the availability of airport facilities to competitors.

Appendix B

A Proposal to Adopt Noise and Congestion Fees at Washington National Airport

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The views expressed here do not necessarily express the views of the members of the Civil Aeronautics Board, or the Board's staff. We are grateful for the comments of Michael Callaway, Steven Baron, Samuel Whitehorn, Alexander Millard, Susan Jollie, and David O'Connor on an earlier draft of this proposal. We also wish to thank Peter Belenky and Steven Cooperman for their assistance.

Contents

In 1968, the Federal Aviation Administration (FAA) adopted the High Density Rule to relieve congestion at Washington National Airport. 1/ This rule, which is still in effect, limits total operations at Washington National to 60 landings and takeoffs per hour (slots). At the time the High Density Rule was accepted, the FAA considered 60 operations per hour to be the number of operations the airport could handle without delay under weather conditions that required instrument-assisted landings. 2/ The FAA, with the cooperation of the carriers, has also restricted nonstop operations to cities that are less than 650 miles from Washington and limited access to aircraft no larger than the B-727. 3/

In a recent rulemaking, while maintaining the 60 slots per hour restriction, the FAA decreased the slots available to certificated airlines from 40 to 36, and increased the slots available to commuter airlines from eight to 12. 4/ In addition, the FAA increased the nonstop perimeter to 1,000 miles, and made the voluntary curfew on nightime operations mandatory. It also approved the use of widebodied aircraft at Washington National Airport. Presently the Department of Transportation (DOT) is considering methods to allocate slots under the High Density Rule. 5/

A. Recommendations

We believe the focus of DOT's policy for controlling access to National Airport is too narrow. A policy to insure the best use of a congested airport, such as National, requires a broader view. Instead of relying on mechanisms such as slot limitations and perimeter rules, administrators of airports should consider the reasons that access must be limited and devise a solution which is aimed at those causes. In this paper we recommend that DOT abolish current restrictions on National Airport and institute a system of landing fees to directly control noise and congestion.

1/ 14 CFR 93,121 et. seq.; FAR 93, Subpart K.

2/ Instrument-assisted landings are required under Instrument Flight Rules (IFR) which apply when ceiling-visibility conditions fall below minimums specified by the FAA. When visibility is greater, Visual Flight Rules (VFR) apply. The operational capacity of an airport is greater under VFR than under IFR conditions.

3/ Any cities beyond the 650 mile limit were exempted if they were receiving service when the perimeter rule was adopted.

4/ 45 F.R. 4314, January 21, 1980; 45 F.R. 62398, September 18, 1980. The final rule was postponed until April 26, 1981, in part by statute (The Department of Transportation and Related Agencies Appropriations Act, 1981, Pub. L. 96-400), and the remainder by order of the Secretary (45 F.R. 71251, October 27, 1980).

5/ Department of Transportation, Notice of Proposed Rulemaking, Docket No. 70, Notice No. 80-16.

The slot quotas under the High Density Rule are unnecessarily restrictive, and indeed, the quotas are not strictly observed. Technology has improved since the 60 slot per hour quota was adopted in 1968, and Washington National routinely handles more than 60 operations per hour. 1/ Even under IFR conditions, which prevail only about 10 percent of the time, National Airport apparently handles more operations than permitted under the quota. Thus, the present slot quotas under the High Density Rule represent an artificial restriction on access and should be changed.

Noise and (potentially) groundside congestion are the primary problems at National Airport. By controlling noise and congestion directly, it is possible to expand operations while managing groundside congestion and maintaining or reducing noise levels. Thus a rational National Airport policy, which abolishes the artificial restriction on slots, and focuses instead on noise and groundside congestion can have substantial benefits for Washington air travelers as well as the neighbors of National Airport. National Airport illustrates the general principle that any mechanism used to control the use of an airport should be directly related to the reason why airport activity is limited.

We believe a carefully constructed system of airport fees provides the best "direct" control on the use of National Airport. Specifically, we recommend consideration of a fee system such as follows:

1. DOT should establish fees for flight operations at Washington National Airport that vary by aircraft type and by hour of the day.

2. The fees for a given flight will be determined by the noise that the aircraft generates, the number of passengers on the aircraft, the total demands on the airport at that time as well as the airport capacity. These fees should be adjusted periodically to ensure that airport activity is balanced with airport capacity.

3. In addition, a carrier that desires guaranteed access during IFR conditions must pay a fee for an IFR reservation. Aircraft without an IFR reservation may be delayed or diverted to another airport.

1/ See for example United Airlines' Reply Comments filed in the Civil Aeronautics Board's Airline Scheduling Committee Investigation, Docket 20051.

Under this system of fees, noisy aircraft will pay more than quiet aircraft. And, large aircraft operating at peak periods will pay more than small aircraft. During peak hours the fee will be higher than during off peak hours. The control offered by the fee system thus operates through the incentives it gives airlines to "economize" on noise and congestion. IFR reservations in this system can be viewed as an insurance against delays when weather conditions require instrument-assistned landings and takeoffs. Instead of allowing traffic to randomly stack up when at these times, the reservations provide a means for establishing priority.

In the following section, we explain why we believe a fee system such as proposed here is the best method for controlling the use of National. In Part II we consider the use of fees in more detail. First we suggest a methodology that could be used for establishing the proposed fee system at National. We then present examples that suggest how the fee system might work, and then provide estimates of fees that would prevail if such a system were adopted.

Though our discussion focuses on Washington National Airport, a fee system is applicable to all airports where access must be limited. 1/ Indeed, we believe that consideration of this proposal at Washington National Airport is especially important because the access rule adopted there may serve as a model for other airports. If the High Density Rule is retained, other airports may adopt similar slot rules even when airside congestion is not the reason why capacity is limited.

B. Reasons for Adopting Fees

As noted above, and illustrated in the examples in Part II, controlling noise, airside congestion and groundside congestion directly will make far better use of National than trying to control these problems indirectly by limiting total operations. Such direct control could be accomplished in a number of ways. For example, quotas could be established for noise or total passengers. These quotas could then be sold at auction, or they could be assigned by administrative allocations or by committees could be used to control noise and groundside congestion just as these mechanisms are proposed by the FAA for controlling total operations. However, we believe the best way to control noise and groundside congestion is to use fees.

1/ In addition to the four airports operating under slot constraints, the Board's Environmental Programs Division estimates that at least one dozen major airports have significant noise problems today.
Over the next decade, the FAA predicts 60 airports will become saturated unless capacity is increased. Terminal Area Forecasts, Fiscal Years 1979-1990, Federal Aviation Administration, June 1978.
We recognize that legal issues may arise in applying the fee system at airports where the Federal Government is not the proprietor.

The advantages of using fees are as follows:

(1) Fees give airlines the incentive to tailor their operations to make the fullest use of airport capacity.

Airlines will tailor their operations to the incentives created by any control mechanism. The strength of the fee system is that it encourages each airline independently to tailor its operations in such a way that the airport is used to its fullest while noise and congestion are controlled. Airlines are free to choose how best to adapt their operations under the fee system, and directly benefit through fee restrictions from their independent moves to reduce noise and congestion.

Noise fees will encourage airlines to use their quieter aircraft in serving airports where noise is a problem. In the long run, noise fees will encourage airlines to modify noisy aircraft to reduce noise as well as to buy quieter, new aircraft. For example, as discussed below, a "typical" 727 landing-take off cycle makes roughly the same amount of noise as three "typical" DC-9's. 1/ Similarly, a B-727 retrofitted for noise abatement makes substantially less noise than a "typical" B-727. Fees that encourage the substitution of DC-9's for 727's or that encourage the use of retrofitted 727's allow more passengers to be accommodated, with the same noise generated.

Fees will also encourage airlines to serve leisure travelers, and other travelers who do not value National's proximity to Washington highly, through either Dulles Airport or Baltimore-Washington International (BWI) Airport. For example, a per passenger fee will discourage the peak hour use of National by flights for which the passenger demands for service through National cannot justify the airline's added cost of using National rather than Dulles or BWI. If the airlines move such flights to Dulles or reschedule the flights for off peak hours,and provide incentives for travelers to use these flights, total passenger demands on National will decline. This will help assure that business travelers and other travelers who highly value using National have access to that airport.

1/ The "typical" B-727 and DC-9 models used in our examples are equipped with the JT8D turbofan engine. Newer versions of these aircraft are less noisy. The B-727-200-17R equipped with JT8D-17R engines makes about one-third the noise of a "typical" B-727, because these newer engines allow pilots to use reduced thrust on takeoff. The new DC-9-80 uses high bypass turbofan engines, and makes about one-tenth as much noise as a "typical" DC-9. Although we deal with only the "typical" models of DC-9 and B-727 in this proposal, in practice the fees should vary across models.

(2) Fees will help promote needed airport expansion

Fees are both concrete proof that expansion is required as well as a spur to action. When the revenues from fees exceed the cost of expanding an airport, airport authorities are given a clear signal to expand the airport's capacity. Other allocations do not provide the information to judge benefits of airport expansion.

Even at National, where it is commonly held there is little room for expansion, there are many opportunities for increasing capacity. In Part II we describe the potential for expanding airside capacity created by new electronic navigation and landing aids. We also discuss a study done for the FAA that recommends a two-tier access road and other improvements that would greatly increase the groundside capacity of National. More broadly, the demands on National Airport might be reduced by developing reliever airports, or promoting greater use of Dulles and BWI.

(3) Fees provide the needed continuity for airline planning, and give airlines the greatest possible discretion in deciding when to begin and end operations at an airport.

One of the major difficulties with slot allocations that start from scratch every six months is the uncertainty they create for airlines' schedules. Moreover, such "periodic" mechanisms are quite inflexible in that airlines are required to adapt to the chosen schedule by the start of the new schedule period.

A fee system could offer more continuity than these "periodic" allocations because it would not be necessary to reallocate the rights to use the airport every six months. Instead, once a fee was established that balances demands with airport capacity and noise restrictions, only occasional adjustments in the fee would be necessary to maintain the balance. By establishing a tolerance range for noise, passenger traffic, and total operations, the airport can accommodate day-to-day or month-to-month variations in demand without necessarily changing the fee. However, when it appears that a long-term trend is developing toward over use or under use, the fee can be adjusted so that over time the balance will be reestablished. Airlines can always be confident that they can use the airport, so they don't face the risks of suddenly losing operating rights on which they have planned.

Of course when the fee is raised the purpose is to encourage reductions or limit growth in the use of the airport. In this sense, using a fee is no different than any other control mechanism. However the fee offers the advantage that an airline has complete flexibility in the timing of any schedule change required. Thus the fee system minimizes the airline's risk of sudden and arbitrary changes in its operating rights, and gives the airline full discretion in adjusting operations in response to changing fees.

(4) Fees are cost related, and therefore they are equitable and nondiscriminatory.

In the long run, the fees should reflect the long-run economic costs of a flight (i.e., airside capacity and congestion costs, groundside capacity and congestion costs, and noise costs.) This will occur if the airport's capacity is adjusted when fees show that demand justifies the cost of expansion. In principle, these fees can be set for each hour of the day and for each kind of aircraft that use the airport in order to reflect the costs of each particular operation. In practice, it may be desirable to use a simple schedule that combines hours of the day and similar kinds of aircraft into fee categories.

If short run capacity limitations exist at an airport, fees should be set to allocate access within the limits. For example, a per passenger surcharge could be instituted if the total number of passengers must be limited during certain hours of the day. In accounting terms, such fees are not cost-based. However, when short run restrictions exist, and one passenger is served at the exclusion of another, the cost of each passenger properly includes the inconvenience to the passenger that is not served. Full costs therefore exceed accounting costs when short run restrictions exist. In this sense, even fees that exceed accounting costs are cost related and economically efficient if such fees are necessary to allocate restricted capacity.

Because the proposed fees are based strictly on the demands an aircraft operation makes on airport capacity, the fees are nondiscriminatory. It must be noted that under the proposed landing fee system, commuter aircraft would normally be charged very small landing fees. Given the present demands for air travel to and from Washington, the fee system will lead to a wide range of aircraft using National, from the small commuter aircraft needed for short-haul small community travel to the wide-bodies that can most efficiently serve dense long-haul markets.

II

The remainder of this paper describes how a fee system could be set up for National. It also provide rough estimates of the fees that would prevail if such a system were adopted, given the present demand for use of the airport and the present capacity of the airport. In developing these estimates, we begin by examining the capacity of National Airport and indicating the noise levels of the aircraft that might serve the airport. We then compute the passenger's value of using the airport by comparing passenger's ground transportation costs from using Dulles and National. Our estimates of the fees are based on what is necessary to limit activity at National Airport so that activity does not exceed the airport's capacity and the noise generated does not exceed current levels. Though we offer a procedure for setting fees, we have not done the detailed study needed to actually set up the fee system. DOT, having substantially more expertise in this area, would be more suited to perform such an analysis. The examples do show, however, the order of magnitude of the fees that would prevail under such a system, and illustrate the gains of directly controlling noise and groundside congestion instead of restricting total operations.

A. Instituting a Fee System

Once a fee system is established and has been working for some time, there should be little problem in making the occasional adjustments necessary to maintain a balance between demand and airport capacity or noise restrictions. However, in initiating a fee system, there will be some difficulty in determining the proper fees, because the demand for the airport cannot be predicted with certainty. We therefore propose a start-up mechanism that allows some trial and error in setting fees. This start-up mechanism is not unlike the multiround auction mechanisms that have been suggested; however, in contrast with auctions, the trial and error approach will only be used if the initial fees proposed would lead to a substantial overuse or underuse of the airport. It is not anticipated that any formal mechanism involving the participation of the airlines will be required once the system of fees is established and working.

Before describing the start-up system, we briefly describe the units of noise, terminal use, and airside capacity for which the fees will be set. Noise will be measured using the noise created by a "typical" B-727 flight as the common denominator. 1/ The noise of each flight is expressed in units in relation to the noise of a B-727 flight; the noise fee is based on these units.

Terminal capacity is based on the number of passengers per hour it can handle. So the fee for terminal use is based simply on the number of passengers carried.

1/ As noted earlier, for the sake of the illustrations we assume all B-727's are equipped with JT8D engines.

Setting the fee for airside capacity use is a bit more complex. The airside capacity of the airport varies as weather conditions change. We consider two states of weather: when Visual Flight Rules (VFR) conditions prevail and when IFR conditions prevail. The number of operations that can be accommodated during VFR conditions exceeds the number that can be accommodated during IFR conditions. Landing fees should be set so that during VFR conditions the number of desired operations will not exceed the airport's capacity. However, it is quite likely that, with these fee levels, the number of desired operations will exceed the airport's capacity during IFR conditions and delays will result. It is inefficient to simply let flights stack up at random in such circumstances because delays will be more costly and wasteful for aircraft that use a lot of fuel. Also, delays will be more disruptive for tightly scheduled operations that rely on fast turnaround. Consequently, for an additional fee priority landing rights should be available that entitle an airline expedited service in IFR conditions. The priority access fee is like an insurance policy. It insures against flight delay in certain types of bad weather. Unlike the other flight fees, which are levied on an individual flight basis, an airline would purchase an IFR reservation for a given time, e.g., three months.

Since general aviation operators provide unscheduled service to National, there may be no individual claimants among them for IFR reservations. We therefore propose to set aside a certain number of IFR reservations for this group of users initially. The general aviation operators that use the priority slots will pay the same fees as scheduled operators of similar aircraft. And, as with scheduled operators, general aviation operators that do not have IFR reservations will be served on a standby basis. As time passes, market demands should be allowed to determine the number of reservations set aside. If some of the slots are seldom used, they can be shifted to the scheduled carriers. Increasing the supply of IFR reservations for scheduled carriers will reduce their price.

We propose the following mechanism to institute the fee system:

(1) Determine the short run capacity of the airport.

(2) Estimate the noise and passenger fees necessary to efficiently hold use within capacity. Also estimate the IFR reservation fee necessary to balance demand with capacity.

(3) Announce fees 90 days in advance of the date in which the system will operate and require airlines to state their scheduled takeoffs and landings by time and plane type. They should also indicate their requests for a IFR reservation.

(4) If the total demand from all airline schedules falls within limits of capacity, schedules and fees are set at the levels established in steps (2) and (3). If not, fees are adjusted and step (3) is repeated.

As noted earlier, the final step is included because the fees obtained in steps (1) and (2) may not balance capacity and demand. Airlines will adjust their schedules and the kinds of aircraft they use in order to tailor their operations to the incentives of the new fee system. By allowing some trial and error, we assure proper fees are obtained before the airport actually begins operating under the system.

In the initial period of the system, say 120 days, such airline's ability to add flights should be restricted. Also during this period airlines will be assessed the fee for flights they remove from their schedules. This will reduce the incentive of airlines to disrupt the system by asking for too many or too few flights when the initial fees are being set. Once the break-in period is over, airlines should be free to adjust their schedules as they wish. Fees would be adjusted periodically as necessary to manage the use of the Airport.

In principle, managing the use of an airport with a fee system should result in the same price and quantity as an auction. In practice, however, there is an important difference between the two mechanisms. Under either system, variations in demand over time lead to changes in the equilibrium prices and quantities. With an auction system, the price is set so that the quantity demanded exactly equals capacity. The quantity to be auctioned is known, while price is the uncertain outcome of the auction. Airlines have expressed concern that such a system introduces the risk that an airline may bid too low, and thereby fail to obtain needed landing rights. In a fee system the price is known; the amount that will be demanded at those fees is unknown. Thus an airline can always acquire operating rights, if it is willing to pay the required fee.

There is another important advantage of a fee system over an auction system. Since we are concerned with noise, groundside congestion, and airside congestion, an auction system would require three separate auctions to be administered simultaneously. This would make carrier scheduling quite diffcult.

We believe the fee system is better suited to the realities of airport management. As noted below, there is no precise definition of "capacity" in the use of an airport. Capacity is a concept that is more closely related to the quality of services provided by the airport than to physical limitations. For example, an air terminal can handle more than its capacity though at a cost of delaying passengers. It is unnecessarily restrictive and disruptive to always try to hold the use of an airport to some exact definition of capacity.

B. Estimating of Fees at National

We now illustrate how the start-up procedure could be put into use for National Airport. We begin by describing the capacity of National Airport. We next turn to estimating the demand for National, and show the fees required to keep utilization within short run capacity given the estimated demands.

1. Capacity of National Airport

The capacity of National Airport has been a central issue in the debate over allocating access. In this section we review some of the available data on the capacity of National. The capacity estimates we report are based on informed expert opinion. It is possible that the estimates overstate or understate actual capacity. It must be emphasized, however, that the qualitative conclusions of our analysis are not altered by changing the estimates of capacity.

An airport's capacity is a subjective concept. Whether a given terminal is at capacity for example, depends on how much congesion (crowding and waiting) is considered tolerable. Moreover, in many cases, capacity may easily be varied even in the short run. The capacity figures reported here--and elsewhere-therefore should be considered only rough indexes of the ability of the airport to handle passengers and aircraft. The airport could probably operate tolerably well at levels of activity that fall within a wide band around the quoted capacity figures.

Airside Capacity: Airside capacity is frequently defined as the number of aircraft operations per hour that can be accommodated under FAA/Air Traffic Control standards. Under ideal weather conditions this capacity is determined by four factors:

-- Airfield Facilities--Runway Configuration, Taxiways, etc.

-- Location of the Airport

-- Air Traffic Control Capabilities (ATC)

-- Kinds of Aircraft Serving the Airport

Airside capacity varies with actual weather conditions, unforeseen equipment problems, and ATC central flow control constraints. (Under central flow control, if another major airport is congested, flights to that airport from National Airport will be held at National until space is available; this can constrain National's operations.) Weather conditions are classified into two basic categories -- Instrument Flight Rule (IFR) conditions and Visual Flight Rule (VFR) conditions. 1/ Gradations occur within those categories; for example, a change in wind speed or direction could decrease National's capacity under IFR conditions by several operations per hour. It has been reported that, on average, National Airport experiences some form of IFR weather conditions during approximately 11.5% percent of its total time in operation; the rest of the time visual flight rules apply. 2/

1/ Generally, Instrument Flight Rules apply when the clould ceiling falls below 1500 feet, or visibility falls below 3 miles. Visual flight rules apply when visibility and the ceiling exceeds these minimums.

2/ This estimate is based on United's reply comments in the CAB's Slot Committee Investigation (Docket 20051). United reported that local meterological records suggest IFR conditions apply 11.5 percent of the time overall, but somewhat less of the time during peak travel hours.

In 1966 airside capacity at National was constrained by inadequate aircraft apron space, (the area where planes park). As a result, in that year carriers agreed to a voluntary limit of 40 operations per hour. 1/ The number of air carrier operations allowed has remained at that same level since 1966. In 1968 the FAA's High Density Rule quota kept this 40 air carrier operations limit at National. With an additional 20 commuter and other aircraft operations per hour, 60 total "slots" per hour were allocated.

Since 1968, numerous improvements in the airport's airfield facility, air traffic control equipment and procedures, and aircraft operational capabilities have affected the airside capacity of Washington National. Table 1 summarizes several major improvements at National since 1969.

Records of operations at National Airport during July, 1978 indicate that during several hours in that month, National Airport handled 86 operations. 2/ The same records indicate that during regular business days activity at the peak hour at National Airport was never less than 70 operations. 3/

Studies of flight delays provide additional evidence that National is underused relative to other airports. National's average flight delay time is far below other airports, except for LaGuardia. 4/ Moreover, this difference has increased over time. Shorter delay times at National suggest that the airport is not operating at its capacity.

It also appears that with current technology it is possible to expand the capacity of National. For example, if area navigation systems (ANS) were used, it is asserted that aircraft could use approach routes previously unused at National. 5/ Thus, ANS systems could increase the capacity for VFR operations at National; with more possible approved routes, the airport could accept more arrivals per hour under VFR conditions.

1/ Washington National Airport Agreement. Civil Aeronautics Board Agreement 19078, Order E-24174, September 12, 1966.

2/ United's Comments, Docket 20051, Exhibit 2.

3/ A regular business day is Monday thru Friday except Monday July 3, and Tuesday July 4.

4/ Eastern Airlines, Comments to CAB Airline Scheduling Committee Investigations, Docket 20051.

5/ "Text of Mr. Henson's Remarks," Henson Flight Scene, Issue No. 14, 1980, p. 14.

Table 1

Improvements at National Airport Since 1969

(Through Fall 1980. Source: Air Transport Association Comments to CAB Order 80-9-148)

-- Holding pads expanded on main runway 18/36

-- Taxiway B extended to crossing runway 31/21

-- Major ramp extension

-- Visual Aproach Slope Indicators added on main runway 18/36 and crossing runway 31/21

-- Lighting-Center line lights added on main runway 18/36

-- Touchdown Zone Lights added on main runway 18/36

-- Terminal Control Areas established

-- Automated Radar Terminal System (ARTS III) now utilized

-- FAA Flow Control procedures utilized

In addition, microwave landing systems (MLS) may potentially increase an airport's airside capacity. While still in the test stage, MLS advances over current instrument landing systems (ILS) will enhance the landing capabilities of aircraft. Correspondingly, the new systems could increase an airport's landing capacity. In 1981 Ransome Airlines and the FAA will be testing a Dash-7, the 50-seat DeHavilland aircraft, equipped with MLS at National Airport during VFR conditions. 1/

Increasing the number of flight paths in and out of National will allow quieter aircraft to operate outside the present flight patterns, thus dispersing noise and reducing the area of heavy noise impact.

We do not profess to be experts in air traffic control or airport operations. Nevertheless, all the evidence we have reviewed indicates that the airside capacity of National Airport during almost all of its time in operation is significantly higher than the current 60 operations per hour that are prescribed by the High Density Rule. The record shows that National routinely handles between 80 and 90 operations per hour during VFR conditions. The record also shows that many improvements have been made since the 60 operations per hour IFR quota was established, and that average flight delays are lower at National than nearly every other major airport. Moreover, with some investment the capacity could be increased further.

In the subsequent analysis we assume therefore that National Airport can handle 86 operations per hour during VFR conditions and 70 operations per hour during IFR conditions. We recognize that an airport's capacity may vary depending on the type of equipment that is using the airport. For example, the number of operations may be less if there were wide-bodied equipment operating. Nevertheless, we believe our assumed levels of capacity are reasonable. At the same time, we would emphasize that neither the analysis nor the qualitative conclusions would be changed if the assumptions were altered.

1/ The Dash-7 is a STOL (short take off and landing) aircraft, which means it can land or depart on the shorter crossing runways or reliever runways. If equipped with area navigation and MLS, it can even maybe able to operate on the crossing runways at National under IFR conditions. Mr. Henson's Remarks, op cit.

Groundside Capacity: The groundside capacity of an airport refers to the capabilities of ground transportation and terminal facilities for accommodating air travelers. A major study by Howard, Needles, Tammen, and Bergendoff (HNTB) conducted for the Metropolitan National Airports, considered four major components of groundside capacity: 1/

--The Road System ("Cordon Capacity")

--The Interior Drives and "Curb Space" (for taxis and passenger vehicles)

--Parking Facilities

--Terminal Facilities - Passenger hold area, building services offices, airline operations areas, consumer services areas etc.

The study found each of those four components to be deficient at National, and recommended changes that would increase capacity.

The HNTB report indicated that road congestion was significant enough during peak hours to warrant a new two-level road system for the airport. Traffic would be split with departure vehicles using an upper level road and arrival vehicles using a lower level road.

Additionally, various facilities at the two terminals have been described as outdated or inadequate. 2/ Many criticisms have been raised over antiquated facilities of the Main Terminal, constructed in the 1940's. Facilities at the North Terminal are also cited as inadequate. HNTB concluded that the two terminals could be modernized and modified into two level structures, matching the road system's separation of arrival and departure passengers. According to the 1980 draft environmental impact statement for the airport, the terminal facilities at National can now accommodate 3500 passengers per hour. 3/ More passengers can be processed during peak hours, but with congestion and, hence, delays. The HNTB study concludes that investments and modernizations recommended would increase the groundside capacity at the airport to over 5000 passengers per hour.

The study also found the demand for parking spaces in 1975 was far greater than the 3700 spaces available at the time; HNTB recommended an additional 2800 to 3500 spaces. More spaces could be added in stages by constructing a multi-level parking garage.

1/ Washington National Airport/Road Study (For Metropolitan Washington Airports); Howard,Needles,Tammen,and Bergendoff; Feb. 1977.

2/ HNTB and Metropolitan Washington Airports Policy, Supplement to the Draft Environmental Impact Statement. U.S. Department of Transportation IFAA, Washington, D.C., January 1980.

3/ Washington Airports Policy.

Noise: The CAB's Office of Economic Analysis (Environmental Programs Division) has developed the Area Equivalent Method to compare the noise created by different aircraft. In applying the method, which is described below, the Area Equivalent Method takes as a standard of reference an average noise level of 65 dB. 1/ This is a noise level that is generally accepted as the threshold between noise being a minor nuisance and a substantial nuisance. Presently, the average noise level equals or exceeds 65 dB in an area of 24 square miles (mi^2) around National airport. Much of this area is over the Potomac river, because arriving and departing jet aircraft follow the river for some distance.

The area equivalent method expresses the noise characteristics of each aircraft in terms of the number of daily flights it would take (arrivals and departures) using that aircraft alone to get a 65 dB average noise level over a 24 mi^2 area around the airport. The advantage of the area equivalent method is that, as long as the 65 dB impact area is held constant at 24 mi^2, a linear tradeoff exists between the noise made by two kinds of aircraft. 2/ For example, 6.6 B-737 take-offs and landings (13.2 total operations) could be substituted for one B-727 take-off and landing cycle and still retain 24 mi^2 impact area. Thus, the area equivalent method provides a straightforward and simple method for comparing the noise characteristics of different aircraft.

Table 2 shows the tradeoffs among the aircraft serving the three Washington area airports using the B-727 (with JT8D engines) as the base. The tradeoffs presented in Table 1 indicate the amount of noise each aircraft creates relative to one B-727 (short haul). We call these values noise area equivalents (NAE). Thus, for the example above, the noise area equivalent of the B-737 is 1/6.6 = .15. The NAE values reported range from 1/95.6 = .01 for the very quiet new DeHavilland Dash-7 turbo prop to just under one for a long-haul B-727 operation. 3/

While the B-727 is the noisiest aircraft in the fleet serving the local airports, it is also the most common aircraft. Of the 723 scheduled operations in and out of National each day, 330 are flights using B-727 aircraft. (See Table 2.) This means that there is a great potential for reducing noise at National by reducing B-727 flights and substituting other quieter aircraft.

1/ Measured in the L_{DN} metric. The L_{DN} is an average over a 24 hour period, which weights nighttime noise more than daytime noise. Since the comparison made accross aircraft are for an entire 24 hour period, it is implicitly assumed that the share of flights made during the day and night is the same for each aircraft type.

2/ As the area within the 65 dB contour is reduced, the tradeoff in equivelents changes. Close in to the airport, the difference in noise between the quieter and noisier jet aircraft is less. But the difference in noise between jets and turboprops is greater.

3/ Long-haul operations are slightly noisier than short-haul operations because added thrust is necessary to lift the added weight of the extra fuel required for the longer trip. In the subsequent analysis we do not distinguish between long haul and short haul operations.

Table 2 : Description of Aircraft in Domestic Operations Serving Three Washington Area Airports

	Typical Seats	NAE-- Noise Impact Area Equivalents	Present Use: National Ops.	Present Use: Dulles and BWI Ops.
Small Piston				
Navajo	6	.013	9	3
Chiefton	8	.028	0	14
Small Turboprop				
(Embraer, Twin Otter, Metro)	8		28	29
(Beach 99)	15	.018	30	63
(Shorts SD330, NORD 262, Mohawk 298)	25-30		67	54
Medium Turboprop				
YS-11	58	.018	20	0
DeHavilland DHC-7	50	.010	32	8
Small Turbofan				
Fokker FJF	60		0	2
BAC-111	74	.152 SH	32	34
B-737	102	.164 LH	62	4
Medium Turbofan				
DC9, DC9S, DC9-50	75-115	.312 SH .357 LH	113	69
B-727,B-727S	101-131	1.000 SH 1.111 LH	330	94
Large Turbofan				
DC-10	255	.071 SH	0	19
L-1011	268	.093 LH	0	5
B-707	154		0	17
D8S	194		0	6
		Total	723	421

NOTE: SH= short haul NAE values; LH = long haul NAE values.
Sources: Civil Aeronautics Board, Aircraft Operating Cost and Performance Report, July 1979. Official Airline Guide, October 1, 1980. Noise data were obtained from the Civil Aeronautics Board's Environmental Programs Division.

2. Demand for National Airport

The airlines' demand for serving any airport is derived from the value of the service to their customers. In the Washington Area, National Airport is in high demand, because for most travelers it is more convenient than both Dulles or BWI. In this section we offer estimates of the value passengers of scheduled airlines place on using National rather than Dulles. 1/

The calculations of the value of National for scheduled service passengers are summarized in Table 3. The calculations assume the intended destination is downtown Washington. They obviously do not apply to all travelers, but they do provide reasonable indications of the value of access to National. The major conclusions of the analysis are not substantially affected by changing the assumptions.

The calculations indicate that a "business" traveler (who values time at $20 per hour) would be willing to pay about $24 to arrive at National rather than Dulles. A "vacation" traveler (who values time at only $5 per hour) would still be willing to pay about $9 to arrive at National rather than Dulles. The "vacation" traveler calculation suggests that even travelers that place virtually no value on their time still must pay about $5 greater ground transportation costs from Dulles than from National. 2/

If we assume that on average one half of the travelers to Washington are business travelers and one-half are vacation travelers, the average travelers value of using National airport equals ($24 + $9) / 2 = $16.50. We will use

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1/ General aviation operators also tend to prefer to use National. In the next section, where estimates of fees are made, we make assumptions about the the value of National Airport for use by nonscheduled air service. Before the proposed fee system is instituted at National Airport, an analysis of general aviation demand for the airport is required.

2/ There are two opposing factors that may cause the value of National for short haul travelers to differ from these estimates: (1) These estimates assume that a flight to Dulles is the second best alternative to a flight to National. In many short haul markets this assumption may be invalid; a trip by auto or by train may be a better alternative than a flight to Dulles. The estimates in Table 1 therefore tend to overstate the value of National for short haul travelers with a given value of time. (2) However, it is expected that "business travelers" are a higher percentage of short haul travelers than of long haul travelers, because only travelers that value time highly will choose to fly on shorter trips. For the sake of simplicity, we will assume these opposing factors offset each other for the short haul flights serving National.

Table 3: Traveler Demand for Service to Washington National 1/

	"Business Traveler"	"Vacation Traveler"
Value of Time	$20/hr.	$5/hr.
Transportation Costs		
Dulles	$15 (cab)	$6 (bus)
National	$ 6 (cab)	$ .75 (subway)
Difference	$ 9	$5.25
Travel Time 2/		
Dulles	65 min.	80 min.
National	20 min.	35 min.
Difference	45 min.	45 min.
Value of Time Difference	$15	$3.75
Total Cost Difference	$24	$9

1/ Based on a trip to downtown Washington

2/ Includes expected waiting time of 5 minutes for a cab, 20 minutes for a bus, and 15 minutes for the subway.

this figure subsequently in estimating the demand for National. It must be noted this figure overestimates the average value of National since some travelers have origins or destinations in the Maryland and Virginia suburbs that may be more convenient to Dulles than National. Also, Dulles offers lower daily parking rates; so travelers that drive to the airport might prefer Dulles. Nevertheless, although derived by very simple calculations, we believe this estimate roughly approximates the value of using National. Indeed, the demonstrated strong preferences of travelers for using National argue that the average value of using National is substantial. 1/

The airline's desire to operate a flight into or from National is determined by the sum of the demands of all the passengers on the flight. Thus, for a flight carrying N passengers, the demand from National is Nx$16.50. Thus, the total amount an airline is willing to pay to use National is directly proportional to the number of passengers it carries.

Before moving on to discuss the determination of fees, two additional points relating to these demand estimates need to be raised. First, in considering the future use of National, we must not lose sight of the fact that shifting flights to National yields substantial real savings for Washington travelers. Using the $16.50 demand estimate, a plane carrying 100 passengers to National rather than Dulles saves $16.50 in time and ground travel costs. Over a year's time serving an average of 100 additional passengers per hour, five days a week would reduce time and travel costs by nearly $6.5 million.2/

The second point is that managing the use of National by encouraging the the use of BWI and Dulles is equally as effective as is discouraging the use of National. The derived demand for National is based to a large extent on the travelers' savings in time and cost in getting to the local destination from National relative to the outlying airports. Thus making Dulles or BWI more convenient and less costly to use will reduce travelers' demands on National.

It is encouraging that this point has been recognized: recently the FAA lowered landing fees at Dulles. Since then Air Florida has shifted some of its operations to Dulles, and the FAA reports that it has received favorable responses from other airlines. 3/ More aggressive promotion of Dulles for air travelers could aid further in reducing demands on National.

1/ For example, compare traffic in the Dallas-Washington market with the Dallas-N.Y. market. Dallas is beyond the 650 mi. perimeter rule and therefore receives nonstop service only from Dulles and BWI in the Washington area. The CAB's Service Segment Data for the 12 months ending September 1980 show that in the Washington-Dallas market, less than 70 percent of travelers fly nonstop, whereas in the New York-Dallas market, more than 95 percent of travelers fly nonstop. This suggests that many passengers value arriving at or departing from National enough that they choose to make a stop or connection en route rather than to use nonstop service at Dulles or BWI.

2/ 52 weeks x 5 days x 15 hours x $1,650 = $6.4 million.

3/ Aviation Daily, December 12, 1980, page 210.

3. Fees at National Airport

Having estimated the capacity of National Airport and estimated a passenger's demand for use of National Airport, it is possible to present some examples to estimate the fees necessary to limit demand to equal capacity. Three fee mechanisms are compared here: a slot fee, a noise fee, and a passenger fee. 1/ We begin by briefly describing how each fee is calculated, and we present examples to show the rankings of the ability to pay fees for several kinds of aircraft. In the second part of the section, we simulate the use of these fees to limit the demand for National to equal the present capacity of National.

Slot Fee: Earlier the value of a scheduled flight into National was defined as N x $16.50, where N is the number of passengers and $16.50 is the average passenger's value of using National. Therefore, the demand for a slot by a scheduled airlines is directly proportional to the number of passengers carried. Table 4 below shows the amount an airline would be willing to pay for a slot for representative aircraft that now serve Washington area airports. These figures assume a load factor of 75 percent.

Table 4: Ability of Representative Aircraft to Pay for Slots

Kind of Aircraft	Seats	Value of Flight (= Seats x .75 x $16.50)
DC-10	255	$3156
B-727-200	132	1634
DC-9-50	115	1423
B-737-200	102	1262
BAC-111	74	916
YS-11	58	718
DHC-7	50	619
Shorts-330	30	371
DHC-6	18	223
Piper Navajo	6	74

1/ As a practical matter, it may be desirable to use a fee based on available seats rather than based on passengers. It will be easier to enforce a seat fee, especially if industry standard configurations are assumed for each kind of aircraft. The only difference between the two mechanisms is that an airlines willingness to pay a passenger fee depends only on the passengers' willingness to pay, whereas a seat fee depends on the aircraft load factor as well as the passengers willingness to pay.

It is immediately clear from these rankings that small aircraft cannot compete effectively for slots against the larger aircraft. For example, even if the load factor in a DHC-7 were 100 pct. the value of National would be $825; a half-full B-727-200 can still pay more than the DHC-7 flight. Thus, small aircraft--including the larger turboprops--will tend to get shifted into off peak hours where demand in markets served by the larger jet is low, or they will not operate at National Airport. (This explains why proponents of slot auctions or slot fees have always proposed that a certain share of slots be set aside for use by small aircraft.)

The value of a slot for general aviation equipment would be expected to fall at the lower end of the range. Aircraft used by high salaried corporate executives might value a slot as highly as an operator of a 58-seat YS-11,$718. Other general aviation operators would value a slot at less than the operator of a six-seat Piper Navajo, $74.

Noise Fee: The noise fee we propose is based on the NAE units of noise described in Section 1. Since there is a linear relationship between the amounts of noise created by different kinds of aircraft using this noise metric, we assume the fee is based on the units of noise. We have already noted that the total amount an airline is willing to pay for each flight is Nx$16.50. The NAE value shows the noise of each aircraft relative to the noise of a B-727 flight. (See Table 2.) A flight's value to noise ratio is equal to the value of the flight divided by the NAE noise units. In this calculation, the value per noise unit is higher the more passengers on a flight or the quieter the flight. Clearly the greater a flight's value per noise unit, the greater the efficiency of the aircraft with respect to noise. Column 4 of table 5 shows the value for the same representative aircraft as were included in table 4. A DHC-7 makes .01 as much noise as a B-727. Since we estimate each DHC-7 flight has a total value of $619 (assuming 75 pct. load factor), the value per unit of noise is $619/.01 = $61,900.

Table 5 shows that the medium to large turboprops and the new widebodied jets rank at the top of the list, in terms of their ability to compete for access when a noise fee is charged. The DC-9 and B-727, the two most common kinds of aircraft serving National, rank at the bottom of the list. These older, narrow bodied jets, are the noisiest of the aircraft serving National both in absolute terms and relative to the number of passengers they carry.

Table 5: Ability of Representative Aircraft to Pay for Noise

(1) Kind of Aircraft	(2) Value of Flight (Table 4)	(3) Noise per Flight	(4) Value per Unit of Noise (= (2) / (3))
DHC-7	$ 619	.010	$61,900
DC-10	3156	.071	44,451
YS-11	718	.018	39,889
Shorts-330	371	.018	20,611
DHC-6	223	.018	12,389
B-737	1262	.152	8,303
BAC-111	916	.152	6,026
Piper Navajo	74	.013	5,692
DC-9	1423	.312	4,561
B-727-200	1634	1.000	1,634

Passenger Fee: The ranking of flights under a per passenger fee does not depend on the size or noise characteristics of an aircraft; instead it depends on the value of access to National of the passengers carried on the flight. In our illustrations we have assumed that each traveler valued National at an average value of $16.50. In fact, the amount each traveler is willing to pay varies, and in addition, the ratio of "business" to "vacation" travelers will vary across flights. For example, if we assume that p represents the fraction of travelers that are business travelers and (1-p) represents the fraction of vacation travelers, the total value of a flight is N(p($24.00) + (1-p)($9.00)). 1/ The average value of access to National increases with p; therefore the airline will be willing to pay more for access the greater is the fraction of business travelers it carries. Available data do not show the extent to which different kinds of aircraft tend to carry systematically different mixes of passengers; we therefore cannot explicitly rank aircraft in the same way at in table 4 and table 5.

1/ We use average rather than marginal valuation because the airlines are assumed to distinguish between business and vacation travelers in service and pricing. If airlines did not distinguish, the demand value is the value of the marginal traveler.

Estimates of Fees: To estimate the fees required to balance demand with capacity at National, it is first necessary to estimate how many aircraft of each kind will compete to use the airport. Given predicted demand, we estimate the fees necessary to achieve efficient access to the airport. We also demonstrate that using a slot fee to reduce noise is inefficient.

When fees are instituted we can expect airlines to adjust schedules and operations. Therefore, it is impossible to predict exactly what aircraft will wish to serve National with a given fee structure. 1/ Presumably, the flights presently serving National will continue to demand access. Some flights currently using Dulles and BWI would also compete for access under a fee system. In this discussion we assume that demand for access to National Airport consists of flights that currently serve National as well as Dulles Airport. Undoubtedly some flights now serving BWI would also prefer to operate out of National, while additional flights not yet offered in the Washington market would be considered if access to National were increased. 2/ On the other hand, not all flights at Dulles prefer to operate at National. Air Florida, for example, recently shifted some flights to Dulles from National.

1/ Because of the difficulty in accurately forecasting how carriers will respond to a fee system, we earlier recommended a process by which the fee system could be instituted. See page 8.

2/ The October 1, 1980, Official Airline Guide shows that BWI presently handles 20 scheduled flights during the 2:00 pm hour and 30 scheduled flights during the 5:00 pm hour. About one-half of these flights are operated by commuter carriers, which serve many of the communities in the region also served at National.

More than half the flights duplicate service to National. For example, at 5:00 pm six of the 16 jet operations using BWI are operating in New York markets. There is essentially unlimited service from National to LaGuardia Airport with the Eastern Shuttle. The Boston, Atlanta, and Chicago markets also have service at both BWI and National. While some of the flights in these markets may attract only "spillover" traffic from National, most are undoubtedly intended to serve Baltimore and the Maryland suburbs. Only five of the 30 total flights at 5:00 pm are from outside the National perimeter. (These are flights from Los Angeles and Abilene, and flights to New Orleans, Denver, and Houston.) At 2:00 pm only two of the 20 total flights serve nonstop markets outside the National perimeter. (Both flights serve Houston.)

Table 6 summarizes the present use of National and Dulles by scheduled flights for an off peak hour and a peak hour of the day. During the 2 o'clock hour, a total of 46 scheduled operations (domestic only) occur at National or Dulles. During the 5 o'clock hour, these airports presently accommodate a total of 65 scheduled operations. Thus it is clear that the fees adopted should reflect differences in demand for the different hours of the day. 1

Table 6: Present Use of National and Dulles by Scheduled Carriers During 2 o'clock hour and 5 o'clock hour (October 1980 OAG)

	2 o'clock PM Hour			5 o'clock PM Hour		
	National	Dulles	Combined	National	Dulles	Combined
Flights	45	1	46	48	17	65
Available Seats	4073	132	4205	4472	3028	7500
Passengers (75 pct. Load Factor)	3054	99	3153	3354	2268	5625
NAE Noise Units	23.31	1.0	24.31	25.74	5.02	30.76

1/ Our calculations do not include extra sections of scheduled flights.

Earlier, we established the capacity limits of the airport as 70 IFR flights per hour, 86 VFR flights per hour, 3,500 passengers per hour, and the present level of noise created by scheduled operations during the 5 o'clock hour. 1/

During the 2 o'clock hour 24 general aviation flights would have to demand access to National in order for slots to be a binding constraint. We expect that less than 24 general aviation aircraft demand access to National at 2:00 pm. The number of passengers at that time does not tax the airport's capacity: Only 4205 seats are available, and a load factor of over 83 percent is necessary to handle 3500 passengers. This is well above observed load factors at that time of day. Although the noise of scheduled operations does increase slightly above the present level, the noise remains below the limit. Thus the capacity of National exceeds present levels of demand even during IFR conditions. Consequently, the landing fees at 2 o'clock could conceivably be reduced from their current levels.

We assume that 30 general aviation aircraft wish to serve National at 5 o'clock. Combined with the 65 scheduled operations described in Table 6, it is clear demand at 5 o'clock exceeds the present capacity of National Airport in all dimensions even during VFR conditions. We now consider the fees necessary to limit the quantity of demand to equal capacity.

In order to limit activity at National a fee must be set so that on some flights passengers would prefer that the flight be operated at a different time or at a different airport. 2/ This would happen if after the imposition of the fee passengers on those flights found that their full travel cost would be minimized if the flight were operated at Dulles. 3/

1/ Although some general aviation aircraft make substantial amounts of noise, lack of data has forced us to exclude them from the calculations. In effect, our examples set a separate limit on the noise created by scheduled operations, and ignore the increases or decreases in the noise generated by general aviation operators under the fee system. In practice a single limit should be set on total noise.

2/ Also, a flight might be consolidated with another, or in some cases, not operated at all.

3/ We are assuming that demand into the Washington Area is inelastic. We also assume that, with the fee system, fares to Dulles will be less than fares to National and that the traffic (or load factors) on flights shifted to Dulles would not change. If the load factors on flights shifted to Dulles were to fall, then the fees at National Airport would be somewhat higher than our estimates. Additionally, we are assuming that the ultimate destination of all passengers that use National Airport is the Washington, D.C. metropolitan area. Passengers making connections would be willing to use one of the other airports. To the extent that the fee system encourages the use of the other airports by connecting passengers, it is efficient.

In estimating fees we use actual market load factors. 1/ In most markets, demand at 5:00 is higher than at other times of the day; therefore, using market load factor tends to understate the value of access. This leads to an underestimate of the fees. On the other hand, the relative value of access among flights should not be affected greatly by this asssumption. Between two markets, the one whose flights have the higher load factor at 5 o'clock will also tend to have a higher market load factor.

We first discuss the fees necessary to maintain noise at present levels during VFR conditions. One approach is to reduce the number of slots. If a slot fee (or auction) were used to limit noise at National, then those flights that generated the most value per landing or take-off would get access. Such an approach favors the larger and generally noisier aircraft. Thus in order for a slot system to keep noise to present levels, only 39 scheduled landings and take-offs could be permitted. The smallest plane that would receive access is a DC-9, while all the DC-10's and B-727-200's would get access. No commuter operations get access. The price per slot would be $907.50, so the average price per passenger is $7.79 (See Table 7). 2/ We assume that no general aviation operations would be willing to pay such a fee, and therefore there would be no general aviation operations during that time. Clearly the airside capacity is underutilized, even during IFR conditions. Groundside capacity (3,500 passengers) per hour would be overutilized if the average load factor in these flights exceeded 58 percent.

If a noise fee were adopted, then 60 scheduled flights could operate and not exceed the noise limit; the fee of $1,006.50 per B-727 noise equivalent would induce five B-727's to operate at another airport. The fee is high because B-727's are large, and based on our assumptions, value highly the use of National. They are also the noisiest aircraft so the fee charged must be sufficient to discourage their use of the airport. For most aircraft, the noise fee would not be nearly as high as the B-727's fee. For example, the next noisiest plane presently serving National is the DC-9 (NAE = 0.32), whose fee would be $324.68 (i.e., 1006.50 x 0.32). The noise fee of a B-737 is $152.50, a DC-10 pays $68.47, and a DHC-7 pays only $10.52. Thus the noise fee system entails charges that are relatively small for all but the noisiest aircraft. 3/

1/ Commuter airlines do not report service segment data and, hence, we did not have load factor data for them. We assumed that all commuter aircraft operated at a 50 percent load factor.

2/ The scheduled flights using Dulles and National on October 1980 are ranked by their willingness to pay for slots in Appendix A.

3/ Scheduled flights using National and Dulles in October 1980 are ranked by their willingness to pay a noise fee in Appendix B.

- - C O R R E C T I O N - -

Table 7 in our initial comments was in error. The attached table corrects the error.

The table compares the outcome when a noise fee is used to control access at National with the outcome when a slot fee is used to control access. In both cases, the goal is to keep noise at present levels. The predicted numbers are based on the demand assumptions outlined in our comments.

Table 7: Outcomes when Fees are Used to Restrict Noise at National

	Slot Fee	Noise Fee (25.75 NAE Units)
Flights	39	60
Seats	6055	6964
Passenger (Market load factors)	3789	4296
NAE Noise Units	25.34	25.76
Fee	$907.50/flight	$1006.50/NAE
Average Cost per Passenger (Market load factors)	$ 9.34	$ 6.07

Groundside congestion should be reduced by deterring those flights for which the average passenger value of using National is low. For example, if most passengers on a wide-bodied flight have a low value of time, then the average value these passengers place on landing at National would be less than $16.50. 1/ If, on the other hand, the passengers on commuter aircraft have a high value of time then the average value those passengers place on landing at National would be substantially above $16.50. In this case, a passenger fee would induce the wide-bodied aircraft, rather than the commuter aircraft, to cease operating at National. Earlier we calculated that a leisure passenger would be willing to pay $9.00 to land at National as opposed to Dulles. When fees for a flight at National exceeds $9.00 per passenger on flights landing at National, then operators of flights with predominately leisure passengers would face an incentive to shift those flights to Dulles.

We do not have information on the percentage of leisure or personal travel on flights into Washington, therefore, we predict neither the fee nor the flights that would move to Dulles. Nevertheless, two points related to the passenger component of the fee must be noted. First, we assumed that travelers on flights to and from the Washington area are evenly divided between leisure and time sensitive passengers. If the ratio varied among flights, which it clearly does, then an average fee per passenger of $16.50 (noise plus passenger) would cause roughly one-half the flights to operate at Dulles. This would lead to an underutilization of National. Thus, the average fees per passenger (including noise and passenger components) would be less than $16.50.

Second, the passenger fee and the noise fee are determined simultaneously; the imposition of a passenger fee will reduce the required noise fee. If a passenger fee were added to the previously calculated noise fee, then some flights would no longer be profitably operated at National. As flights cease to operate at National, the noise at National would decline, and, hence, the required noise fee would decline as well.

The addition of the passenger component to the aircraft fee would undoubtedly reduce activity at the airport. Consequently, the number of scheduled flights would fall by more than the four required to bring operations below airside capacity. Over time, the groundside capacity could be expanded and the number of passengers using the airport increased. This would lead to a reduction in fees.

1/ A slot fee tends to favor flights where the total value of the flight is high. The total value passengers of using National for passengers in a large aircraft, e.g., DC-10, will always be higher than the total value of the passengers on a small aircraft.

We have shown that when fees are based on an aircraft's noise and the number of passengers it carries, desired operations at National may be less than the airside capacity of the airport during VFR condtions. 2/ However, even with these fees activity still exceeds capacity under IFR conditions.

Suppose that with the fees required to limit noise and groundside congestion, 52 scheduled flights and 30 general aviation flights still want to use the airport at 5:00 pm. This exceeds the airport's capacity during IFR conditions by 13 flights. 3/ For this calculation, let us say IFR conditions prevail 10 percent of the time.

Previously we argued that a scheduled carrier would be willing to pay up to the value of the flight to its passengers to land at National. Since it would have to pay the previously computed fee under IFR conditions, the amount it would be willing to pay for an IFR reservation would be the difference between the value of the flight and the fees it had to pay -- we will refer to this as a flight's residual value. Since IFR conditions prevail during 10 percent of the time, a carrier would be willing to pay 10 percent of the residual value for an IFR reservation. Thus, if the residual value were $500, the carrier would be willing to spend $50 for an IFR reservation. 4/ If the reservations were sold quarterly, i.e. for 90 days, this carrier would be willing to pay $4,500 for an IFR reservation. Since the frequency of IFR conditions change during the year, the value of an IFR reservation will also vary. General aviation aircraft operating during IFR would have to pay a fee, rather than purchasing a reservation. The IFR fee for general aviation equipment would, in theory, be equal to the residual value of the flight that values an IFR reservation least of all the flights that obtain one.

1/ If three 255 seat DC-10's at 75 percent load factors decided not to operate at National, the remaining number of passengers using National at 5:00 pm would still exceed the groundside capacity.

2/ If the noise fee induced carriers to alter substantially their mix of aircraft serving National, then airside capacity might become a limiting factor during VFR conditions. Also, if the groundside capacity were increased, then airside capacity would become a limiting factor.

3/ We recommend that IFR reservations be sold so that during 80 percent of the time IFR conditions prevail all the carriers with IFR reservations would have access to the airport. During 20 percent of the time, the airport's capacity would be less than the number of reservations. Among those with reservations at those times, access would be awarded on a first come first served basis.

4/ This estimate will understate the value of an IFR reservation if an operator would not schedule flights without reservations.

In order to estimate the price of an IFR reservation, we examined the residual value of the aircraft that would use National if only the noise fee were applied. 1/ Four scheduled flight (three 727's) had a residual value of less than $82.50. A quarterly fee of $747.00 would be sufficiently high that those four flights would not seek an IFR reservation. If nine of the 30 general aviation flights did not value access to National during IFR conditions at $83.00, then those prices would result in demand being equal to capacity during IFR conditions.

1/ Clearly, with the addition of the passenger component, the residual reservations value would be reduced.

III

Concluding Remarks

A number of factors require that access at National Airport be limited. There is evidence that is should be restricted because of groundside congestion and noise as well as airside congestion. Current restrictions on the use of National Airport concentrate only on the latter and thereby may be preventing the best use of National Airport.

We maintain that a properly constructed fee system would lead to better service for travelers to the Washington, D.C. metropolitan area. This paper shows how such a system might operate and provides some estimates of the fees airlines would pay under the system.

In developing the case for a fee system, we made a number of assumptions about the capacity of National Airport and about passenger and airline demand. In general, we believe these assumptions to be reasonable. Nevertheless, changing the assumptions will not lead to a change in the policy recommendation In fact, we would urge that DOT attempt to more accurately quantify the capacity of National, as well as the demand for it, prior to issuing a fee schedule.

We recognize that the estimates provided are imprecise. However, if the initial fees do not lead to an efficient use of th airport, they can be changed Moreover, fees can be changed in response to changing demand. The flexibility in achieving the best use of the airport is one of the prime advantages of a fee system.

A change in fees will not result in airlines' instantaneously altering their desired operations at National. Thus, during some period the use of the airport may exceed its capacity. However, an airport can handle more traffic than its capacity -- though at a cost of delays to airlines and passengers. Giving airlines time to adjust to changes in fees will allow them to develop schedules which are most responsive to their passengers. Again, a fee system provides airlines a greater amount of flexibility than a system which locks them into set allocations.

APPENDIX A

Flights to Dulles and National
Ranked by Willingness to Pay for Slots
(October 1980 OAG)

Market	Airline	Flight Number	Equip-ment	Seats	Market Load Factor	Pass-engers	Noise	Cumulative Noise	Cumulative Passengers
IAD-SFO	TW	63	L10	268	74	199	0.07	0.07	199
LAX-IAD	UA	52	D10	255	74	190	0.07	0.14	389
IAD-SFO	UA	57	D10	255	74	190	0.07	0.21	578
SFO-IAD	TW	64	L10	268	61	164	0.07	0.28	742
IAD-LAX	TW	891	L10	268	58	156	0.07	0.35	898
IAD-SEA	NW	79	D10	255	60	154	0.07	0.43	1052
IAD-LAX	AA	75	D10	255	58	148	0.07	0.50	1200
IAD-LAX	UA	55	D10	255	58	148	0.07	0.57	1348
BOS-IAD	NW	79	D10	255	50	128	0.07	0.64	1476
DEN-IAD	UA	632	D8S	194	58	112	1.00	1.64	1588
ATL-DCA	DL	222	72S	132	74	98	1.00	2.64	1686
DCA-ATL	EA	137	72S	132	74	98	1.00	3.64	1785
IAD-DEN	CO	45	72S	132	74	98	1.00	4.64	1883
STL-DCA	AA	102	72S	132	72	96	1.00	5.64	1978
STL-DCA	TW	536	72S	132	72	96	1.00	6.64	2074
IAD-PHX	AA	115	707	154	60	93	1.00	7.64	2167
DCA-BOS	DL	316	72S	132	65	85	1.00	8.64	2253
LGA-DCA	EA	1501	72S	132	65	85	1.00	9.64	2338
LGA-DCA	AA	149	72S	132	65	85	1.00	10.64	2423

APPENDIX A (page 2)

Market	Airline	Flight Number	Equip-ment	Seats	Market Load Factor	Pass-engers	Noise	Cumulative Noise	Cumulative Passengers
DTW-DCA	NW	362	72S	132	60	80	1.00	11.64	2503
ORD-DCA	TW	290	72S	132	60	80	1.00	12.64	2583
DCA-ORD	AA	149	72S	132	60	80	1.00	13.64	2662
DCA-ORD	UA	835	72S	132	60	80	1.00	14.64	2742
DCA-ORD	TW	449	72S	132	60	80	1.00	15.64	2821
DCA-BOS	EA	866	D9S	115	65	74	0.31	15.95	2896
DCA-SDF	PI	204	73S	102	71	72	0.15	16.10	2968
DCA-MCO	NA	585	727	101	69	70	1.00	17.10	3038
DCA-MSP	WA	505	72S	132	53	69	1.00	18.10	3107
DCA-MSP	NW	85	72S	132	53	69	1.00	19.10	3177
CLT-DCA	EA	388	D9S	91	74	68	0.31	19.41	3244
DCA-MEM	AA	423	72S	132	50	66	1.00	20.41	3310
DCA-STL	TW	401	72S	132	50	66	1.00	21.41	3376
GSL-DCA	PI	256	73S	102	60	62	0.15	21.57	3438
DCA-GSO	PI	223	73S	102	60	62	0.15	21.72	3499
MEM-DCA	AA	528	727	101	60	61	1.00	22.72	3560
DCA-LGA	EA	1500	72S	132	45	60	1.00	23.72	3620
DCA-BUF	AL	181	D9S	91	66	60	0.31	24.03	3679
TPA DCA	NA	592	727	101	54	55	1.00	25.03	3734
DCA-SYR	AL	82	D9S	91	60	55	0.31	25.34	3789
BNA-DCA	BN	116	727	101	53	54	1.00	26.34	3843
DCA-BNA	BN	205	727	101	53	54	1.00	27.34	3897
DCA-BDL	AL	434	B11	74	72	53	0.15	27.49	3950
DCA-TYS	UA	989	737	102	50	51	0.15	27.65	4001
DCA-PVD	AL	246	D9S	91	55	50	0.31	27.96	4051

APPENDIX A (page 3)

Market	Airline	Flight Number	Equip-ment	Seats	Market Load Factor	Pass-engers	Noise	Cumulative Noise	Cumulative Passengers
ORF-DCA	AL	207	D9S	91	54	49	0.31	28.27	4099
DFW-IAD	AA	58	727	101	46	47	1.00	29.27	4146
DCA-STL	OZ	557	D9S	91	50	46	0.31	29.58	4191
MDW-DCA	ML	56	DC9	75	60	45	0.31	29.90	4237
CVG-DCA	AL	434	B11	74	58	43	0.15	30.05	4280
IAD-ATL	RC	290	DC9	75	55	41	0.31	30.36	4321
HSV-DCA	UA	722	737	102	36	37	0.15	30.51	4358
DCA-PHL	AL	912	DH7	50	71	35	0.01	30.52	4393
DCA-LYH	PI	941	YS1	58	59	34	0.02	30.54	4427
BAL-DCA	AL	610	DH7	50	46	23	0.01	30.55	4450
DCA-MDT	AL	720	SH3	30	72	22	0.02	30.57	4472
MDT-DCA	AL	719	SH3	30	50	15	0.02	30.59	4487
DCA-BAL	AL	609	SH3	30	46	14	0.02	30.60	4501
DCA-MDT	AL	1720	BET	15	72	11	0.02	30.62	4512
BGM-DCA	CB	500	SWM	18	50	9	0.02	30.64	4521
HVN-DCA	NC	35	EMB	18	50	9	0.02	30.66	4530
DCA-ABE	AK	112	BET	15	55	8	0.02	30.68	4538
DCA-ARK	VM	37	BET	15	50	8	0.02	30.69	4545
MNZ-IAD	CJ	70	BET	15	50	8	0.02	30.71	4553
IAD-BGM	CJ	70	BET	15	50	8	0.02	30.73	4560
POU-IAD	ZB	46	PAG	8	66	5	0.03	30.76	4565

SOURCES: See Table 2, page 16. Plus, market load factor data were obtained from the Civil Aeronautics Board's Service Segment Data.

APPENDIX B

Flights to Dulles and National
Ranked by Willingness to Pay for Noise Rights
(October 1980 OAG)

Market	Airline	Flight Number	Equip-ment	Seats	Market Load Factor	Noise	Cumulative Noise	Cumulative Passenger
DCA-PHL	AL	912	DH7	50	71	0.01	0.01	35
IAD-SFO	TW	63	L10	268	74	0.07	0.08	235
LAX-IAD	UA	52	D10	255	74	0.07	0.15	424
IAD-SFO	UA	57	B10	255	74	0.07	0.22	614
SFO-IAD	TW	64	L10	2688	61	0.07	0.29	778
BAL-DCA	AL	610	DH7	50	46	0.01	0.30	801
IAD-LAX	TW	891	L10	268	58	0.07	0.38	956
IAD-SEA	NW	79	D10	255	60	0.07	0.45	1110
IAD-LAX	AA	75	D10	255	58	0.07	0.52	1259
IAD-LAX	UA	55	D10	255	58	0.07	0.59	1407
DCA-LYH	PI	941	YS1	58	59	0.02	0.61	1441
BOS-IAD	NW	79	D10	255	50	0.07	0.68	1568
DCA-MDT	AL	720	SH3	30	72	0.02	0.70	1590
MDT-DCA	AL	719	SH3	30	50	0.02	0.71	1605
DCA-BAL	AL	609	SH3	30	46	0.02	0.73	1619
DCA-MDT	AL	1720	BET	15	72	0.02	0.75	1630
BGM-DCA	CB	500	SWM	18	50	0.02	0.77	1639
HVN-DCA	NC	35	EMB	18	50	0.02	0.78	1648

APPENDIX B (page 2)

Market	Airline	Flight Number	Equip-ment	Seats	Market Load Factor	Noise	Cumulative Noise	Cumulative Passenger
DCA-SDF	PI	204	73S	102	71	0.15	0.94	1720
DCA-ABE	AK	112	BET	15	55	0.02	0.95	1728
DCA-ARX	VM	37	BET	15	50	0.02	0.97	1736
MNZ-IAD	CJ	70	BET	15	50	0.02	0.99	1743
IAD-BGM	CJ	70	BET	15	50	0.02	1.01	1751
GSO-DCA	PI	256	73S	102	60	0.15	1.16	1812
DCA-GSO	PI	223	73S	102	60	0.15	1.31	1874
DCA-BDL	AL	434	B11	74	72	0.15	1.46	1927
DCA-TYS	UA	989	737	102	50	0.15	1.61	1978
CVG-DCA	AL	434	B11	74	58	0.15	1.77	2021
HSV-DCA	UA	722	737	102	36	0.15	1.92	2058
DCA-BOS	EA	866	D9S	115	65	0.31	2.23	2132
CLT-DCA	EA	388	D9S	91	74	0.31	2.54	2200
DCA-BUF	AL	181	D9S	91	66	0.31	2.85	2260
POU-IAD	ZB	46	PAG	8	66	0.03	2.88	2265
DCA-SYR	AL	82	D9S	91	60	0.31	3.20	2320
DCA-PYD	AL	246	D9S	91	55	0.31	3.51	2369
ORF-DCA	AL	207	D9S	91	54	0.31	3.82	2418
DCA-STL	OZ	557	D9S	91	50	0.31	4.13	2464
MDW-DCA	ML	56	DC9	75	55	0.31	4.76	2550
IAD-ATL	RC	290	DC9	75	55	0.31	4.76	2550
DEN-IAD	UA	632	D8S	194	58	1.00	5.76	2662
ATL-DCA	DL	222	72S	132	74	1.00	6.76	2760
DCA-ATL	EA	137	72S	132	74	1.00	7.76	2859
IAD-DEN	CO	45	72S	132	74	1.00	8.76	2957

APPENDIX B (page 3)

Market	Airline	Flight Number	Equip-ment	Seats	Market Load Factor	Noise	Cumulative Noise	Cumulative Passenger
STL-DCA	AA	102	72S	132	72	1.00	9.76	3052
STL-DCA	TW	536	72S	132	72	1.00	10.76	3148
IAD-PHX	AA	115	707	154	60	1.00	11.76	3241
DCA-BOS	DL	316	72S	132	65	1.00	12.76	3327
LGA-DCA	EA	1501	72S	132	65	1.00	13.76	3412
LGA-DCA	AA	149	72S	132	65	1.00	14.76	3497
DTW-DCA	NW	362	72S	132	60	1.00	15.76	3577
ORD-DCA	TW	290	72S	132	60	1.00	16.76	3657
DCA-ORD	AA	149	72S	132	60	1.00	17.76	3736
DCA-ORD	UA	835	72S	132	60	1.00	18.76	3816
DCA-ORD	TW	449	72S	132	60	1.00	19.76	3895
DCA-MCO	NA	585	727	101	69	1.00	20.76	3965
DCA-MSP	WA	505	72S	132	53	1.00	21.76	4034
DCA-MSP	NW	85	72S	132	53	1.00	22.76	4104
DCA-MEM	AA	423	72S	132	50	1.00	23.76	4170
DCA-STL	TW	401	72S	132	50	1.00	24.76	4236
MEM-DCA	AA	528	727	101	60	1.00	25.76	4296
DCA-LGA	EA	1500	72S	132	45	1.00	26.76	4356
TPA-DCA	NA	592	727	101	54	1.00	27.76	4411
BNA-DCA	BN	116	727	101	53	1.00	28.76	4465
DCA-BNA	BN	205	727	101	53	1.00	29.76	4519
DFW-IAD	AA	58	727	101	46	1.00	30.76	4565

SOURCES: See Appendix A, page 34.