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AIRLINE COMPETITION

Industry Operating and Marketing Practices Limit Market Entry

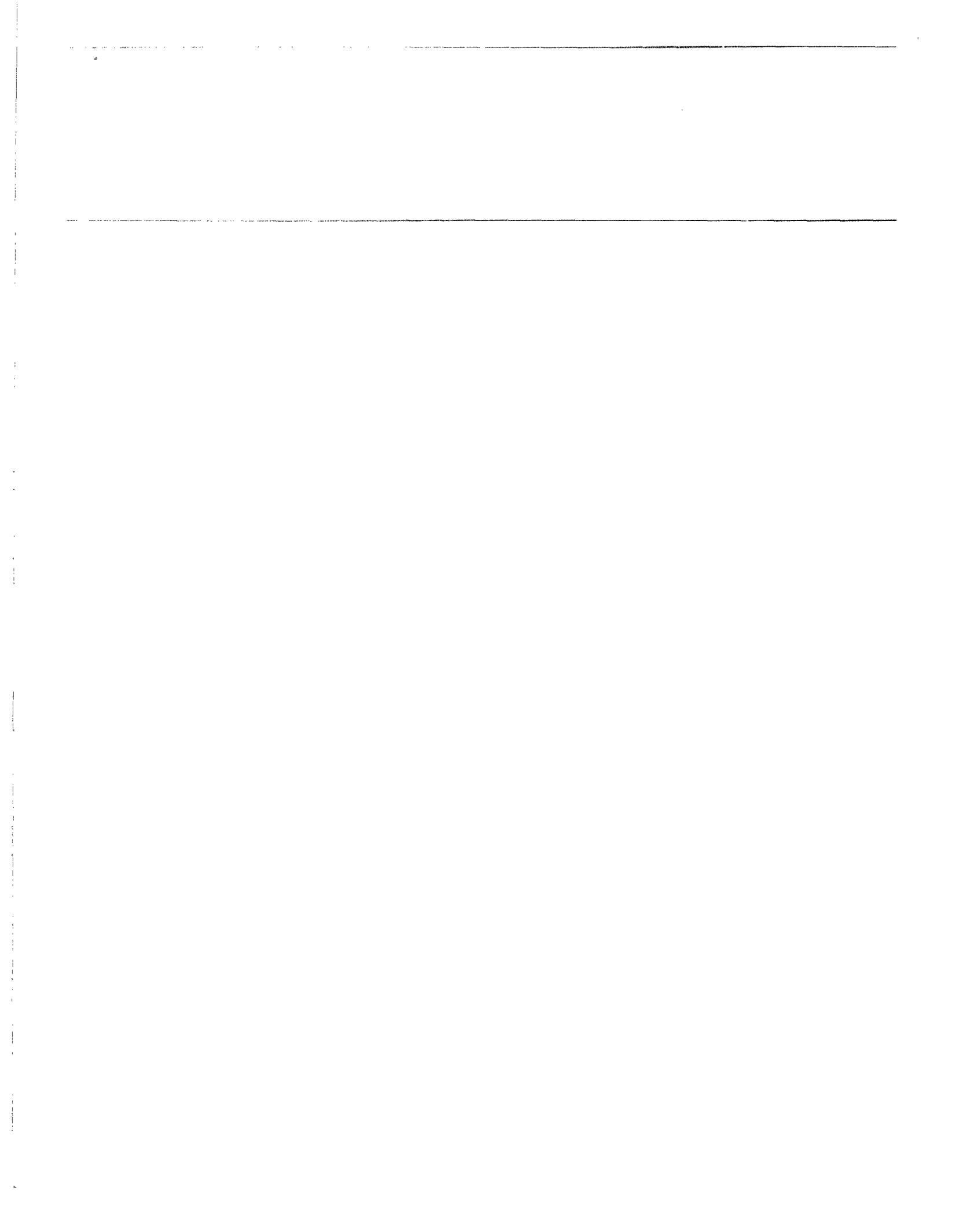


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**Resources, Community, and
Economic Development Division**

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August 29, 1990

The Honorable John C. Danforth
Ranking Minority Member, Committee
on Commerce, Science,
and Transportation
United States Senate

The Honorable Jack Brooks
Chairman, Committee on the Judiciary
House of Representatives

In response your requests, this report provides information on how various airline industry operating and marketing practices limit entry into the deregulated airline industry and how they affect competition in that industry. Specifically, we identified two major types of barriers. The first type is created by the unavailability of the airport facilities and operating rights an airline must have in order to begin or expand service at an airport. The second type is created by airline marketing practices that have come into widespread use since deregulation.

As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to the Secretary of the Department of Transportation; the Administrator, Federal Aviation Administration; and interested congressional committees. We will also make copies available to others upon request.

If you have any questions about this report, please contact me at (202) 275-1000. Major contributors to this report are listed in appendix XIII.

Kenneth M. Mead
Director, Transportation Issues

Executive Summary

Purpose

When the Congress passed the Airline Deregulation Act in 1978, it sought to foster competition so as to promote lower fares and good service. However, rising fares and a wave of mergers and bankruptcies have raised concerns that conditions in the industry are less conducive to competition than expected in 1978.

The Ranking Minority Member of the Senate Committee on Commerce, Science, and Transportation and the Chairman of the House Committee on the Judiciary asked GAO to identify what changes had occurred in the airline industry and whether they can result in barriers to entry that reduce competition by making it more difficult for new airlines to begin service or existing airlines to serve new markets. This report provides information on how these barriers to entry work to limit competition. It is one of a series of GAO reviews on competition in the nation's airline industry and complements our recent report Airline Competition: Higher Fares and Reduced Competition at Concentrated Airports (GAO/RCED-90-102, July 11, 1990).

Background

The Civil Aeronautics Board (CAB) had regulated the airline industry since 1938, controlling what routes airlines could fly and what fares they could charge. When the Congress passed the Airline Deregulation Act in 1978, proponents of the act believed that regulation kept new carriers out of the market and discouraged competition. They thought that eliminating controls on fares and entry would allow new airlines to start service and existing airlines to enter new markets, that vigorous competition would result, and that consumers would benefit through lower air fares and better service. In the first few years after deregulation, new airlines did begin service, existing airlines entered new markets, and consumers benefitted. However, most new entrants eventually went bankrupt or merged with the established airlines and many of the nation's major airports became dominated by one or two airlines.

To inaugurate service in a new market, an airline must have access to essential airport facilities, including gates, ticket counters, and baggage facilities. In addition to gaining access to the airport, a potential competitor must be able to attract passengers, generally by marketing its services through travel agents. To assess how easily airlines could get access to airports and attract passengers, GAO conducted two surveys. Specifically, GAO surveyed 183 of the nation's airports and 520 travel agents to build an understanding of the difficulties that new or existing airlines have in gaining access to airports and capturing traffic in new markets.

Results in Brief

Both airport access and airline marketing barriers to entry have grown in recent years in ways not anticipated when the industry was deregulated. Airlines face several physical constraints in getting access to airports, including slots, gates, and noise restrictions.

- Department of Transportation (DOT) rules prevent potential entrants from starting service at four major congested airports—Washington National, New York Kennedy and LaGuardia, and Chicago O’Hare—unless they can secure operating authority (known as “slots”) for each take-off and landing. DOT issued a buy/sell rule for slots in 1985 which has virtually ended new entry at the four slot-controlled airports. Since access to these airports is important in developing a competitive route network, slot controls discourage entry into a wide range of markets in addition to those starting or ending at one of the four airports.
- GAO’s airport survey revealed that gates and other essential airport facilities for entrants at most of the nation’s largest airports are limited by long-term exclusive-use leases.
- Some airports, in order to protect people living nearby from airport noise, restrict the number of operations and/or the types of aircraft airlines can use to serve the airports. As yet, these restrictions affect competition at relatively few airports.

Even if airport access is not a problem, airlines might choose not to offer new service because marketing strategies of incumbent airlines inhibit non-incumbents from capturing traffic. For example, frequent flyer plans increase the loyalty of business passengers to the dominant airline at an airport, thus foreclosing much of the business passenger market from new airlines. Computerized reservation systems (CRSS) channel traffic from entrants to the airlines that own CRSS. Bonus commissions paid to travel agents also raise the costs of attracting traffic, while agreements between jet airlines and commuter airlines to integrate service for connecting passengers (called code-sharing agreements) foreclose connecting traffic from non-code-sharing airlines.

Barriers to entry pose a problem for the future of competition in the airline industry, but the appropriate policy response is not clear-cut. Some industry practices such as code-sharing that discourage entry also have benefits for consumers. While expansion of airport capacity would be useful in easing access to some airports, its effects might come too late to preserve the benefits of competition. Ongoing GAO work focuses on how to reach solutions that preserve the benefits of competition while simultaneously preserving the benefits from some of the airline

operating and marketing strategies that threaten to undermine competition.

GAO's Analysis

GAO found that two major categories of barriers to entry have grown in recent years in ways not anticipated when the industry was deregulated: (1) physical barriers which restrict access to airports and (2) marketing strategies that restrict airlines' ability to attract traffic.

Physical Entry Barriers

GAO found that several physical entry barriers have tightened access to airports since deregulation. For example, DOT's 1985 buy/sell rule has not allowed new entry at the four slot-controlled airports. GAO's analysis of FAA data shows that, between December 1985 and December 1988, the eight major airlines increased their control of slots from 70 percent to 96 percent. When slots are not used, the major airlines usually lease them for short time periods rather than sell them to other carriers. Leasing allows the airline to retain control and prevents the lessee from having reliable long-term access. GAO found that slot sales fell from about half of all slot transactions in 1986 to about 10 percent in 1988. (See ch. 2.)

Most of the gates at the nation's largest airports are under long-term exclusive-use leases to the major airlines, according to GAO's airport survey. Furthermore, the eight major airlines control virtually all of the subleased gates, and thus can often set the terms of access to the airport. (See ch. 3.) GAO's survey showed that not only is existing airport capacity controlled by the major airlines, but these airlines also have a major voice in any capacity expansion. For example, more than 78 percent of the airports that are dominated by one or two airlines report having agreements with these airlines that could limit or delay expanding the facilities to accommodate new entrants. (See ch. 4.)

GAO's survey showed that 22 airports of the 183 in our survey have noise restrictions that could affect competition. These airports restrict the use of older, noisier aircraft in order to mitigate the burden of noise on the airport's neighbors. Restricting the use of older aircraft raises the cost of entry for airlines, since it is these older aircraft that are most readily available for purchase or lease. (See ch. 5.)

Airline Marketing Strategies

GAO also found that some of the new marketing strategies airlines have developed since deregulation enhance the position of the dominant airline in a market and limit the available market for new competitors. (See ch. 6.) GAO's analysis showed that:

- Frequent flyer plans foreclose much of the business travel market to entrants, because they encourage passengers to fly on the dominant airline. About 75 percent of the travel agents GAO spoke with said that their business travel customers choose to fly a particular airline more than half the time because of membership in its frequent flyer program.
- Airline-owned CRSS increase the efficiency of marketing airline tickets, but also raise costs for potential entrants. The nation's two largest airlines also own the two CRSS used by 75 percent of the nation's travel agents. Travel agents tend to prefer the airline whose CRS they use, which limits the available market for the new entrant.
- Travel agents told GAO that travelers often let the agent select the airline for them. The agent's choice, however, may be influenced by bonus commissions and other volume incentives paid by airlines. While entrant airlines can pay bonus commissions as well, these bonuses increase marketing costs and may discourage new entry.
- Code-sharing agreements between jet airlines and commuter airlines allow for more convenient connecting flights, but they may also work to eliminate potential competitors by foreclosing connecting traffic from new airlines that do not have such agreements.

Recommendations

In testimony before the Congress, GAO outlined the pros and cons of options to promote airline competition. (See app. XII.) GAO's ongoing work will estimate the effects of these entry barriers on fares and give the Congress a clearer sense of which barriers merit immediate attention. A report synthesizing GAO's work on airline competition, including appropriate recommendations, is planned for issuance early next year. GAO is not making any recommendations in this report.

Agency Comments

As agreed with your offices, GAO did not obtain agency comments on a draft of this report. However, GAO shared the results with agency officials, and a recent DOT report on the airline industry examined many of the same airport conditions and marketing practices as did this report.

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Abbreviations

CAB	Civil Aeronautics Board
CRS	computerized reservation system
DOT	Department of Transportation
FAA	Federal Aviation Administration
GAO	General Accounting Office
MII	majority-in-interest agreements
RCED	Resources, Community, and Economic Development Division
TACO	travel agent commission override

Introduction

When the Congress passed the Airline Deregulation Act of 1978, one of its policy objectives was to foster competition in the airline industry. The law led to the elimination of federal government regulation of air fares and routes. Proponents of the act believed that allowing the airlines freedom to enter and exit markets and adjust fares without lengthy regulatory approval would benefit consumers through the increased efficiency that greater competition would bring to the industry. As a result, in listing the various criteria which the Civil Aeronautics Board (CAB) should consider in the public interest, the act included “maximum reliance on competitive market forces and on actual and potential competition” and “[t]he encouragement of entry . . . by new air carriers, the encouragement of entry into new markets by existing air carriers, and the continued strengthening of small air carriers so as to assure a more effective, competitive airline industry.”¹

Deregulation’s supporters believed that if airlines had the freedom to enter and leave markets at will, the discipline of competitive market forces and the threat of potential entry into individual markets would provide consumers with reasonable fares and good service. Indeed, in the years immediately following deregulation, the elimination of CAB entry regulations allowed many new airlines to compete intensely for air traffic, bringing expanded air service to many communities and lower fares for most travelers. By 1983 the number of markets with nonstop service increased by 77 (4 percent), and by 1984 the number of markets served by more than one airline increased by 651 (55 percent). However, that period of expansion in the industry was followed by a wave of bankruptcies, mergers, and acquisitions that has reduced the number of independent airlines competing in the scheduled passenger service market.

In the first few years after deregulation took effect, 26 airlines began offering scheduled passenger service for the first time. As a result of the influx of new airlines, the market share of the five largest airlines declined from 69 percent of total air traffic in 1978 to 57 percent in 1985. This period of intense competition brought low fares, new air service to some communities, and more frequent air service to other communities. However, by 1984 all but 7 of the 26 new airlines offering scheduled passenger service had ceased operations, and by 1988 the market share of the 5 largest airlines had rebounded to 74 percent.

¹49 U.S.C. app. sec. 1302 (a)(4 and 10) (emphasis added).

Reduced competition in the airline industry affects consumers in several ways. Several of the entrants had lower costs than the established airlines, which meant they could offer low fares to consumers. When low-cost airlines compete in a market, studies have shown that fares are generally lower than fares in markets without a low-cost competitor. For instance, a new competitor in a market may try to build market share by offering passengers lower fares, better service, more frequent flights, or more nonstop flights to some destinations. In response, the incumbent airlines may then try to make their services more attractive to the consumer. Thus, competition can benefit the consumer by broadening the available choices and improving the product or service offered.

Although airlines are now free to change routes and fares without regulatory approval, the Department of Transportation (DOT) has the authority under the Airline Deregulation Act of 1978 to regulate unfair and deceptive trade practices in the airline industry. This authority is the basis for DOT's regulation of airline computerized reservation systems (CRSS), reporting of consumer complaints, and reporting of airlines' on-time flight performance and is intended to promote competition. In addition, DOT regulates the allocation of take-off and landing reservations (called "slots") at four key airports—Washington National, New York's Kennedy and LaGuardia, and Chicago O'Hare. FAA's Slot Administration monitors airline compliance with the provisions of the High Density Rule governing use and trading of slots held by the airlines.

Deregulation Has Changed the Way Airlines Operate

The reduction in the number of competing airlines coincided with changes in industry operating and marketing practices that may have discouraged competitive entry. These changes were in many cases a consequence of deregulation, just as the elimination of CAB entry restrictions were. Deregulation allowed carriers to concentrate their flights at a handful of hub airports, several of which became dominated by one or two airlines. Many of these airports have long-term lease agreements with incumbent airlines that reduce access to those airports. DOT responded to deregulation in 1986 by adopting a new, more market-oriented system for allocating slots at four key airports. Deregulation also encouraged the development of new airline marketing practices, particularly computerized reservation systems, travel agent incentive programs, and code-sharing agreements between airlines.

Airlines Developed Hub-and-Spoke Route Systems

After deregulation, most major and national airlines changed from using the conventional point-to-point route systems to using hub-and-spoke systems.² Under the hub-and-spoke system, an airline gathers passengers from many origination points and collects them at a central location (hub). At the hub, passengers are redirected to their ultimate destinations, often after transferring to other planes. Thus, for instance, 10 passengers arriving from 10 different “spoke” cities can be collected at the hub, put on a single airplane, and delivered to a common destination. This practice is more efficient than flying each passenger directly to that same destination.

The development of the hub-and-spoke system has led to one or two airlines dominating the traffic at some hub airports. To take full advantage of the benefits of a hub-and-spoke route system, the hubbing airline must have access to a large number of gates and other facilities at its hub in order to handle large groups (called “banks”) of incoming and outgoing flights several times a day. Thus, one or two airlines frequently control most of the facilities at hub airports. Competition, particularly on short-haul and nonstop routes, from such hubs could be affected by the hubbing airlines’ control of airport facilities. However, hubbing could enhance competition on long-haul routes if consumers have more choices between competing airlines. For instance, a passenger flying from New York to Los Angeles could conceivably travel through Chicago (a hub for United and American), St. Louis (TWA), Memphis (Northwest), Dallas (Delta), Pittsburgh (USAir), or Denver (Continental).

If most of an airport’s facilities are controlled by one or two incumbent airlines, other airlines seeking to begin or expand service may have to sublease facilities from one of the incumbents. Since subleasing is likely to be more costly than leasing facilities directly from the airport, control of an airport’s facilities by dominant incumbent airlines could limit the opportunities for competition in markets served from those airports, particularly for low-cost airlines. In markets where competitive entry is limited by lack of access to airport facilities, the dominant incumbent airlines may be able to sustain fare increases since passengers in those markets will have fewer choices between competing airlines.

²DOT classifies airlines based on operating revenue. Major airlines have operating revenues in excess of \$1 billion; national airlines, between \$100 million and \$1 billion; and regional airlines less than \$100 million. In 1989 the eight major airlines were American, Delta, Northwest, Pan Am, Texas Air (Continental and Eastern), TWA, United, and USAir (including Piedmont). In January 1990, America West and Southwest were reclassified from national airlines to major airlines. In this report, they are included with the national airlines, their 1989 classification.

The major and national airlines also developed “code-sharing” relationships with smaller commuter airlines to strengthen their hub-and-spoke networks. In a code-sharing partnership, the commuter airline uses the same two-letter airline code as the larger airline so that a connecting flight between the two airlines appears to the passenger to be a change of planes on the same airline. The commuter airline also usually paints its planes with the same colors as its larger code-sharing partner, giving the passenger the impression that the aircraft are both part of the same airline. The purpose of the agreements is to deliver passengers to the larger airline’s flights, allowing it to support flights to a wider range of destinations, and enhancing the efficiency of its hub-and-spoke system.

Airlines Changed the Way They Marketed Their Services

To attract and retain more customers, airlines also made important changes in their marketing practices, offering passengers and travel agents reasons for choosing between competing airlines other than lowest fare or most convenient flight times. These new marketing practices include frequent flyer plans, CRSS, and travel agent incentives. Code-sharing (as described above) is both an operational and a marketing strategy that reinforces passenger loyalty to a particular airline.

Frequent flyer plans seek to ensure that people who frequently travel by air will make most of those trips with one airline. These plans offer incentives, such as free travel, that increase in value with the number of miles flown on the sponsoring airline. American Airlines introduced the first such plan in 1981; since then, all of the major airlines and several of the national airlines have introduced their own plans.

The first external computerized reservation systems were developed by American Airlines and United Airlines from their internal reservation systems and expanded to include travel agents in 1976-77. The most current data available indicate that 81 percent of tickets are sold through travel agencies, and since 95 percent of travel agencies use CRSS, the systems have become an integral part of marketing airline services. The airlines owning the CRS systems (commonly called vendor airlines) get three types of revenue from their systems—booking fees from other airlines for each ticket sold on the other airlines’ flights, subscription fees from the travel agents using the system, and increased airline ticket revenues resulting from agents booking flights on the vendor’s airline. (This revenue from additional ticket sales on the vendor airline is called incremental revenue.) In September 1988 we testified that the computerized reservation systems owned by some airlines earn profits in excess

of what would be expected in a competitive market.³ These high profits are earned through booking fees in excess of costs and through incremental revenues, both of which transfer profits from airlines that do not own CRSS to those that do.

Finally, to build brand loyalty among travel agents, the airlines also developed volume incentives. These incentives include free tickets; VIP club memberships (giving agents the use of special airport waiting rooms); monetary bonuses paid to travel agents who book a large volume of business with one airline (called commission overrides); and overbooking privileges which allow agents to book travelers on flights that appear on the CRS to be fully booked. These programs have the same loyalty-inducing goal as frequent flyer plans and reward agents who surpass a given threshold of ticket sales on the airline providing the incentive. The incentives either provide an extra source of income to agents or allow agents to provide enhanced service to favored clients.

Airline marketing strategies may affect entry and competition. For example, frequent flyer plans could discourage entry if the plans are widely used, especially if passengers base their choice of airline on membership in such plans. Code-sharing agreements could discourage new entry by making it more difficult for entrants to attract enough passengers to compete effectively with the dominant airline at the airport. CRSS could make it more difficult for non-vendor airlines to compete with vendor airlines if booking fees exceed the vendor's costs or if incremental revenues are substantial. Finally, travel agent incentives could limit competitive opportunities if they induce agents to divert traffic to incumbent airlines, especially if the incumbent airlines are better able to offer more attractive incentives than entrants.

FAA Changed the High Density Rule to Allow Selling and Leasing of Slots

In addition to the changes that airlines were making in the way they operated, the new airlines beginning service under deregulation increased the demand for access to four key airports—Washington National, Chicago O'Hare, and New York LaGuardia and Kennedy. Because of severe congestion at these airports and the effect of that congestion on other airports across the nation, advance reservations or

³See *Competition in the Airline Computerized Reservation System Industry* (GAO/T-RCED-88-62, Sept. 14, 1988).

“slots” have been required under the High Density Rule for all scheduled flights from these airports since 1969.⁴ There are separate allocations of slots for air carrier and commuter aircraft at each of the slot-controlled airports (airports where slots are required).⁵ In response to the demand for entry, DOT began exploring ways to make access to those airports more responsive to the market forces unleashed by deregulation.

From 1969 until 1986, slots were allocated by committees made up of representatives of the airlines serving or seeking to serve each of the slot-controlled airports. Slot allocations were negotiated by unanimous agreement in regular meetings of the scheduling committees. Each city subject to the High Density Rule had committees for allocating the slots for each airport. At Washington National, separate committees allocated the air carrier and commuter slots. This system worked reasonably well until deregulation brought an influx of new airlines seeking to offer new scheduled service at these airports. Since all slots were allocated, entrants could gain slots only if incumbents provided them. After deregulation, the incumbent airlines initially tried to accommodate the entrants’ requests, in part because of uncertainty about the way DOT would resolve a deadlock over slot allocations.

In 1980 the committee responsible for allocating air carrier slots at Washington National was unable to reach agreement for the next 6-month period, and DOT issued a Special Federal Aviation Regulation to resolve the deadlock. DOT allocated the slots primarily based on the last 6-month allocation accepted by the committee. Once this initial deadlock was resolved in the incumbents’ favor by continuing the previous allocation with minimal changes, the incumbents had little incentive to continue giving up slots to entrants. By March 1981, the commuter committee at Washington National was deadlocked, and the air carrier committee was deadlocked again.

In December 1985 DOT amended the High Density Rule, allowing airlines to buy and sell slots. DOT had explored several alternatives for allocating slots, looking for a method that would be efficient, would adjust to changing market conditions, and would allow opportunity for entry or

⁴14 C.F.R. Sec. 93, Subpart S.

⁵Air carrier slots are used by airlines operating aircraft having 75 or more seats and turbojet aircraft having 56 or more seats. Commuter slots are used by airlines operating turbojet aircraft having fewer than 56 seats and propeller aircraft having fewer than 75 seats. The air carrier and commuter designations do not correspond to DOT’s classification of airlines as majors, nationals, and regionals, which is based on the airlines’ operating revenues.

expansion while minimizing the government's role in allocation. The 1985 amendment changed the High Density Rule in four major ways. First, the role of the scheduling committees was eliminated, and slots were allocated to the holders of record as of December 16, 1985—that is, incumbents' allocations were "grandfathered."⁶ Second, beginning on April 1, 1986, airlines holding slots were allowed to sell or lease them, subject to Federal Aviation Administration (FAA) approval, setting up a market for transferring slots. Third, DOT instituted a use-or-lose provision requiring that a slot be used 65 percent of the time or be subject to forfeiture and reallocation by FAA. Fourth, DOT set up a lottery process for allocating any new, returned, forfeited, or unallocated slots that become available.

Airports Adopted New Noise Restrictions

At the same time that deregulation was changing the way airlines competed, concerns about aircraft noise were growing, leading to noise restrictions at many airports. In 1969 FAA promulgated noise standards for aircraft, which came to be known as "Stage II" standards ("Stage I" referred to the earlier aircraft that did not meet the standards). By the end of 1985, FAA generally required all aircraft operated in the United States to meet the Stage II standards. In 1977 FAA promulgated a new set of standards defining quieter "Stage III" aircraft. However, there is no requirement that the airlines use Stage III aircraft. Several airports, however, either on their own initiative or in response to litigation from their neighbors, began requiring airlines to use Stage III aircraft.

These noise restrictions may affect competition. For instance, limits on the use of older, noisier aircraft (which are more readily available in the secondhand and lease markets than newer, quieter aircraft) could disadvantage newer or smaller airlines if these airlines make greater use of the older aircraft.

Objectives, Scope, and Methodology

The Ranking Minority Member of the Senate Committee on Commerce, Science, and Transportation, and the Chairman of the House Committee on the Judiciary requested that we provide information on how various barriers to entry affect competition in the airline industry. We agreed to provide data on two types of airline operating and marketing practices that can become barriers to entry: (1) those related to access to airport

⁶As part of the transition from scheduling committees to a slot market, 5 percent of the air carrier slots at Washington National, O'Hare, and LaGuardia were redistributed, in a random lottery having two drawings, to airlines having few or no slots at those airports.

facilities and (2) those related to airline marketing strategies. This report focuses on how these practices affect entry; a subsequent report will assess the relative impact of each of these barriers on airline fares.

The primary source of data on barriers related to airport access was a mail survey of 187 airports. Using FAA's size categories for the communities that airports serve, we classified each of the airports on FAA's list of 414 primary airports as large, medium-sized, or small.⁷ Our sample included all 27 of the large airports and all 39 of the medium-sized airports in the continental United States. We also included 121 of the 163 small airports reporting at least 20 passengers per day to DOT. Of the 187 airports to which we sent the survey, 185 (including all of the large and medium-sized airports) responded, for a 99-percent response rate. (See app. IX.) However, two small airports that responded were dropped from the analysis because they reported that they do not have regularly scheduled service and two other small airports did not respond. We called airport officials as needed to complete or clarify survey responses. Five of the airports that did respond gave us limited key data rather than completing the entire survey.

Our survey asked questions about the airports' gate leases, facility leases, contractual arrangements with airlines, and airport financing and plans for expansion. The survey provided us with two kinds of data—a census of conditions at large and medium-sized airports and a sample of conditions at small airports. Since we got responses from all of the 66 large and medium-sized airports in the continental United States, the data accurately represent conditions at these airports. However, the small airports we surveyed are the same group we use for our forthcoming econometric analysis. The sample for the econometric model includes small airports that are end points on a stratified random sample of routes having 20 or more passengers per day. Thus, the small airports we surveyed are not themselves a random sample of airports, since airports with more routes had a greater chance of being selected than airports with few qualifying routes. Therefore, the data we got from these small airports are not generalizable to all small airports since we do not know how the small airports that were not selected may differ from those that were. However, the data show how the 117 small airports that did respond may be different from the larger airports.

⁷FAA defines airport size categories based on the percentage of total passengers enplaned in a city and its surrounding standard metropolitan statistical area. A large hub enplanes at least 1 percent of the passengers, a medium hub enplanes 0.25 percent to 0.99 percent of the passengers, and a small/non-hub enplanes less than 0.25 percent of the passengers.

Because we focused on competition in the domestic airline passenger market, data on international and air cargo facilities are not reported.

Our survey included responses from all of the 15 “concentrated” airports referred to in our June 7, 1989, testimony and subsequent report.⁸ Concentrated airports are defined as those that are the only airport in a metropolitan area and that have at least 60 percent of the passengers enplaned by one airline or at least 85 percent of the passengers enplaned by two airlines. In the testimony and in our subsequent report, we showed that travelers generally pay higher fares and have less choice between competing airlines when flying out of concentrated airports. Although we received responses from all 15 of the concentrated airports, the comparative information in this report focuses on the 14 concentrated airports that meet our definition of large and medium-sized airports.

Data on airlines’ slot holdings and transfers were obtained from FAA’s Slot Administration Office. The data on slot holdings covered all domestic slots held by an airline for 5 or more days per week. The data on slot transfers were a listing of all “uneven” transfers⁹ approved by FAA between April 1, 1986, and September 30, 1988, the latest transfer data that were available at the time of our review. The listing of uneven transfers included data on both air carrier and commuter slots traded. In this report, we characterized permanent transfers of slots as sales and temporary transfers as leases. Sale and lease transactions were analyzed separately.

We also conducted a telephone survey of 520 travel agents on barriers related to airline marketing strategies. We selected a stratified random sample of agents from a list of agents in DOT’s computer reservation system data base, which includes over 23,000 unique agents. We did not verify the accuracy of this data base. We stratified the 23,000 agents initially into four groups or strata, based on the agencies’ total revenue, divided so that each of the four strata’s total revenue was equal. Each stratum had 200 agents. Within the last stratum, we noticed that there were six agents with extremely large total revenues. We created a fifth and final stratum which included all six of those agents. Thus, our total

⁸See Air Fares and Service at Concentrated Airports (GAO/T-RCED-89-37, June 7, 1989) and Airline Competition: Higher Fares and Reduced Competition at Concentrated Airports (GAO/RCED-90-102, July 11, 1990).

⁹FAA defines uneven transfers as those involving trading a slot at one airport for more than one slot at another airport, for slots at a different time, for money, or for some other form of compensation. FAA does not include data on even or one-for-one trades of slots in their data base.

sample size was 806 agents. We received responses from 520 agents, for a response rate of 65 percent. All weighted estimates are therefore representative of about two-thirds of the original target population and total revenues. We do not know the degree to which the remaining one-third of non-responding agents differ from the responding agents.

Finally, we reviewed the reports of the Secretary of Transportation's Task Force on Competition in the U.S. Domestic Airline Industry, issued in February 1990. While our audit work was completed before these reports became available, we briefly discuss the Task Force's findings as they relate to our work.

At the direction of our requesters, we did not obtain official agency comments on this report. Our audit work was conducted between February 1988 and December 1989 in accordance with generally accepted government auditing standards.

The Major Airlines' Control of Slots Deters Entry at Four Key Airports

The eight major airlines have steadily increased their control over domestic slots since airlines were first allowed to buy, sell, and lease slots at Washington National, Chicago O'Hare, and New York LaGuardia and Kennedy airports. This increased control of slots not only hampers competition at these airports; it also limits entrants' ability to establish service in other markets in the East and Midwest because access to these four airports is crucial for establishing a competitive route structure.

Since April 1986 the eight major airlines have dominated the slot market by using short-term slot leases, which effectively bar access to new entrants. Leasing indicates that airlines do not need slots for current operations but are withholding them from the sales market, thus restricting access by potential entrants. While an incumbent carrier may be able to add extra flights using slots leased on a short-term basis from other carriers, an entrant cannot afford to invest in starting up new service when its access to the airport may be withdrawn on short notice by the competing carrier from which it is leasing the slot.

About 13 percent of the air carrier slots¹ leased between April 1986 and September 1988 were leased by major airlines to regional airlines, most of which are related to the majors by common ownership or code-sharing agreements. When an air carrier slot is used by a regional airline, fewer passengers are served, since commuter aircraft are smaller than the majors' jets. Sales and leases of slots between related airlines reduce the number of slots available for sale or lease to entrants and other airlines not affiliated with carriers selling or leasing slots.

As a result of their control over slots, the major airlines have the potential to severely limit competition at these four airports. Because the majors and their related carriers controlled nearly all (96 percent) of the domestic slots as of December 1988, independent airlines have had little opportunity to obtain enough slots to challenge the majors effectively at these airports. The national airlines, which are the airlines in the best position to aggressively challenge the major airlines, in fact have fewer slots now than before the buy/sell rule took effect. Since the presence of a low-cost competitor has been shown to have a moderating effect on fares, the inability of such airlines to secure sufficient slots to compete

¹Airlines using air carrier slots operate turbojet aircraft having 56 or more seats and aircraft having 75 or more seats. Airlines using commuter slots operate turbojet aircraft having fewer than 56 seats and propeller aircraft having fewer than 75 seats. Airlines are classified by DOT as majors, nationals, or regionals based on their operating revenues, as discussed in ch. 1.

means that free market influence on fares is reduced at the slot-controlled airports.²

Slot Controls Limit Entry

Slot controls are needed at Washington National, Chicago O'Hare, and New York's LaGuardia and Kennedy airports because the demand for flights exceeds the level of operations these airports can accommodate without excessive delays. Under the High Density Rule, scheduled airline service is limited to a specified number of takeoffs and landings (i.e., slots) per hour or half hour time period.³ There are separate slot allocations for air carriers and commuter carriers at each airport. Special rules apply to slots used for international flights and for flights under the Essential Air Service program.⁴ Airlines wanting to fly into or out of the slot-controlled airports must reserve a slot in advance for the appropriate time period. Thus, an airline providing regularly scheduled passenger service normally secures a slot allowing it to land or take off at a particular time every day.

There were approximately 3,800 domestic air carrier and commuter slots allocated in December 1985, before the buy/sell rule took effect.⁵ The major airlines and their related carriers⁶ held about 70 percent of the domestic slots, with the major airlines alone holding about 65 percent. National airlines held about 8 percent of the slots; independent regionals, about 22 percent; and foreign and all-cargo airlines, less than 1 percent.

Since virtually all of the domestic slots are allocated, it is difficult for an entrant to get slots, and even if an airline can get slots for new or

²See, e.g., Diana L. Strassman, "Potential Competition in the Deregulated Airline Industry," Rice University discussion paper, 1986.

³The High Density Rule was issued in 1968, took effect in April 1969, and was made permanent in 1973. It has been suspended at Newark International Airport since 1970.

⁴The Essential Air Service program ensures that small communities having air service when the Airline Deregulation Act was passed will continue to have a minimum level of service, with the federal government subsidizing the airlines providing that service, if necessary.

⁵Total domestic slots allocated have ranged from 3,801 in December 1985 to 4,006 in December 1987. As of December 1988, there were 3,985 domestic slots allocated. The total number of slots—air carrier and commuter—for both domestic and foreign use is fixed at approximately 4,500 and does not change.

⁶Airlines that have common ownership through a holding company, merger, or acquisition are defined as "related," as are airlines that are partners in a code-sharing agreement. Examples include Pan Am and its subsidiary Pan Am Express, American and its American Eagle partners, and Texas Air Corporation's Continental and Eastern.

expanded service at a slot-controlled airport, it may still be at a disadvantage compared with an incumbent airline. There are only two ways to secure slots—(1) being awarded a slot by FAA or (2) buying/leasing a slot from another airline. Since very few slots are returned to the FAA and no new slots are being created, FAA has very few slots to award. The few slots that are available directly from FAA are usually at less desirable hours, such as early in the morning, late in the evening, or on weekends. Therefore, the entrant may not be able to get a slot directly from FAA at or near the desired time. In that case, the entrant must buy or, more likely, lease a slot from one of the airlines that already has slots. Thus, if the entrant can get a slot from an incumbent airline, the entrant's costs for that slot are often higher than the incumbent's since the incumbent airlines got most of their slots directly from FAA. The entrant will probably have only temporary use of the slot (i.e., will be leasing the slot) and will, in effect, be paying a potential competitor for the privilege of landing at an access-controlled airport.

FAA's Slot Lottery Made Some Slots Available to New Entrants

In order to mitigate some of the anticompetitive effects of "grandfathering" incumbent airlines' allocations, FAA withdrew about 5 percent of the air carrier slots at LaGuardia, O'Hare, and Washington National, and distributed them to entrants in random lottery drawings in March and December 1986.⁷ The withdrawal created a pool of 152 slots to be reallocated, including slots from each controlled hour at each of the three airports. (See table 2.1 for the distribution of lottery slots withdrawn and chosen.) Slots obtained in this lottery had to be used only for domestic service and within specified time limits, or they would be forfeited and returned to the original holder of record, from which they had been withdrawn. Airlines that got slots in the first drawing of the lottery and subsequently sold or failed to use them were ineligible to participate in the second drawing.

⁷Recipients of slots in the lottery, called the SFAR 48 Lottery, were limited to new entrants (those with no slots at an airport) and limited incumbents (those with fewer than eight slots at the airport whose slots were being distributed). International slots, Essential Air Service slots, slots at Kennedy International Airport, and slots held by airlines with eight or fewer slots at an airport were exempt from withdrawal. Kennedy airport was not included in the lottery because about half of its operations are international flights and because its scheduling committee had functioned well until it was disbanded.

Chapter 2
The Major Airlines' Control of Slots Deters
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Table 2.1: Distribution of Domestic Air Carrier Slots Before and After New Entrant Lottery Drawings

Incumbent airlines	Number of slots				
	Before lottery	Withdrawn	Withdrawn but not claimed	Regained	After lottery
Major airlines	2,711	112	36	90	2,725
National airlines	303	19	3	6	293
Regional airlines	135	2	2	0	135
Others ^a	13	0	0	0	13
FAA ^b	^b	19	2	8	^b
Total^c	3,162	152	43	104	3,166

Entrant and limited incumbent airlines	Number of slots		
	Before lottery	Chosen ^c	After lottery
Major airlines	93	15	108
National airlines	85	43	128
Regional airlines	66	59	125
Total	244	117^d	361

^aThe "Others" category includes foreign and all-cargo airlines.

^bFAA holds slots only temporarily when they are returned or forfeited by airlines. At the time of the lottery, FAA held 19 such slots, which made a total of 152 slots available in the lottery.

^cThe difference between slots held by incumbents before the lottery and after the lottery does not equal the number of slots chosen because some incumbent airlines that had slots withdrawn at one airport qualified to select slots as an entrant or limited incumbent at another airport.

^dThe number of slots chosen does not match the number of slots withdrawn because 43 slots were never selected and 8 slots that were chosen in the first drawing of the lottery were returned and reclaimed in the second drawing.

Source: GAO analysis of FAA Slot Administration records.

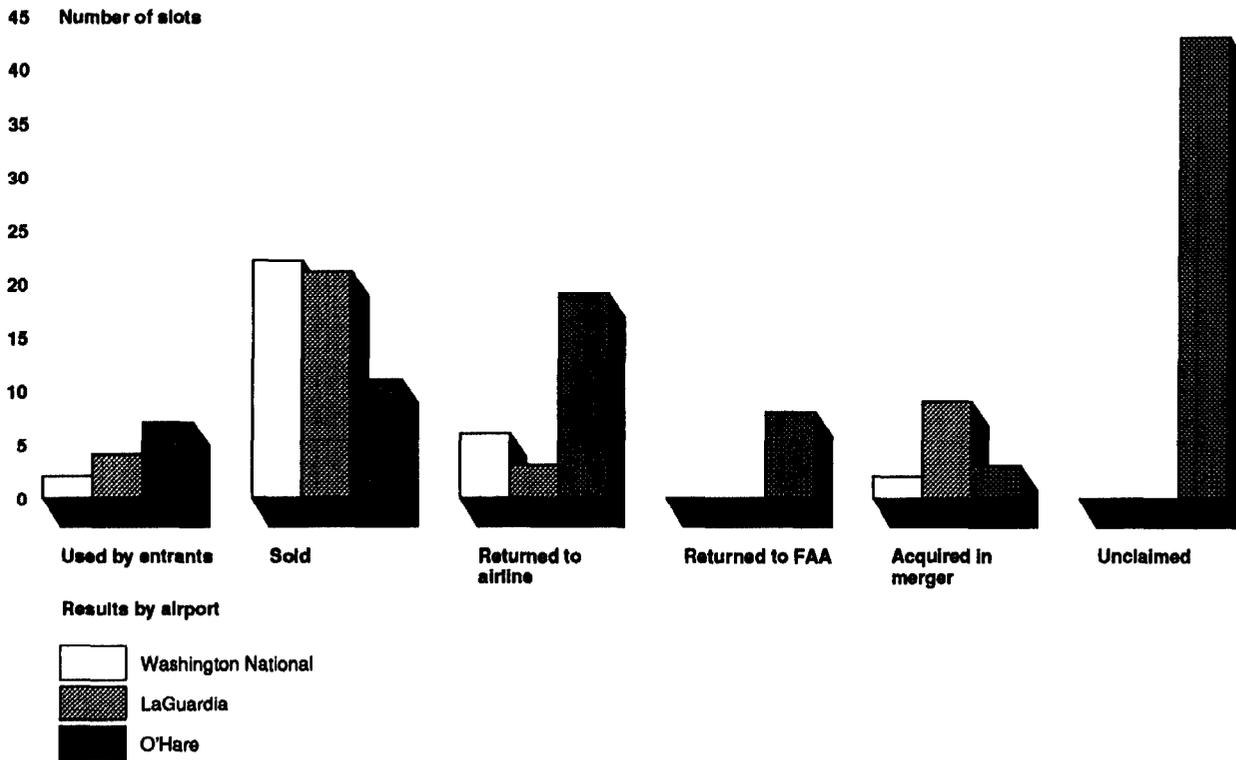
Only 13 of the 152 slots available to entrants and limited incumbent airlines in the SFAR 48 Lottery⁸ are still controlled by those airlines—2 at Washington National, 4 at LaGuardia, and 7 at O'Hare. (See fig. 2.1.) The major airlines actually increased their slot holdings by 14 slots after purchases of slots distributed in the lottery and after mergers with airlines receiving such slots. Of the 152 available slots, 54 were sold—52 to major airlines and 2 to national airlines. Nineteen of those slots were sold by a smaller airline to a related major airline. Sixty-nine percent of the slots selected at Washington National were sold, 57 percent at LaGuardia, but only 23 percent at O'Hare. Thirty-six of the 152 slots that were available were returned to the original holders of record because the new entrant failed to use them in the time allowed. In one

⁸Eight of the slots that were distributed in the March 1986 drawing were returned and redistributed in the December 1986 drawing. These slots, therefore, are counted twice, giving a total of 160 slots when all of the slots distributed and redistributed are totaled.

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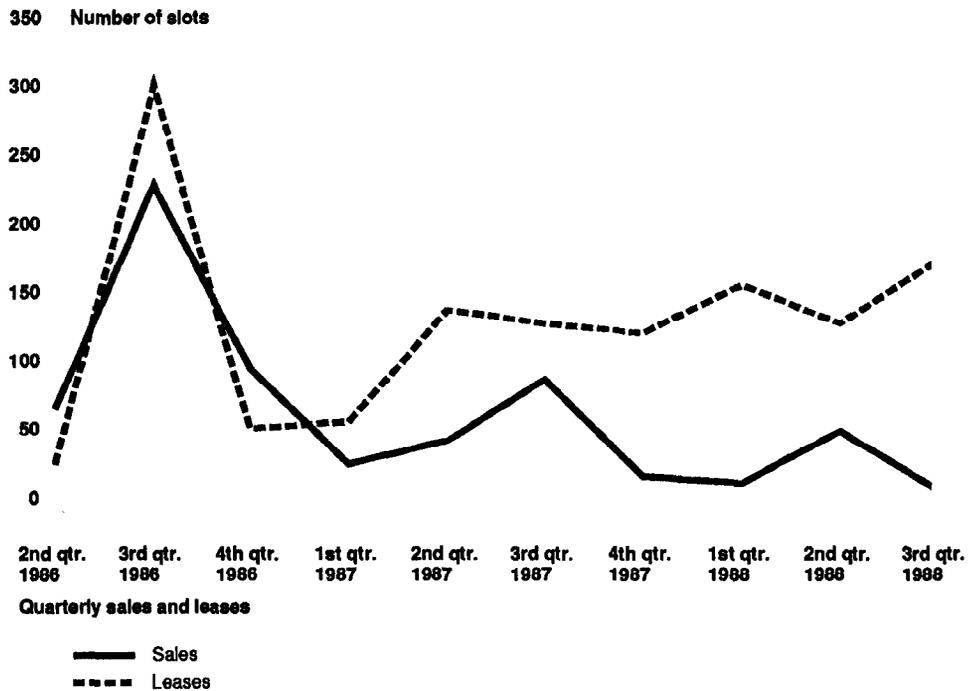
case, the new entrant airline receiving slots could not get FAA certification in time to retain rights to the slots it got in the lottery. Two major airlines, Delta and TWA, acquired another 14 slots in their respective mergers with Western and Ozark. Forty-three of the slots, all at O'Hare, accounting for 29 percent of the available slots and almost half of the slots at O'Hare, were not claimed. Most of the unclaimed slots were for early morning or late evening hours.

Figure 2.1: Results of the New Entrant Slot Lottery



Source: GAO analysis of FAA Slot Administration records.

Figure 2.2: Sales and Leases of Air Carrier Slots, April 1986 Through September 1988



Source: GAO analysis of FAA Slot Administration records.

To the extent that sales of air carrier slots have taken place, they have generally been to the major airlines rather than to entrants. The major airlines bought 509 slots and sold 330 slots, from April 1986 through September 1988. Thus, the major airlines gained 179 slots overall through sales. (See table 2.2.) Other airlines had a corresponding net decrease of air carrier slots. National airlines sold more slots than they bought at all of the airports, including 61 percent of the net slots sold and 74 percent of those sold at LaGuardia. Regional airlines also sold more slots than they bought at all of the airports except Kennedy, selling 36 percent of the net slots sold. The distribution of commuter slots remained essentially unchanged—nationals gained four slots during the period while majors gave up one and regionals, three. Not a single new passenger carrier was able to establish service at a slot-controlled airport by buying slots.

Major Airlines Have Used the Buy/Sell Rule to Strengthen Their Control of Slots

Slots can be either sold or leased under the buy/sell rule. FAA classifies transfers as either even (i.e., trading a slot for a slot) or uneven (i.e., trading a slot at one airport for more than one slot at another airport, for slots at a different time, for money, or for some other form of compensation). Our analysis focused on uneven transfers since even transfers have no effect on the relative net positions of the parties.⁹ Although we analyzed uneven transfers of commuter slots as well as transfers of air carrier slots, trades involving commuter slots are generally a small portion of the overall trading. Therefore, this section concentrates on the activity in air carrier slots.

Decreasing Slot Sales Limit Access by New Carriers

Since the buy/sell rule became effective in 1986, slot sales have fallen, while slot leases have increased, thus reducing the ability of entrants to secure control of slots. Sales accounted for just over half of all transfers in the first 9 months of the buy/sell rule's operation (April 1986 through December 1986). However, in the first 9 months of 1988, sales accounted for only about 12 percent of the transfers. The average number of air carrier slots sold fell from 128 per quarter in 1986 to about 20 per quarter in 1988. Leases have followed the opposite pattern, rising from a little less than half of the transfers in 1986 to almost 90 percent of all transfers in 1988. Leases exceeded sales in every quarter of 1987 and 1988. The average number of slots leased rose from 124 per quarter in 1986 to 151 per quarter in 1988. Decreased selling and increased leasing of slots indicates that the airlines holding slots have become less likely to relinquish control over slots to competing carriers, including new entrants. (See fig. 2.2.)

⁹At the time of our analysis, the latest data on uneven slot transfers available from FAA were for the third quarter of 1988.

Table 2.2: Net Air Carrier Slots Bought (Sold) by Airline Type and Airport, April 1986 Through September 1988

Airline type	Slots bought (sold)				Total
	National	Kennedy	LaGuardia	O'Hare	
Majors	30	3	57	89	179
Nationals	(16) ^a	(5)	(42)	(47)	(110)
Regionals	(14)	6	(15)	(42)	(65)
Others	0	(4)	0	0	(4)

^aWhen airlines in a size category sold more slots than airlines in that same size category bought during the period April 1986 through September 1988, the net decrease in slots is shown in parentheses.

Source: GAO analysis of FAA Slot Administration records.

Major Airlines Restrict Access by Entrants by Holding Excess Slots

Most leased slots are leased out by major airlines, indicating that these airlines hold more slots than they need and lease out their excess slots rather than give up control of them to potential competitors. In the slot leasing market, major airlines leased the equivalent of 893 full-time air carrier slots¹⁰ from national and regional airlines between April 1986 and September 1988, while leasing 1,085 slots to national and regional airlines. The major airlines are holding more slots than they need for their current operations, as indicated by the fact that they leased out 192 more slots to national and regional airlines than they leased from these other airlines. About three-fourths of the slots the majors leased out were at O'Hare and Kennedy airports. Regional airlines gained 97 slots on leases, mostly from the major airlines, including all of the air carrier slots leased at Kennedy and 82 percent of them at LaGuardia. When air carrier slots are leased to commuter airlines by the major airlines, some slots are being underutilized, since the commuter airlines generally operate smaller aircraft than those for which these slots were intended.¹¹ This means that fewer passengers can be served. (See app. I.)

Leasing slots allows the airlines to protect the slots they hold because, under the use-or-lose rule, leased slots are considered "used" by the airline holding them and are not subject to forfeiture for nonuse. Formerly, slots held by airlines having eight or fewer slots at an airport were also protected from withdrawal, regardless of whether the airline used the

¹⁰Because slots are leased for varying periods, the actual number of slots is converted to an equivalent number of full-time slots based on the number of days the leased slot is available for use.

¹¹At each of the airports, commuter airlines have a separate allocation of slots that cannot be used for large jet aircraft. These commuter slots can only be used by airlines operating turbojet aircraft with fewer than 56 seats or propeller aircraft with fewer than 75 seats.

slots for its own operations or leased them.¹² However, FAA found that some airlines with large slot holdings had sold or leased the slots mostly likely to be withdrawn to related airlines with few slots in order to protect the slots from withdrawal. In such cases, the airline recorded as holding the slots did not use them for its own operations, but instead leased them back to the original holder. In 1989 FAA issued a new rule that protects the slots of an airline with eight or fewer slots only if the airline uses the slots for its own operations, but not if it leases the slots to another airline.¹³

Short-Term Slot Leases Limit Use by Entrants

Leases of air carrier slots are generally made for relatively short periods, allowing the airlines holding slots to exercise some measure of control over the ability of airlines needing to lease slots to continue operating at slot-controlled airports. Almost 70 percent of the air carrier slots leased are leased for periods of 90 days or less, with more than half being leased for 60 days or less. Longer leases lasting more than 180 days have declined from one-third of all leases in 1986 to only 3 percent of leases in 1987 and 9 percent of leases in 1988. Short-term leases of 90 days or less accounted for 52 percent of the slots leased in 1986, 78 percent in 1987, and 66 percent in 1988. (See app. II.) While a carrier already operating at an airport may be able to add flights using short-term leased slots, an entrant could not justify investing the costs of starting up a new service if its only access to an airport could be terminated on short notice because it is based on a short-term slot lease from a potential competitor.

Sales and Leases of Slots Between Related Carriers Reduce Availability of Slots to Entrants

Transfers between related carriers (i.e., airlines that are part of the same corporate entity, were merged or acquired, or are code-sharing partners) are a significant and growing segment of all sales and leases. To the extent that transfers take place between related carriers, the number of slots actually sold or leased overstates the number of slots available to independent carriers offering competing service. Transfers between related carriers have accounted for about one-fifth of all sales and leases since 1986. Sales of slots between related carriers have grown from 14 percent of total sales in 1986 to 32 percent in 1987 and to about 40 percent in 1988. (See table 2.3.) Sales between related carriers have

¹²When the buy/sell rule was implemented in 1986, each slot was randomly assigned a withdrawal priority number. When FAA needs to withdraw a slot for any reason, slots are withdrawn based on this priority number, slots with a low withdrawal priority number being most likely to be withdrawn.

¹³54 Fed. Reg. 34,904 (1989) (to be codified at 14 C.F.R. Sec. 93.223).

accounted for as much as 78 percent of the sales in a single quarter. The growth in sales between related carriers may be due, in part, to the declining number of independent airlines as a consequence of mergers, acquisitions, bankruptcies, and code-sharing agreements.

Table 2.3: Air Carrier Slots Sold to Related and Unrelated Carriers, April 1986 Through September 1988

Slots sold	Number of slots			Total slots traded, 1986 to 1988
	Quarterly average, 1986	Quarterly average, 1987	Quarterly average, 1988	
To related carriers	18	13	8	131
(Percentage of total sales)	(14%)	(32%)	(40%)	(22%)
To unrelated carriers	110	28	12	476
To all carriers	128	41	20	607

Source: GAO analysis of FAA Slot Administration records.

Leases between related carriers accounted for about one-fifth of the total slot leases in 1987 and 1988, up from 1986. Leases between related carriers were 14 percent of the total leases in 1986, 24 percent in 1987, and 20 percent in the first 3 quarters of 1988. (See table 2.4.) Leases between related carriers have accounted for as much as 56 percent of the leases in a single quarter.

Table 2.4: Air Carrier Slots Leased Between Related and Unrelated Carriers, April 1986 Through September 1988

Slots leased	Number of slots			Total slots traded, 1986 to 1988
	Quarterly average, 1986	Quarterly average, 1987	Quarterly average, 1988	
To related carriers	17	26	30	245
(Percentage of total leases)	(14%)	(24%)	(20%)	(20%)
To unrelated carriers	107	83	121	1,013
To all carriers	124	109	151	1,258

Source: GAO analysis of FAA Slot Administration records.

Leases between related carriers often involve leases of air carrier slots from majors to their code-sharing partners, one of the ways that major airlines control access to these airports. Overall, regionals lease about 15 percent of the air carrier slots being leased, and 90 percent of those slots are leased to the regionals by major airlines. Seventy percent of the leases of air carrier slots between related carriers are between major airlines and their related regional airlines, along with more than 40 percent of the sales.

Some Airlines Have Increased Their Control of Slots at Hub Airports

As a result of the sales and leases of air carrier and commuter slots between April 1986 and September 1988, some airlines have increased their control of slots at hub airports. American and United have strengthened their positions at their slot-controlled hub, O'Hare. Both have had large net gains in air carrier slots at O'Hare resulting from buying slots (76 for American and 134 for United), and American also leases additional slots from other airlines there as well. Other major transfers resulted from sales of entire air carrier operations, including slots, gates, and aircraft. Pan Am had the largest net gain at LaGuardia (59 slots) and National (18 slots), primarily as a result of its purchase of New York Air's shuttle operation.¹⁴ Texas Air—which, when it acquired Eastern, sold New York Air's 76 slots used for shuttle service to Pan Am—had the largest net decrease in slots at LaGuardia. There were no significant net changes resulting from slot sales among the major airlines at Kennedy.

Major Airlines Have Increased Their Control of Slots

The major airlines as a group have consistently increased the percentage of domestic slots they hold. Consequently, they have the ability to limit access to routes beginning or ending at any of the slot-controlled airports—airports that are crucial to establishing new service in the heavily traveled eastern and midwestern markets. In December 1985 the major airlines held about 65 percent of all domestic slots at all four airports. By December 1988 they held nearly three-quarters (74 percent). As mentioned previously, the major airlines were the only group to increase their control of slots by buying more slots than they sold. However, only 804 of the approximately 3,900 domestic slots were sold between April 1986 and September 1988, showing that relatively few slots have changed hands. Mergers, acquisitions, and code-sharing agreements have also increased the share of domestic slots that the major airlines control. Combined, the majors and their related carriers increased their control of domestic slots from 93 percent of all domestic slots in 1986 to more than 96 percent in 1988. (See app. III.)

In addition to increasing their control of total domestic slots, the major airlines have also increased their control of slots at each of the four slot-controlled airports. The independent national airlines have increased their holdings only at Kennedy, while losing ground at Washington

¹⁴Pan Am acquired 76 slots from New York Air, Continental, and Eastern on September 18, 1986, in the New York Air shuttle transaction. Nineteen of these slots were at Washington National and 57 were at LaGuardia.

National, O'Hare, and LaGuardia. As a group, independent national airlines held only 1 percent of the domestic slots in December 1988. Independent regional airlines have seen their share of slots decrease at all four airports, suffering the largest decrease at Washington National, and holding only 2 percent of the domestic slots in December of 1988, as a group.

DOT Task Force Findings

The Secretary of Transportation's Task Force on Competition in the U.S. Domestic Airline Industry reported in February 1990 on the effects of airport access problems on entry into airline markets. The report concluded that the High Density Rule "by itself is not a market-specific barrier to entry into the four markets presently covered by the rule." However, it also noted, "There is a potential for exercise of market power in the market for slots, and thus a potential for a barrier to entry due to the HDR [High Density Rule]."¹⁵

Conclusions

In our 1986 report, we raised questions about the effect the buy/sell rule would have on airline competition.¹⁶ It now appears that allowing airlines to buy and sell slots has not produced the active market for distributing slots envisioned in the buy/sell rule. Instead, it has led to the hoarding of excess slots, which airlines then lease for relatively short periods, frequently to airlines related to the holders by common ownership or code-sharing agreements. While such leasing does allow access to these airports, the short-term character of the leases does not allow entrants to make the investments in marketing and facilities necessary for vigorous competition. While FAA does attempt to place returned or forfeited slots in the hands of entrants, the number and desirability of the available slots is very low. While the SFAR lottery was successful in placing air carrier slots in the hands of entrants and limited incumbents, the resulting long-term entry was disappointing. This was partly because some of the lottery winners were code-sharing affiliates of incumbents or were primarily cargo or charter airlines, with the result that most of the slots allocated in the drawings were either sold to or returned to the incumbent airlines.

¹⁵Secretary's Task Force on Competition in the U.S. Domestic Airline Industry: Airports, Air Traffic Control, and Related Concerns (Impact on Entry), U.S. Department of Transportation, Office of the Secretary of Transportation, (Feb. 1990) pp. 2-17 and 2-27.

¹⁶See Airline Takeoff and Landing Slots: Department of Transportation's Slot Allocation Rule (GAO/RCED-86-92, Jan. 31, 1986).

Some Leasing Practices Limit Access to Airport Physical Facilities

The airports responding to our survey indicated they want to accommodate entrants, but many of the airports reported that they face major constraints. The ability to accommodate entrants depends on the availability of gates, passenger waiting areas called hold rooms, ticket counters, and baggage claim areas. Most existing gates, however, are on long-term leases for the exclusive use of the leasing airline. Most of these gates are leased to the eight major airlines, as are most of the other airport physical facilities. This is particularly true at the larger airports. Eighty-eight percent of the gates at the nation's 66 largest airports are leased to airlines. At more than four-fifths of these airports, either all leased gates are leased for exclusive use or all of some other critical facility is leased for exclusive use. Almost all of the airports help airlines trying to enter the market that are having trouble getting access to facilities. However, when the airport cannot lease facilities directly to an entrant, the entrant has to negotiate with a potential competitor for the facilities needed to offer competing service.

Background

The set of facilities an airline needs to provide competing service in a market includes ticket counters, a baggage check-in area, passenger hold rooms, a baggage claim area, and enplaning/deplaning gates. Such facilities are usually either leased directly from the airport or subleased from an incumbent airline that leases them from the airport. Facilities are leased from the airports as part of the airline/airport use agreement, providing for either the exclusive or preferential use of each type of facility leased. An exclusive-use lease gives the lessee the sole right to use the facilities in question. A preferential-use lease gives the lessee first right to use the facilities. If the lessee does not have operations scheduled, the airport operator may allow another airline to use preferentially leased facilities during the unscheduled time. However, the lessee has first right to the facilities if it should later decide to schedule operations during those times. Leases, particularly exclusive-use leases, may be limited by recapture provisions that allow the airport operator to force the leasing airline to forfeit or share facilities it does not use.

Airports have varying degrees of control over gates, depending on whether or not the gates are leased and, if leased, on what terms they are leased. In the most common arrangement, airports lease the entire use of gates to a single airline for that airline's exclusive or preferential use. Some airports lease only part of the use of a gate to a single airline, either allowing common use at other times or partially leasing the gate to another airline as well. Larger airports may hold some unleased gates to accommodate airlines having only a few operations at an airport,

such as charter operators. Finally, small airports often hold all of their gates unleased so any airline serving the airports can use them on a first-come-first-served basis.

Most Airport Gates Are on Long-Term, Exclusive-Use Leases

Nearly 88 percent of the 3,129 gates at the 66 large and medium-sized airports¹ are leased to airlines, giving the airlines a measure of control over those gates. Moreover, 26 percent of the airports have no unleased gates at all. Only two airports (both medium-sized) have no gate leases. Eighty-five percent of the leased gates are leased for exclusive use. An even higher percentage of gates at large airports and at concentrated airports² are leased for exclusive use (90 percent and 89 percent, respectively). (See table 3.1.)

Table 3.1: Total Domestic Gates and Leased Gates by Airport Type and Lease Type

Size of airport	Number of airports	Total gates		Leased gates		
		Number	Percent	Number	Percentage	
					Exclusive-use	Preferential-use
Large	27	2,036	65%	1,795	90%	10%
Medium	39	1,093	35%	943	77%	23%
Total	66	3,129	100%	2,738	85%	15%
Airport market						
Concentrated	14	894	29%	816	89%	11%
Unconcentrated	52	2,235	71%	1,922	84%	16%
Total	66	3,129	100%	2,738	85%	15%

Most large airports lease their gates only for exclusive-use. Seventy-four percent of the large airports and 64 percent of the concentrated airports have only exclusive-use gate leases, while only 49 percent of the medium-sized and 58 percent of the unconcentrated do. (See table 3.2.) Where gates are leased for one airline's exclusive use, the potential exists for an airline to hold excess gates it does not need for currently scheduled operations. Since most airports have few unleased gates, potential competitors are less likely to be able to lease gates directly

¹We classified airports as large, medium-sized, or small based on the airport's percentage of total revenue passengers enplaned, as noted in ch. 1.

²As discussed in ch. 1, a concentrated airport is an airport where one airline enplanes at least 60 percent of the passengers or two airlines enplane at least 85 percent of passengers in metropolitan areas having only one airport. Fourteen of the large and medium-sized airports fit this definition.

from the airport and are therefore less likely to be able to lease gates under the same terms and conditions as incumbent airlines lease them.

Table 3.2: Airports' Leasing of Gates, by Lease Type and Airport Type

Size of airport	Number of airports	Percentage of airports				Total
		With all exclusive-use leases	With some of each	With all preferential use leases	With no gate leases	
Large	27	74%	15%	11%	0%	100%
Medium	39	49%	28%	18%	5%	100%
Total	66	59%	23%	15%	3%	100%
Airport market						
Concentrated	14	64%	22%	14%	0%	100%
Unconcentrated	52	58%	23%	15%	4%	100%
Total	66	59%	23%	15%	3%	100%

Eighty-seven percent of all leased gates at the large and medium-sized airports are leased on a long-term basis,³ which gives the airlines more control over the gate than a short-term lease. Shorter leases give the airports more opportunities either to regain complete control of gates or to renegotiate lease terms. About 60 percent of the leased gates are on leases that still have more than 10 years until expiration, and 35 percent of the leased gates are on leases that have more than 20 years left until expiration. At concentrated airports, 53 percent of the leased gates have more than 20 years left on the lease, almost twice the percentage for unconcentrated airports. (See table 3.3.)

³We considered any lease expiring after 1990 (i.e., with more than 2 years remaining until expiration as of March 1988) to be long-term. This is because the Department of Justice in its *Merger Guidelines* (sec. 3.3, p. 28, dated June 14, 1984) uses a 2-year period to assess ease of entry into a market.

Table 3.3: Leased Gates, by Time Remaining Until Lease Expiration

Size of airport ^a	Total leased gates	Leases already expired	Percentage of leased gates				Total
			Time left on leases				
			2 yrs. or less	3-10 yrs.	11-20 yrs.	More than 20 yrs.	
Large	1,795	0%	12%	22%	25%	41%	100%
Medium	943	4%	10%	37%	25%	24%	100%
Total	2,738	2%	11%	27%	25%	35%	100%
Airport market^a							
Concentrated	816	2%	6%	15%	24%	53%	100%
Unconcentrated	1,922	2%	13%	32%	26%	27%	100%
Total	2,738	2%	11%	27%	25%	35%	100%

^aThere are a total of 66 airports, 27 large airports and 39 medium-sized airports. Of the 66 airports, 14 are concentrated and 52 are unconcentrated.

Only 16 percent of all leased gates at the large and medium-sized airports are covered by use-or-lose provisions, allowing the airport to recapture control of the gates if the leasing airline does not use them. The proportion at concentrated airports is much lower—only 7 percent. While we did not ask the airports how often they actually invoke their use-or-lose provisions, officials at four airports told us the leasing airline must cease all operations for at least 1 to 3 months before the use-or-lose provision could be invoked. More than three-fourths of the large and medium-sized airports that have such provisions reported they would use them to help an entrant having difficulty gaining access to their airports.

Gate Leasing Practices May Limit Entry at Concentrated Airports

Access to gates is particularly limited at the concentrated airports. Concentrated airports have higher proportions of leased gates, gates on exclusive-use leases, gates on long-term leases, and gates not covered by use-or-lose provisions than unconcentrated airports. The combination of these factors is likely to make entry more difficult at concentrated airports than elsewhere.

The small airports we surveyed reported a less restrictive pattern of gate leasing than did the large or medium-sized airports.⁴ These 117 small airports lease only 64 percent of their gates (compared with 88

⁴We did not survey all of the small airports. The 117 small airports we did survey were not a random sample of small airports. See ch. 1 for an explanation of airport selection criteria and survey methodology.

percent for the large and medium-sized airports). While 23 percent of the small airports reported they lease all of their gates, another 37 percent reported they do not lease any gates (compared with only 3 percent for the larger airports). About half of their leased gates are on preferential-use leases (15 percent for the larger airports), and about half are on short-term leases (13 percent for the larger airports). These small airports have the lowest proportion of exclusive-use gates covered by use-or-lose provisions: 2 percent of their leased gates. However, since these airports have such a low proportion of exclusively leased gates, the scarcity of use-or-lose provisions is probably less significant than at larger airports. This difference in gate leasing patterns may be due, in part, to the type and number of facilities available at small airports. For instance, some small airports do not have gates with loading bridges but instead have doors in the terminal building leading to spaces where the airplanes park. Passengers simply walk out onto the tarmac and up a flight of steps to board the planes.

Most Gates Are Leased and Used by the Major Airlines

The major airlines lease almost 80 percent of all gates at the large and medium-sized airports, including 90 percent of all of the leased gates. The majors control 98 percent of the leased gates at concentrated airports and 94 percent of the leased gates at large airports. National airlines control about 9 percent of the leased gates, most of them at medium-sized airports. Regional airlines lease about 1 percent of all leased gates and less than 1 percent of the leased gates at both large and concentrated airports.

The major airlines have a higher proportion of exclusive-use gates than do either the national or regional airlines. Eighty-six percent of the major airlines' gates are on exclusive-use leases, compared with 79 percent of gates leased by national airlines and 60 percent of gates leased by regional airlines. These proportions may reflect the relative financial ability of the airlines, their relative power and sophistication in lease negotiations, or the policies of the airports they serve.

The major airlines also have the highest proportion of gates leased under terms giving the airline maximum control, that is, on long-term leases, on long-term exclusive-use leases, and on long-term exclusive-use leases without use-or-lose provisions. Majors lease about 88 percent of their gates on a long-term basis, and 62 percent of their gates are on leases with more than 10 years remaining. National airlines lease 81 percent of their gates on long-term leases, and only 42 percent are on leases with more than 10 years remaining. Regionals lease 63 percent of their

gates on long-term leases, and about 37 percent are on leases with more than 10 years remaining. (See app. IV for details on each airline's leasing of gates, including the terms of its leases.)

Airlines Use Most of Their Leased Gates for Their Own Operations

Airlines use most of their leased gates for their own operations but also share and sublease some of their gates. Sharing use of a leased gate can take several forms, including subleasing. The leasing airline may sublease part of the use of a gate, providing space only, and use the same gate for its own operations as well. Alternatively, the leasing airline may "handle" the flights of another airline, providing services, such as ticketing and use of its personnel, as well as space. A gate may also be shared by being leased to more than one airline, with each airline having the right to use the gate at different times of the day or week. This type of shared gate allows each airline to use the gate as needed for scheduled flights without preventing other airlines from using it when it would otherwise be idle. Airlines hold few leased gates that go completely unused.

Seventy-six percent of the leased gates at large and medium-sized airports are used by the leasing airline solely for its own operations. Another 15 percent are shared, that is, used both by the leasing airline and by other airlines. About 6 percent of the gates are fully subleased to another airline, while 3 percent are unused.⁵ (See app. V.) Gates at large and concentrated airports are less frequently sublet or shared than gates at other airports. Regional airlines are more likely than other airlines to share the use of gates at all kinds of airports. At the 117 small airports we surveyed, airlines were more likely to share gates than at the larger airports.

Major airlines lease virtually all of the fully subleased gates (152 of 154) at the large and medium-sized airports, as well as most of the unused gates (56 of 71), and all but 1 of the 15 unused gates at concentrated airports. National airlines, however, leave a higher proportion of their gates unused than the majors do (7 percent compared with 2 percent). The major airlines sublease most often to other major airlines. (See table 3.4.) When the major airlines do not sublease gates to other major airlines, they are most likely to sublease to regional airlines, particularly to

⁵Officials at several airports told us during our review that Eastern's gates were unused but had been used before the strike against the airline. Because we asked airport officials to describe gate usage during 1988, before the strike, these gates are not counted as unused in our tabulations.

their code-sharing partners. Therefore, there are relatively few subleases from major airlines to national airlines whose lower operating costs make them particularly effective competitors with the major airlines.

Table 3.4: Gate Subleases From Major Airlines to Other Airlines

Size of airport ^a	Total subleases	Percentage of subleases				Total
		To majors	To nationals	To regionals	To others ^b	
Large	69	48%	19%	22%	11%	100%
Medium	62	47%	16%	26%	11%	100%
Total	131	47%	18%	24%	11%	100%
Airport market^a						
Concentrated	26	62%	15%	23%	0%	100%
Unconcentrated	105	44%	18%	24%	14%	100%
Total	131	47%	18%	24%	11%	100%

^aThere are a total of 66 airports, 27 large airports and 39 medium-sized airports. Of the 66 airports, 14 are concentrated and 52 are unconcentrated.

^bThe "others" category includes air cargo and international airlines.

When leased gates are unused or subleased, it suggests that an airline is leasing more gates than it needs for current operations. Airlines may hold some unused or underused gates to ensure access to limited facilities for future expansion of service, since the actual cost of leasing gates is a small part of an airline's operating cost at an airport. While such arrangements do permit access, airport and airline officials told us a subtenant airline usually pays a premium for access compared with the cost for the original lessee. This higher cost may disadvantage some airlines, particularly those wanting to offer low-cost service, or discourage them from offering any service at the airport.

While 83 percent of the large and medium-sized airports reported that they require approval of airlines' subleasing arrangements, 37 percent do not examine the payment terms of such agreements. However, only about 12 percent of the large airports reported that they do not examine the payment terms of subleases. About 21 percent of the concentrated airports, 56 percent of the medium-sized airports, and 33 percent of the 117 small airports responding to our survey do not examine sublease payment terms. When airports have the right to examine sublease payment terms, they have the opportunity to ensure that subleased facilities are made available on reasonable terms.

Airport Facilities Other Than Gates Are Often Leased for Exclusive Use

The extent to which airport ticket counters, passenger hold rooms, and baggage claim facilities are exclusively leased to airlines varies greatly. Nearly all of the large and medium-sized airports lease some or all of their ticket counter space on an exclusive-use basis. More than three-fourths of these airports reported that they lease passenger hold rooms on an exclusive-use basis. However, only about one-third of them lease baggage claim facilities on an exclusive-use basis. Many of the large and medium-sized airports that lease these facilities for exclusive use have no unused capacity in these facilities. In fact, 31 percent have no unused ticket counters, and 62 percent have no unused passenger hold rooms.

Exclusive leasing of facilities other than gates adds to the problem of gaining access to the facilities needed to establish service. Fifty-three percent of the airports lease all of at least one of these facilities on an exclusive-use basis. Thirty-two percent of the airports have exclusive use leases on all of their leased gates and exclusive use leases on all of at least one other facility. In addition to the 59 percent of airports that lease all of their leased gates exclusively, 21 percent lease all of at least one of these other facilities for exclusive use, so that 80 percent lease at least one type of facility (including gates) for exclusive use. Just as most gates are exclusively leased by major airlines, so are most of these other facilities, including 83 percent of the ticket counters, 90 percent of the hold rooms, and 91 percent of the baggage claim facilities.

Most Large and Medium- Sized Airports Lease Facilities Other Than Gates for Exclusive Use

The extent to which facilities other than gates are exclusively leased varies widely. Ninety-two percent of the large and medium-sized airports lease at least some ticket counters on an exclusive-use basis. Forty-two percent of the airports lease all of their ticket counter space for exclusive use. In addition, three-fourths of the airports either lease all of their ticket counters for exclusive use or have all of their leased gates on exclusive-use leases. Seventy-nine percent of the large and medium-sized airports lease at least some of their passenger hold rooms on an exclusive-use basis. Twenty-seven percent of the airports lease all of their hold rooms for exclusive use. Sixty-five percent of the large and medium-sized airports either have all of their leased gates or all of their hold rooms leased for exclusive use. However, only 39 percent of these airports lease any of their baggage claim facilities on an exclusive-use basis, and only 8 percent lease all of their baggage claim facilities for exclusive use.

The Small Airports in Our Sample Are Less Likely to Lease Their Facilities for Exclusive Use

The 117 small airports we surveyed are less likely than the larger airports to have exclusive-use leases on their gates, hold rooms, and baggage claim facilities. There are several possible reasons for this. Because small airports have fewer facilities, airlines may have to share common facilities rather than lease facilities for exclusive use. Also, it may be more economical for airlines that have only a few flights per day or week to pay fees for each use of common facilities than to lease facilities for exclusive use. Finally, since routes to and from these airports are often lightly traveled, service may change more frequently than on densely traveled routes, so it may be advantageous for both the airport and the airline to have the flexibility of less restrictive leases.

Lack of access to ticket counter space appears to be the biggest constraint a potential competitor would face at small airports, although more than 70 percent of the small airports have limited access to one or more facilities. The small airports we surveyed are more likely to have no unused ticket counter space than the larger airports (54 percent of small airports compared with 31 percent of the larger ones). They are also more likely not to have unused ticket counters when all of their current ticket counters are exclusively leased (51 percent compared with 25 percent of the larger airports). At those airports, a potential entrant may find it difficult to even sublease ticket counter space for its use. (See app. VI for details about the exclusive-use leasing of facilities other than gates.)

Exclusively Leased Facilities May Represent a Barrier to Entry

Exclusively leased airport facilities, including gates, may represent a substantial barrier to entry at some airports. Of the 27 large airports, 20 have all of their leased gates on exclusive-use leases, and another 4 have all of at least one other facility leased for exclusive use. Of the 39 medium-sized airports, 19 have all of their leased gates on exclusive-use leases, and another 10 have all of at least one other facility leased for exclusive use. At the 14 concentrated airports, 9 have all of their leased gates on exclusive-use leases, and 2 more have all of at least one other facility leased for exclusive use.

In addition, a number of the large and medium-sized airports that lease 100 percent of their ticket counters, hold rooms, or baggage claim facilities for exclusive use also have no unused facilities of the same type. About two-thirds of the airports have no unused baggage claim facilities, two-thirds have no unused hold rooms, and about one-third have no unused ticket counter space. About one-fourth of the large and medium-sized airports not only lease all of their ticket counters for exclusive use,

but also have no unused ticket counter space, while this same situation pertains to hold rooms at about one-fourth of the airports. Among the small airports we surveyed, over half have all of their ticket counters exclusively leased and have no unused counters.

Airports are trying to retain control or regain more control of airport facilities, according to officials we interviewed at 17 airports. Officials at several airports, most notably in El Paso and Miami, told us that their policy is to regain more control over gates and other facilities as contracts with tenant airlines are renegotiated. Their strategies include moving toward more preferential-use leases, more short-term leases, and more widespread use of recapture provisions. However, officials at other airports told us that the airlines are resisting these efforts by refusing to sign new leases with less restrictive terms and even by going to court to try to force long-term agreements and majority-in-interest agreements (MIIs)⁶ which give the airlines some control over expansion decisions.

Airlines seeking to begin or expand service at airports with such restrictions would probably have to sublease facilities from a competitor unless the airport could build additional facilities or invoke use-or-lose provisions to make underused facilities available directly. Airport officials told us that, in the absence of recapture provisions, airports whose facilities are fully leased usually attempt to match the entrant with an incumbent airline and to encourage the airlines to reach agreement through private negotiations. Another airport official, however, told us that matching entrant and incumbent airlines is complicated, for instance, when employees of the entrant airline belong to a different labor union or local than the incumbent's employees or are non-union. The entrant would probably have to pay more than an incumbent airline would be paying for facilities and would have to make its plans known to a potential competitor. Thus, the ability of an airline to begin or expand service quickly in those markets could be severely limited.

⁶A majority-in-interest agreement gives signatory airlines with a majority of operations at an airport a voice in decisions that affect the airlines' financial commitment to the airport.

Airlines Cite Lack of Competitive Access to Facilities as an Entry Barrier

Officials of several airlines reported difficulty in gaining access to airport facilities on a competitive basis. An official for Southwest Airlines reported that the use of another airline's employees in a typical handling agreement costs about 6 times as much as the airline's own cost for similar services performed by its own employees. Subleasing is somewhat less costly, according to Southwest officials, who say they pay another airline about 12 to 18 times as much for subleased facilities as that airline pays the airport authority. When America West was trying to begin service to Denver, it was asked to pay three times the actual cost for another airline to handle its flights, a cost that an airline official described as "not an acceptable option." Another official reported that his airline was asked to pay 25 to 50 percent more than the market rate for similar services at Chicago O'Hare. In addition to increasing costs for the subtenant, subleasing agreements may give the subtenant airline little protection if the sublessor decides to terminate the agreement. With notice periods allowing from 48 hours to 30 days to vacate space, the subtenant airline has little time to find alternative space at the airport.

DOT Task Force Findings

The Secretary of Transportation's Task Force on Competition in the U.S. Domestic Airline Industry reviewed the findings of a survey of airport facility availability carried out by the Airport Operators Council International. The Secretary's Task Force concluded that limited access to gate facilities is a potential barrier to entry:

While the practice of exclusive use predates deregulation, it greatly limits flexibility in allowing for new entry. Although there are sometimes lease clauses that allow the airport to reclaim gate space that is not in use, more frequently a new entrant generally must go to incumbent lease holders in order to get access to the airport by sublease. Under these circumstances, the new entrant is likely to pay a sublease cost at least marginally higher (at the same utilization rate) than the incumbent will pay on the master lease.⁷

Conclusions

Opportunities for establishing new or expanded service are limited at many airports by limited access to necessary airport facilities on equal terms with incumbent airlines. Our analysis shows that over 80 percent of the 66 large and medium-sized airports have limited access to at least

⁷Secretary's Task Force on Competition in the U.S. Domestic Airline Industry: Airports, Air Traffic Control, and Related Concerns (Impact on Entry), p. 3-5.

one of four crucial facilities—gates, ticket counters, hold rooms, or baggage claim facilities—because of exclusive-use leases. At nearly 90 percent of the 27 large airports and more than 70 percent of the small airports we surveyed, the situation is the same.

Exclusive-use leases are not necessarily a barrier to entry when they are coupled with effective use-or-lose provisions. In the absence of such provisions, however, there is often little the airport operator can do to provide access to unused or underused exclusive-use facilities. Although officials at many of the airports told us they are trying to regain more control of their facilities, they also told us that incumbent airlines are vigorously resisting these efforts. In addition, since most of the leases currently in force have 5, 10, 20, or more years remaining, progress through renegotiating lease terms has necessarily been slow.

When entrants cannot gain access to facilities on the same terms as incumbent airlines, they may find it difficult or impossible to offer competing service because their cost of operation at that airport will be higher than the incumbents'. When entrants sublease facilities, arrangements that include handling services or use of incumbent airline personnel may artificially raise entrants' costs, although such arrangements may be necessary because of the incumbents' labor union contracts.

Many Airports Face Barriers to Expansion

One solution to the problem of having facilities controlled by airlines through exclusive-use leases is for the airport to build more facilities, but airports face several major constraints to further expansion of airport capacity. Although most airports reported they have access to land for expansion, about half are planning little or no gate expansion in the next 5 years. Community opposition to airport capacity expansion (especially to increased noise); lack of funding; and majority-in-interest (MII) provisions in airport use agreements, which generally give airlines having a majority of operations at an airport a say in decisions that affect the airlines' financial commitments, are the leading factors limiting or delaying expansion.

Many Airports Plan to Add No More Than Five Gates

We asked the airports how many additional gates they plan to add in the next 5 years, including any gates currently under construction. Forty-four percent of the large and medium-sized airports reported they plan to add no more than five gates during that time. Twenty-two percent of the large and medium-sized airports reported they have no plans to add any additional gates in the next 5 years and have no gates currently under construction, despite the fact that several of them have land available.¹ Thirty-three percent of the large airports and 14 percent of the medium-sized airports do not plan to add any additional gates, nor do 21 percent of the concentrated airports. Another 22 percent of the large and medium-sized airports and 43 percent of the concentrated airports reported that they plan to build from one to five gates. Among the 117 small airports we surveyed, 37 percent have no plans to add gates. Only 18 percent plan to add more than five gates, while the median number of gates planned is two.

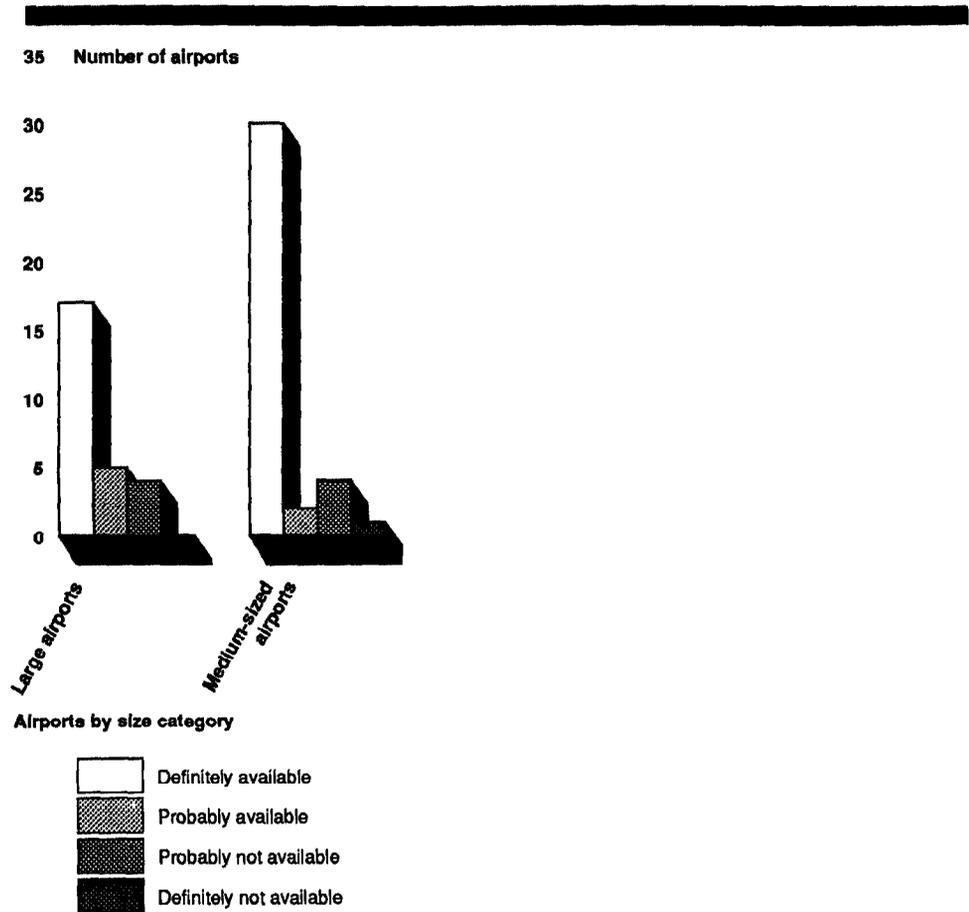
Most Airports Have Access to Land for Expansion

Most of the large and medium-sized airports reported they have access to land either owned by the airport or near it on which they could build additional facilities. (See fig. 4.1.) Eighty-six percent reported that they have access to land, while 14 percent reported they do not. Concentrated airports are more likely than other airports to have access to land; 93 percent have such access. Eighty-nine percent of the small airports responding to this question indicated that they have access to land on or near the airport for expansion.²

¹These percentages are based on the airports responding to this question. Three large and three medium-sized airports did not respond. All of the concentrated airports responded.

²We surveyed 117 of the 163 small airports with 20 or more passengers per day. The question about access to land was answered by 113 of the 117 small airports we surveyed.

Figure 4.1: Availability of Land for Airport Expansion



Various Other Factors Limit Airport Expansion

While access to land was generally not a problem, there are other important constraints on airports' ability to expand. These constraints include community opposition to increased noise and to other consequences of airport expansion, limitations on the ability of the air traffic control system to handle expansion, the need to comply with environmental regulations, the unavailability of funding for financing expansion projects, and the presence of MII agreements in contracts between airports and airlines.

Even among the 22 large airports that reported they have land available for expansion, 16 reported that at least 1 other factor will greatly limit or delay expansion in the next 5 years. Seven of the concentrated airports with land available are similarly limited by some other factor.

Community opposition to increased airport noise was the factor most frequently cited by these airports.

Of the 113 small airports we surveyed that responded to this question, 101 said they have land available for expansion, but 29 reported that some other factor could greatly limit or delay expansion in the next 5 years. The small airports with access to land most frequently cited factors other than community opposition and limitations on the air traffic control system as constraints, such as lack of available funding for airport expansion.

Community Opposition

Community opposition to increased noise was the factor most frequently cited as impeding expansion for the large and medium-sized airports. Among the airports responding to this question, 18 of the 26 large airports and 7 of the 14 concentrated airports reported that opposition to increased airport noise could greatly impede expansion. Among the 114 small airports we surveyed that answered this question, only 13 reported that opposition to increased noise could greatly limit or delay expansion.

Nine of the large and medium-sized airports responding to this question reported that community opposition to other consequences of airport expansion, such as increased highway congestion, could greatly limit or delay expansion. This type of community opposition is of greater concern to the large airports than to the medium-sized ones. Among the airports responding to this question, 6 of the 26 large airports reported that such community opposition could greatly delay expansion, while only 3 of the 38 medium-sized airports and 1 of the 14 concentrated airports reported that such community opposition could greatly delay expansion. Among the 114 small airports we surveyed that responded to this question, only 10 cited this factor as greatly impeding expansion. (App. VII provides data on the effects community opposition has on airports' ability to expand, as well as on the effects of limitations on the capacity of the air traffic control system and other constraints.)

Limitations on the Capacity of the Air Traffic Control System

Ten of the 62 large and medium-sized airports responding to this question reported that expansion could be greatly limited or delayed by the capacity of the air traffic control system. Six of the 25 large and 4 of the 14 concentrated airports cited air traffic control capacity as a major problem. Only 7 of the 112 small airports we surveyed that responded to

this question cited air traffic control system capacity as a major problem.

Other Factors

Nine of the 27 large airports (including 2 of the concentrated airports) and 8 of the 39 medium-sized airports listed additional factors that could limit or delay expansion to some extent. One large airport and two medium-sized airports reported that a lack of available funding could greatly impede expansion. Two large airports cited government requirements or regulations as greatly impeding expansion, and another one cited airline opposition to expansion. One large and one medium-sized airport cited environmental concerns (surface water drainage and the impact of expansion on wetlands areas) as major problems. Among the 14 concentrated airports, 1 cited both airline opposition and environmental concerns.

Eleven of the 117 small airports we surveyed listed a lack of available funding, particularly FAA grants, as a problem that could greatly affect their ability to expand. Four small airports listed environmental concerns, four listed technical constraints (such as runways that are too short for some types of jet aircraft), and three reiterated their lack of access to land. One small airport reported that airline opposition to expansion could greatly limit or delay expansion.

Majority-in-Interest Agreements

MII agreements give airlines some control over airport expansion. These agreements between airports and airlines are called MII agreements because they give airlines having a majority of the operations at the airport a voice in airport decisions that would alter the airlines' financial commitment to the airport. Airlines, in return for making a long-term lease commitment to a particular airport, sometimes receive the right to approve some or all airport expansion projects. Under these agreements, an airport may be required to get the airlines' approval of the proposed project itself, or the airlines may have some control over the airport's ability to issue additional bonds or raise fees to pay for improvements. For example, an agreement might require approval by airlines enplaning 51 percent of the passengers in the previous year for any project costing over \$50,000 whose costs would be recovered from fees charged to the airlines.

Traditionally, it was considered necessary by the financial community for an airport planning a major improvement or expansion project to have the backing of the tenant airlines that are signatories of the MII

(i.e., a commitment by them to pay sufficient fees to the airport to cover bond payments). Airports securing this long-term commitment from their tenant airlines were able to get a lower interest rate on their debt issues. In return, the airlines sought some guarantee that the airport could not unilaterally issue additional debt, which the airlines would then be required to help pay back through higher lease payments, landing fees, or other charges. Many times these MII agreements run for the life of the bond issue—20 to 30 years or longer. These long-term agreements could negatively affect competition if they are used to prevent expansion of facilities that would allow space for entrants. One alternative to signatory airlines' funding expansion projects is for the airport to fund projects independently or by agreement with the particular airline seeking the facilities. Several of the airports with MIIs told us they either have no other source of funding for major projects outside their MII provisions or would have difficulty recovering costs for projects backed by a single airline if that airline defaults on the agreement.

Over half of the 66 large and medium-sized airports reported having an MII. In general, concentrated airports are more likely to have an MII than other large and medium-sized airports (79 percent of the concentrated airports compared with 48 percent of the unconcentrated airports). Nearly all of the large and medium-sized airports with an MII (33 of 36) give larger signatory airlines a greater voice in the approval of projects than smaller airlines by calculating shares or votes based on landed weight, fees paid, or enplanements. About three-fourths of the airports with an MII reported that the agreement limits or delays expansion to some extent. Six of the 36 large and medium-sized airports with an MII reported their MII greatly limits or delays expansion projects. (See table 4.1.)

Table 4.1: Large and Medium-Sized Airports Where Majority-in-Interest Limits or Delays Expansion

Size of airport	Number of airports				Total with MII's
	Effect of MII on expansion				
	Greatly limits or delays	Moderately limits or delays	Somewhat limits or delays	Does not limit or delay	
Large ^a	2	3	3	6	14
Medium	4	5	9	3	21
Total	6	8	12	9	35
Airport market					
Concentrated ^a	2	2	2	4	10
Unconcentrated	4	6	10	5	25
Total	6	8	12	9	35

^aOne large, concentrated airport with an MII did not answer this question.

According to airport officials, the signatory airlines generally approve expansion projects that directly benefit the airlines. However, airport officials told us that the airlines are often reluctant to approve projects that would benefit other users, such as new facilities for cargo operators or general aviation, as well as projects that would benefit passengers but would not affect airline operations, such as parking garages. No airport official cited any instance in which signatory airlines rejected projects expanding the terminal or increasing the number of gates, although some projects were modified to make them less expensive. Airport officials generally agree that the airlines make decisions on projects at one airport partly on the basis of projects proposed at other airports; for instance, one airline may agree to support a project another airline desires at one airport in order to get the second airline's reciprocal support for a project the first airline wants. Airport officials also generally agree that airlines and airports have different perceptions of the appropriate timing of projects. Airports try to have facilities in place by the time growth projections indicate they will be needed; however, according to airport officials, airlines prefer to fund only those projects that address current needs. The airlines' position may restrict capacity at these airports, possibly discouraging entry. According to airline officials, no entrant has ever been prevented from starting service as a direct result of signatory airlines' action under MIIs. The delays resulting from MIIs may, however, discourage competitive entry.

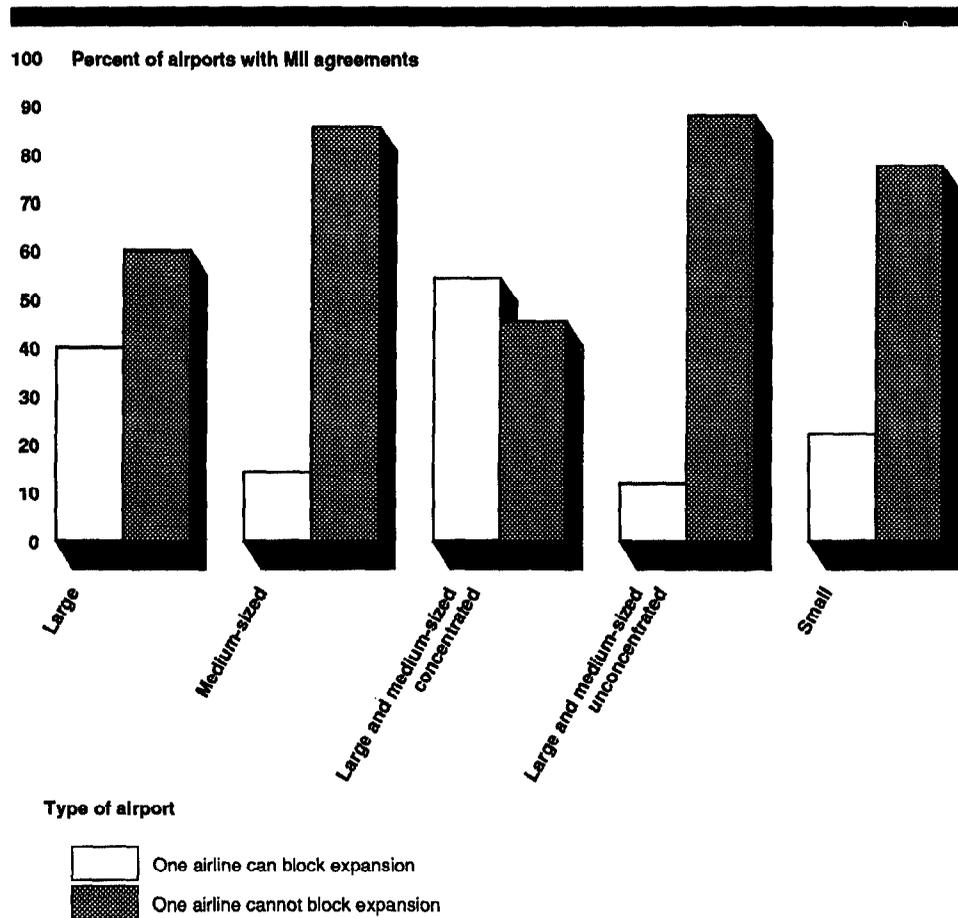
According to information provided by the airports, at least 9 of the 36 airports have one signatory airline with operations large enough to

block approval under their MII criteria, including 6 of the 11 concentrated airports with an MII.³ (See fig. 4.2.) For example, the MII at St. Louis gives a single airline (TWA) power to block or delay most expansion decisions, since that airline's operations alone are large enough to constitute a majority under the MII. Only one airport reported that projects can be approved by any one of the signatory airlines. One other medium-sized airport reported that all of its signatory airlines have an equal voice in decisions.⁴

³Minneapolis/St. Paul was in this group. However, a new airline use agreement, taking effect in 1990, will no longer allow any one carrier to block airfield capital improvement projects. Terminal projects are still not covered by the MII.

⁴In 11 cases, the information provided on the survey forms was not detailed enough to determine how many airlines would be required to either block or approve projects.

Figure 4.2: Percentage of Airports With a Majority-in-Interest Agreement Where One Airline Can Block Expansion



Note: The data reported here represent only the 117 small airports surveyed by GAO and do not include information on the other 46 small airports with 20 or more passengers per day.

The 117 small airports we surveyed are less likely to have an MII than the larger airports. This may be due to low traffic density at the small airports and the lower proportion of small airports that are airline hubs. Therefore, airlines may place less value on having MIIs that allow them some control over costs at small airports than they do at their larger hubs. Only 18 of the 117 small airports have an MII agreement—15 percent compared with about 55 percent of the large and medium-sized airports. One airline can block projects at 4 of the 18 airports.⁵ Fifteen of

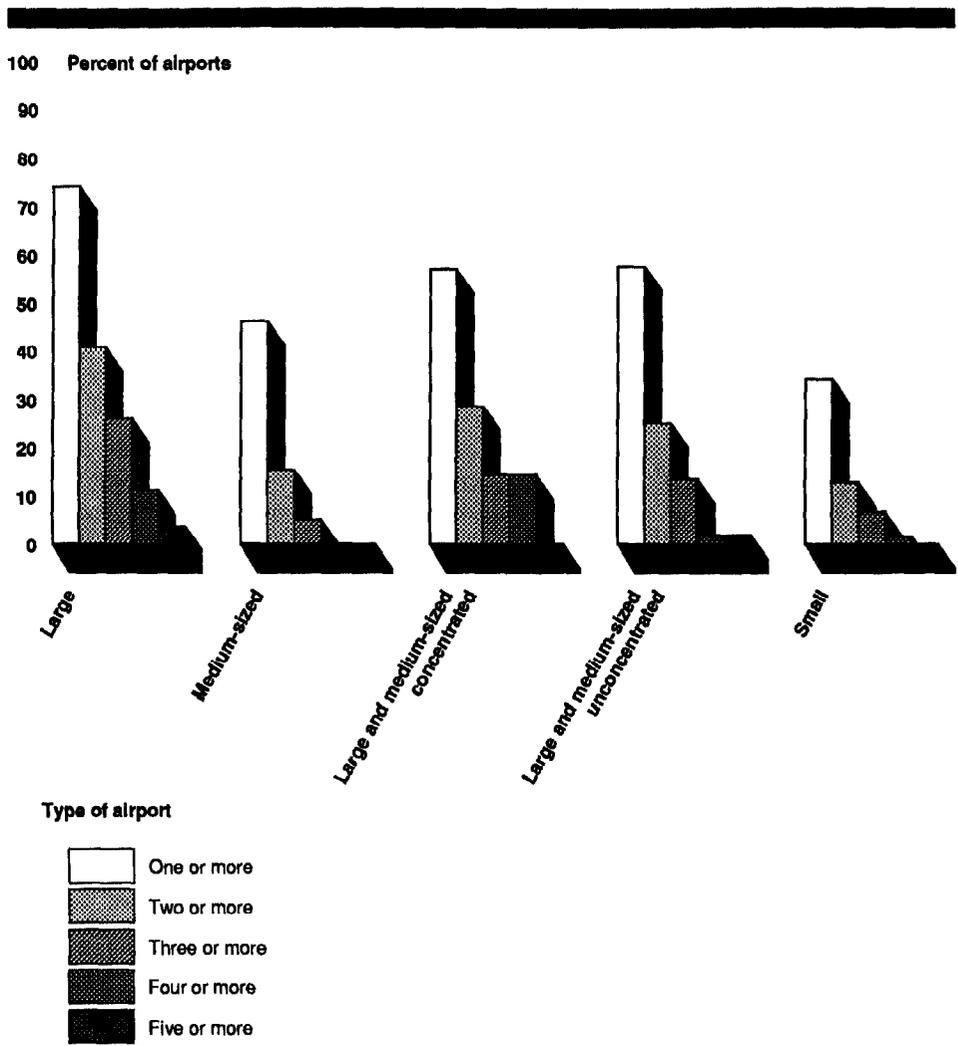
⁵In 10 cases, the information given was not detailed enough to determine if any one airline would be able to block projects.

the 18 small airports with an MII reported that the agreement limits or delays expansion to some extent.

Expansion at Many Airports Is Limited by One or More Factors

Most of the large and medium-sized airports cannot easily expand to accommodate new competition because of the combined effects of constraints—including unavailability of land, community opposition to increased noise and other consequences of expansion, limitations on the ability of the air traffic control system to handle expansion, the presence of an MII, and other factors cited by the airports. Fifty-eight percent of the large and medium-sized airports (38 of the 66) reported that one or more constraints greatly impede expansion at their airport. This group includes almost three-fourths of the large airports (20 of the 27). (See fig. 4.3.) Eighty-nine percent of the airports (59 of 66) reported that one or more factors impede expansion to some extent. Sixty-nine percent of the small airports (80 of 117) we surveyed also reported that one or more factors impede their expansion to some extent. This situation is of special concern at highly concentrated airports and airports where all of at least one type of facility is exclusively leased to incumbent airlines. In those cases, an entrant may have to negotiate facility subleases with the dominant airline—the very airline it is trying to challenge for a share of the market.

Figure 4.3: Percentage of Airports Where One or More Factors Could Greatly Limit or Delay Expansion



Note: The data reported here represent only the 117 small airports surveyed by GAO and do not include information on the other 46 small airports with 20 or more passengers per day.

DOT Task Force Findings

The report by the Secretary of Transportation's Task Force on Competition in the U.S. Domestic Airline Industry includes their findings on factors that limit expansion of capacity at airports. The analysis focused on MIS and other clauses (such as clauses restricting the ability of the airport to impose additional rates, fees, and charges on the airlines) that limit an airport's ability to expand. The Task Force concluded that these clauses

may operate independently or in conjunction with MII clauses to stifle airport efforts to finance, build, and assign new capacity. . . . At best, the numerous contractual barriers make it difficult for a new entrant to obtain cost-competitive access to airports. At worst, contractual clauses such as MII deter efficient development of new gate capacity, with a negative effect on new entry.⁶

Conclusions

Overall, airports plan very little expansion of gates in the next 5 years, although a few airports do plan significant expansions. Almost one-third of the 646 additional gates planned are at six large and medium-sized airports that will have to build additional runways in order to accommodate all of the gates they have planned. Counting only the gates that can be added without building additional runways, the large and medium-sized airports plan to add an average of eight gates—an expansion of less than 4 percent per year. Community opposition to increased airport noise is an important constraint on expansion at many airports.

We found no evidence that MIIs have been used to prevent entry by potential competitors. However, in our interviews with airport officials, we did find that these agreements usually delay proposed projects for months, even years, primarily because of the additional layer of review necessary to get the approval of signatory airlines. We also found that airlines are often reluctant to fund expansion before their operations are actually overcrowded, according to airport officials. As a result, we believe that MIIs contribute to chronic overcrowding that discourages entry by competing airlines.

⁶Secretary's Task Force on Competition in the U.S. Domestic Airline Industry: Airports, Air Traffic Control, and Related Concerns (Impact on Entry), p. 3-14.

Few Airport Noise Control Programs Represent a Barrier to Entry

We found that only 22 (about 12 percent) of the 183 airports we surveyed have a noise control program that could potentially limit competition. Our analysis of airport noise control programs was based on airport responses to our survey, analysis of noise rules and regulations, and interviews with airport officials. However, our survey included only 117 of the 163 small airports having 20 or more passengers per day. Small airports with more routes were more likely to be selected than those with fewer routes, because we used a random sample of routes rather than of airports to select the 117 small airports we surveyed. Because we used the airports' responses to our survey to identify programs to examine in detail, we do not know what programs, if any, the other 46 small airports have or how those programs differ from the noise programs at the 117 small airports we surveyed. Based on the airports' noise abatement and mitigation programs as of 1988, we found that the larger airports are more likely to have noise restrictions. The most restricted airports are clustered in California (9) and along the East Coast (8). Several airports, including San Francisco, Minneapolis, San Diego, and New York Kennedy, reported that they plan to tighten their noise restrictions even further in the next few years.

Airports Use Three Primary Types of Noise Control Programs

Airports use three primary types of noise control strategies, but two of the three do not pose any substantial barrier to entry. Some type of noise control program is in effect at nearly all of the large and medium-sized airports (63 of the 64 that answered this question) and 78 of the 117 small airports we surveyed. However, most of these programs involve either controlling land use or directing flights away from noise-sensitive (primarily residential) areas. While such strategies do add to the cost of operating at an airport, they do not usually affect one airline's costs differently from another's. Land use strategies include zoning and building restrictions, soundproofing buildings near the airport, guaranteeing the purchase of nearby homes, and buying land surrounding the airport. Strategies used to direct flights away from noise-sensitive areas include using a preferential runway for as many flights as possible, requiring landing approaches and takeoffs to be made over waterways, and directing aircraft to climb and descend at the steepest safe angle. All of these strategies minimize the time an aircraft spends over noise-sensitive areas.

A third type of noise control strategy—restricting the types of aircraft used or the number of aircraft operations—is the one most likely to have a differential effect on airlines operating from the same airport. This strategy includes limiting the number of flights that can be made

during certain times of day; limiting the number of airlines that can serve an airport; limiting or banning operations by specific kinds of aircraft, often during specific hours (for instance, at night); restricting training flights and engine testing; requiring the use of the quietest available aircraft; and limiting the amount of noise that can be generated by operations at the airport.¹

We considered noise restrictions to constitute a potential barrier to competition when they (1) treat incumbents and entrants differently or (2) limit the use of the types of aircraft that might be more readily available to entrants. For instance, limits on the use of older, noisier aircraft might disadvantage the newer or smaller airlines since these aircraft are more readily available in the secondhand and lease markets than are the newer, quieter aircraft. Such noise control programs constitute a barrier if they cause the costs of operating at a particular airport to vary between airlines at that airport depending on when an airline started service or the type of equipment it uses.

Airports' Limitations on Noisier Aircraft May Limit Entry

The Federal Aviation Administration designates aircraft as belonging to either Stage II or Stage III based on the amount of noise they make.² About 64 percent of the current fleet are Stage II aircraft, which are the older, noisier, and less fuel efficient models. The other 36 percent of the fleet are the newer, quieter, and more fuel-efficient Stage III aircraft. When an airport requires that a higher than average percentage of flights be made using Stage III aircraft, it can create a barrier for those airlines that have primarily Stage II aircraft or that are acquiring used aircraft. The supply of Stage III aircraft is limited and aircraft manufacturers' commercial aircraft production is reserved for several years into the future, making the purchase of new, quieter aircraft difficult and reducing the availability of aircraft for lease.

¹Noise budgets or caps limit the amount of noise that can be generated and are used either to prevent total noise at an airport from increasing or to reduce the total noise over a period of time.

²These stages are defined in Federal Aviation Regulation (FAR) part 36, sec. 36.1(f)(3) and (f)(5). The noisiest aircraft were designated Stage I, but these can no longer be flown anywhere in the United States.

Some Airports Limit Stage II Operations

Twenty airports in our survey restrict the operation of Stage II aircraft. All of these airports restrict Stage II operations during nighttime hours, and 10 restrict Stage II operations both day and night.³ Only Long Beach, Burbank, Lake Tahoe, and Orange County, in California, entirely prohibit the use of Stage II aircraft during both daytime and nighttime hours. Palm Beach uses differential landing fees that make Stage II operations more expensive than Stage III operations, with Stage II nighttime operations being assessed 13 times as much as the base fee.⁴ Only two other airports, Dallas Love Field and Boston, require a higher proportion of Stage III aircraft than that of the industry fleet as a whole. Dallas Love Field requires 60 percent of all operations to be performed with Stage III aircraft. Boston required 49 percent Stage III aircraft in 1988, but also offers airlines an alternative method of complying with its noise budget, discussed below. Denver, Minneapolis, and Islip also limit Stage II operations under their noise budgets.

A Few Airports Have Noise Budgets

Six airports have noise budgets or caps. These airports include three large airports (Boston, Denver, and Minneapolis/St. Paul), two of which are concentrated and one medium-sized airport (Orange County). Two of our 117 small airports (Islip and Long Beach) also have noise budgets. Boston's noise budget is the most flexible of the group, allowing airlines to choose between two options: making a certain portion of their flights with Stage III aircraft (the portion was 49 percent in 1988 and 53 percent in 1989) or meeting a noise per seat standard. Under the second option, an airline could use a higher proportion of Stage II aircraft than it could under the first option if the planes are large enough and quiet enough. Boston does not limit the number of Stage III operations an airline may add.

Most of the noise budgets make some provision for entry at the airport. Under a noise budget, the airport determines what amount of noise will be allowed and allocates the rights to make that noise to airlines operating at the airport. These noise rights can be transferred between airlines (bought, sold, or leased) at some of the airports with noise budgets. The noise budget at Islip provides for a complete reallocation of all noise

³San Francisco's nighttime Stage II ban is not included because it did not take effect until January 1, 1989. At six airports (Minneapolis, Midway, Palm Springs, Santa Barbara, Sarasota, and White Plains), the nighttime curfews are voluntary agreements. These airports report good compliance with their voluntary programs. However, if compliance levels were to drop, voluntary restrictions would probably be converted to mandatory ones.

⁴Palm Beach airport officials told us they are planning to further increase fees for Stage II aircraft operations in 1990.

allowances on a fixed schedule, allowing potential entrants a good opportunity to gain their own noise allocation rather than having to buy or lease noise rights from an incumbent airline that has an allocation. In practice, however, reallocation lotteries are held whenever the airport has requests for additional noise rights. The initial noise allocations at Boston, Denver, and Minneapolis were all based on the historical use of the airport by incumbent airlines. However, both Boston and Denver exempt from the noise budget airlines with only a few flights per day. In contrast, when Minneapolis designed its noise budget, a portion of the allowable noise was specifically reserved for future entrants. Minneapolis and Denver both allow the sale of noise allocations from incumbents to entrants.

Noise budgets are not necessarily more burdensome to entrants than to incumbents. In Minneapolis, incumbent airlines signed voluntary agreements with the airport authority that implemented the noise budget. Airport officials told us that an entrant would not automatically be covered by the noise budget because it is a voluntary measure. However, Minneapolis officials also told us they have a formal noise budget measure drafted that could be implemented if voluntary compliance were to deteriorate.⁵

Although noise budgets are not necessarily more burdensome to entrants, they do sometimes give incumbent airlines advantages. Incumbent airlines at Minneapolis were granted some exemptions from the noise budget for operations in place when the voluntary agreements were signed. In Denver, incumbents were granted noise allocations based on their historical use of the airport when the noise budget was implemented. Since no noise allocation was set aside for entrants at Denver, they must either maintain operations at the low level of flights that is exempt from the budget or purchase part of an incumbent airline's noise allocation. Boston's noise budget exempts cargo airlines that were serving the airport in 1985 (before the noise budget went into effect), which could give them an advantage over newer cargo airlines.

Some Airports Limit Stage III Operations

Sixteen airports, including 7 in California, place some restrictions on even the quietest (Stage III) aircraft. Three airports—Orange County, Long Beach, and Islip—restrict Stage III aircraft during both day and

⁵When Minneapolis/St. Paul's new airline use agreement takes effect in 1990, all Stage II operations will be assessed a noise fee, and Stage III operations will earn a credit against the noise fee. Proceeds from the noise fees will be used for noise mitigation projects on property outside the airport's grounds.

night hours. Orange County's restrictions designate Stage III aircraft as belonging to one of three noise categories, strictly limiting operations for all but the quietest of the Stage III aircraft. Long Beach allows only Stage III operations, but even those are limited by the airport's cap of 40 flights per day. Islip's noise budget limits the use of Stage III aircraft to some extent, even though it allows airlines some latitude in allocating operations between Stage II and Stage III aircraft. Myrtle Beach has a nighttime curfew that prohibits all operations, including those by Stage III aircraft.

Entry at four Southern California airports is severely limited by restrictions on airport activity, primarily resulting from lawsuits over airport noise. Long Beach and Orange County stand out as having the most restrictive noise programs in the nation, while Burbank and Lake Tahoe have the next most severe restrictions. Long Beach is limited to a maximum of 40 flights per day by court order, with the court also allocating these flights among competing incumbent airlines and entrants. Any change in the number or allocation of flights would have to be decided by the court, according to airport officials. According to DOT, the financial burdens of litigation and aircraft testing required to gain access to the Long Beach airport resulted in one entrant's bankruptcy. Orange County prohibits use of Stage II aircraft and also has caps on both the number of airlines that can serve the airport (9 air carriers) and the number of passengers. The airport maintains a list of airlines seeking entry and notifies them on a first-come-first-served basis when the opportunity for entry arises. However, entrants are offered only two flights per day, which may deter low-cost airlines from offering service. Burbank bans the use of Stage II aircraft entirely and, further, has a voluntary ban on Stage III operations at night. Similarly, Lake Tahoe requires that all aircraft comply with a decibel-level noise standard that no Stage II aircraft can meet. The airport also has court-ordered restrictions on the number of flights. (See app. VIII.)

DOT Task Force Findings

The Secretary of Transportation's Task Force on Competition in the U.S. Domestic Airline Industry noted the presence of some highly restrictive noise regulations at a handful of airports and suggested that "there could be a serious barrier problem if local rules restricting the operation of specific aircraft were to proliferate," but concluded, "based on rules

currently in place, that local environmental regulations do not represent a serious barrier to entry.”⁶

Conclusions

Noise control programs that have the potential to limit competition are not in widespread use. However, several of the airports that already have restrictive noise control programs are planning to increase their restrictions further. Airports across the country are attempting to balance the needs of their local passengers for air travel with the needs of surrounding communities affected by airport noise. When one airport in a metropolitan area has noise restrictions, however, there are usually alternative airports within the metropolitan area that travelers can use, although these alternative airports may be less convenient.

The terms of the airport noise control programs we examined are not very consistent. For instance, aircraft complying with the noise control restrictions at an airport at one end of a route might not comply with the noise restrictions of the airport at the other end of the route. Should these types of noise control restrictions become widespread, this lack of consistency could make it difficult for the airlines to schedule the use of their aircraft efficiently or could substantially raise the cost of providing service. To the extent that new restrictions include exemptions for incumbent airlines, they would have a greater effect on entrants' ability to start competing service.

⁶Secretary's Task Force on Competition in the U.S. Domestic Airline Industry: Airports, Air Traffic Control, and Related Concerns (Impact on Entry), p. 4-6.

Some Airline Marketing Strategies Limit Entry

The new airline marketing strategies developed since deregulation build customer loyalty among passengers and travel agents and increase the cost of entry by competing carriers. Frequent flyer plans are targeted at business flyers and encourage them to use the dominant carrier in each market, discouraging new entrants. Airline-owned computerized reservation systems (CRS) increase costs for entrants because they charge high booking fees and they encourage travel agents to book flights on the airlines owning the CRSs. Volume incentives paid by airlines to travel agents are effective in influencing the flights booked for the large percentage of passengers who leave their choice of airline to the travel agent, and thus increase the costs of marketing tickets for both incumbent and entrant carriers. Code-sharing agreements also raise the cost of entering new markets, but appear to have significant benefits for consumers as well.

Since travel agents are the primary point of contact between airlines and consumers purchasing tickets, we conducted a telephone survey of 520 travel agents.¹ Sixty percent of the agents said that more than 35 percent of their bookings are for business travel. Twenty-four percent of the agents, doing 38 percent of the bookings, did more than 65 percent of their bookings for business customers.

Heavy Use of Frequent Flyer Plans Creates a Serious Barrier to Entry

Frequent flyer plans are a marketing strategy airlines use to encourage customer loyalty. Under these plans, passengers qualify for various awards by flying a specified number of miles with the sponsoring airline. The awards earned increase in attractiveness as the number of miles flown grows. After accumulating relatively few frequent flyer miles, a passenger may, for instance, earn the right to upgrade a ticket from coach to first class, while free flights to overseas destinations require earning higher accumulations of miles.

Frequent flyer programs encourage passenger loyalty through the award structure. Some of the programs are designed so that as the mileage accumulated increases, the value or desirability of the awards earned per mile flown is greater. For example, a plan might require 30,000 miles of travel for a passenger to earn the first free ticket, but only an additional 20,000 miles for the second free ticket. A passenger with 30,000 frequent flyer miles earned under one plan would thus be better off to earn another 30,000 miles under that plan (earning, say,

¹See app. XI for responses to each question in the telephone survey of 520 travel agents and for sampling errors for selected data.

both a second free ticket and an upgrade to a first-class ticket) rather than earn an initial 30,000 miles under another plan.

In addition, some plans limit how long a participant can hold accumulated miles. This encourages passengers to travel on a single airline as much as possible in order to build up enough miles to earn an award before the miles expire. Because the award structures encourage passengers to fly regularly on a single airline, a frequent flyer plan helps a well-established airline to discourage its passengers from flying on other airlines that offer new service to the same destinations. The dominant airline at an airport generally offers service to the most destinations and will, therefore, offer participants in frequent flyer plans the most opportunities to earn and redeem awards.

We attempted to determine the extent to which passengers choose flights to build up miles in their frequent flyer plans and the reasons they choose the plans they do by making national projections based on our survey of 520 travel agents. Eighty-one percent of the travel agents we spoke with told us that their business customers choose flights to accumulate additional frequent flyer miles more than half the time. Almost as many agents believe that the ease of building up miles on a single airline is a major factor in passengers' decisions about which frequent flyer plan to use. These results indicate that frequent flyer plans are heavily used and that the airline providing the most flights from a particular city is likely to attract the most frequent flyer participants. (See table 6.1.)

Table 6.1: How Often Travel Agents Reported That Business Clients Choose Flights to Build Up Frequent Flyer Miles

How often business clients choose flights to build up frequent flyer miles	Percentage of travel agents reporting
Always or almost always	57
More than half the time	24
About half the time	9
Less than half the time	4
Rarely, if ever	2
Other ^a	3
Total	100^b
Total agents responding to question	520

^aThe "Other" response category includes those who answered "Don't know" or "Other" to this question.

^bTotal does not add to 100 percent because of rounding.

Control of CRSs by Dominant Airlines Creates Additional Barriers for Entrants

CRSS increase costs and reduce revenues for airlines that are not CRS vendors. A non-vendor will therefore be discouraged from entering markets where the dominant carrier is a CRS vendor. We concluded in our September 1988 testimony that CRSS earn profits exceeding those that could reasonably be expected to be earned in a competitive market.² They therefore unfairly transfer millions of dollars of revenues annually from airlines that do not own CRSS to those that do, making the former less competitive in the marketplace. In our September 1988 testimony, we also recommended that DOT consider action to remedy the anticompetitive problems in the CRS industry found by both GAO and the Department of Transportation. The current DOT rules governing CRSS expire at the end of 1990. DOT is currently considering revisions to its CRS rules under an official rulemaking proceeding.

In May 1988 DOT, in an extensive study on CRSS,³ concluded that travel agents book a disproportionate number of flights on the airline that owns their CRS. DOT found that phenomenon, which it called the "halo effect," boosted the revenues of CRS vendors by 9 to 15 percent. These additional revenues, called incremental revenues, come at the expense of non-vendors, making it more difficult for them to compete. Moreover, the costs of establishing a new CRS and signing up agents to use it are so high that establishing a new CRS is impractical for an entrant. The costs of signing up agents are increased by the restrictive provisions in the contracts between CRS vendors and travel agents.

DOT also found that for the two major CRSS controlling 75 percent of the market, the booking fees charged to competing airlines whose flights were booked on the CRSS were about double the costs of providing the bookings. These excessive booking fees, in combination with the incremental revenues earned by CRS vendors, resulted in the transfers of millions of dollars per year from non-vendors to vendors.

Some of the travel agents we surveyed told us that they are more likely to recommend the airline that owns their CRS to their customers than another airline. This response was consistent with DOT's analysis. CRS vendor airlines also apparently used data from the CRS about agents' bookings to target their travel agent incentives, programs that also

²Competition in the Computerized Reservation System Industry (GAO/T-RCED-88-62, Sept. 14, 1988). See also Airline Competition: Impact of Computerized Reservation Systems (GAO/RCED-86-74, May 9, 1986).

³Study of Airline Computer Reservation Systems, U.S. Department of Transportation (DOT-P-37-88-2, May 1988).

influence agents to book additional flights on the vendor's airline. Some of the agents we surveyed reported receiving visits from their CRS vendor's representatives in response to changes in booking patterns.

Volume Incentives May Increase Marketing Costs for Entrants and Influence Booking Patterns

Airlines also offer several types of incentives to travel agents based on an agent's volume of bookings, including VIP club memberships, overbooking privileges, override commissions, and free tickets. The first of the incentives, membership in airline VIP clubs, provides members with a special waiting area and often includes additional services while they wait, such as free coffee or the use of a computer. The second incentive, overbooking privileges, allows agents to book travelers on flights that appear on the computerized reservation system to be fully booked. This privilege is particularly useful to agents booking last-minute trips for business travelers. The third incentive, override commissions, is monetary bonuses paid to travel agents who book a large volume of business with the airline offering the incentive. The last incentive, provision of free tickets, gives the agents awards similar to those that passengers receive under frequent flyer plans.

Marketing Costs

To the extent that these incentives are effective in inducing agents to book a disproportionate number of passengers on a particular airline, they may increase the costs of marketing tickets, because other airlines may feel compelled to offer equally costly incentives. An increase in the cost of selling tickets in a market may, in turn, discourage airlines from entering the market. We asked agents about the extent to which they (1) received these incentives, (2) could influence the travel choices of their customers, and (3) could have been influenced by these incentives in the recommendations they made to their customers.

Booking Patterns

Most of the agents we spoke with get volume incentives of various kinds. About three-fourths of the agents receive at least one kind of incentive. In our survey, the extent to which agents receive volume incentives was related both to the percentage of business customers served and to the size of the agency—agencies with a higher proportion of business customers and larger agencies got more incentives. Based on our survey results, we project that 41 percent of agents nationally get free tickets, 11 percent get free VIP club memberships, 36 percent get overbooking privileges, and 52 percent get override commissions. For

almost two-thirds of the agencies who reported receiving override commissions, the commissions are moderately or very important to the office's revenues.

Passengers frequently leave the choice of airline for their flight up to their travel agent. Based on the results of our survey, 51 percent of the agents select the airline for their customers at least half of the time. In fact, more than two-thirds of the agents select the airline on at least one-quarter of the flights they book. In the Travel Agent Market Study, conducted by Louis Harris and Associates for Travel Weekly magazine, travel agents reported that they choose the airline 41 percent of the time for business travelers and 55 percent of the time for leisure travelers.⁴ Many agents mentioned low fares as an important consideration in their choice of flights when passengers leave the choice to the agents, while the majority of the agents mentioned factors affecting customer convenience, such as choosing flights to match the customer's preferred time of travel and nonstop flights. Some of the agents mentioned they would choose their preferred airline or the airline that gives the agent incentives, when two flights are equally convenient for the customer.

Forty-one percent of travel agents have a preferred airline, which they recommend to passengers who are undecided about which airline to choose, based on our survey results. The agents we surveyed mentioned both factors that affect the agency (for example, override commissions and ownership of the CRS) and those that affect customers (for example, customer preference and low fares) as the bases for choosing their preferred airline. In addition, according to the Travel Weekly survey, 51 percent of travel agents choose a particular airline because of override commissions at least some of the time. Therefore, although the agents' primary considerations in selecting between flights appear to be customer convenience and lowest available fare, agents are likely to be influenced to some extent by the incentives they receive from airlines.

Our data show that travel agents often receive volume incentives and that these incentives have some influence on their booking patterns. Since 81 percent of airline tickets are booked through travel agents, and since 51 percent of the agents in our survey reported choosing the airline at least half of the time, there is a potential for these incentives to influence a large proportion of airline bookings. The widespread use of these incentives indicates that travel agent incentives significantly raise

⁴See The 1987 Travel Agency Market, pp. 28 and 45. The study, dated July 1988, was based on a survey of 702 agents in the 48 contiguous states.

the costs of marketing airline tickets. This may adversely affect entrants, which may be less able to bear these costs than a well-established incumbent airline can. The anticompetitive impact of incentives paid to travel agents appears to be less powerful, however, than the effects of frequent flyer plans and CRSS, because the incentives raise costs for both the entrant and the incumbent. However, if the entrant is smaller than the incumbent, the entrant may be more adversely affected by these higher marketing costs.

Anticompetitive Effects of Code- Sharing May Be Offset by Benefits to Consumers

Two types of arrangements are generally used when a passenger's trip involves flying on more than one airline: interlining and code-sharing. With an interline agreement, one airline sells tickets that include travel on another airline's flights. The other airline agrees to accept such tickets and provide transportation of passengers and their baggage. The airlines do not coordinate schedules or necessarily have facilities located near one another in the connecting airport. In a code-sharing arrangement, as discussed in chapter 1, a commuter airline enters into a partnership with a larger airline to transport connecting passengers to and from the larger airline's flights. For the convenience of the two airlines' passengers, the airlines closely coordinate their schedules, with the larger airline often providing services such as baggage checking and airport facilities such as gates for the commuter in an area close to its own. In code-sharing, the passenger's ticket shows the two-letter airline code of the larger airline for all segments of the trip even though part of the trip is actually flown on the smaller airline. The smaller airline thus shares the airline code of the larger airline. The larger airline also handles much of the fare collection and accounting work and usually sets standards for the commuter airline's service that are similar to its own.

Code-Sharing Disadvantages Non-Code- Sharing Competitors

There are three ways that code-sharing can disadvantage competing airlines that do not have code-sharing agreements. First, code-shared flights are given preference over interline flights in the CRSS that agents use to book flights, so that code-shared flights appear sooner in the display. Since flights listed earlier in the CRS display are more likely to be booked than those displayed later, code-shared flights are more likely to be booked than interline flights.

Second, some passengers may choose code-shared flights over interline flights in the belief that the entire trip will be made with the larger airline's jet aircraft. DOT rules require that the passenger be informed that part of the trip will take place on a second airline. However, since a

passenger's ticket shows the code of the larger airline for the entire trip, some passengers may believe that the entire trip will be flown on the larger airline's aircraft.

Third, code-sharing commuter airlines are more likely to deliver passengers to their code-sharing partner than to other airlines at the airport because of the partners' unified ticketing procedures and their closely linked schedules and facilities. Most commuter airlines enter into code-sharing agreements with only one larger airline at any particular airport. Thus, code-sharing could foreclose the market for other jet airlines that would not be able to capture enough of the passengers changing flights at the airport to compete with the larger code-sharing airline.

Code-Sharing May Benefit Consumers

Our survey could not assess the significance of the anticompetitive effects of code-sharing agreements. However, it did reveal advantages of code-sharing for consumers that may offset any anticompetitive effects it has. According to our survey, travel agents generally think that consumers are well aware of the fact that a code-shared flight involves flying on a commuter aircraft. Ninety-five percent of the agents either have a policy of informing passengers that a flight will be on a code-sharing commuter or believe that most passengers know which flights are code-shared.

While more than half of the agents said that their customers have no preference between code-shared and interline flights, 66 percent of those who said their customers do have a preference reported that the customers prefer code-shared flights. (See table 6.2.) More convenient connecting times are the leading reason that customers prefer code-shared flights, according to the agents' answers to questions about particular aspects of service that might influence passengers' choices. Further, agents reported fewer complaints about lost, delayed, or damaged baggage, inconvenient gate locations for connecting flights, and inconvenient connecting times from customers on code-shared flights than on interline flights. For three other dimensions of service, the agents reported no difference in complaints between code-shared and interline flights on one dimension and fewer complaints about interline flights on the other two dimensions. Overall, these data suggest that code-sharing provides some consumer benefits which should be considered in relation to any anticompetitive effects this practice may have.

Table 6.2: Customer Preference for Code-Shared and Interline Flights, as Reported by Travel Agents Surveyed

Customers' preference	Percentage of agencies responding
Strong preference for code-sharing	19
Moderate preference for code-sharing	10
No preference/depends on situation	53
Moderate preference for interlining	6
Strong preference for interlining	9
Other ^a	3
Total	100
Total number of agents responding	517

^aThe "Other" response category includes those who answered "Don't know" or "Other" to this question.

DOT Task Force Findings

The Secretary of Transportation's Task Force on Competition in the U.S. Domestic Airline Industry reviewed the competitive impacts of frequent flyer plans, CRSS, and travel agent commission overrides. About frequent flyer plans, the Task Force concluded that these plans "help stabilize and protect existing market shares among incumbent airlines, which may make it more difficult for smaller air carriers to compete successfully in some markets."⁵

On CRSS, the Task Force's conclusions were generally parallel to DOT's earlier conclusions in its 1988 study of the systems. However, the Task Force did note that the CRS vendors' recent estimates of incremental revenues, that is, the additional profits the vendors receive by virtue of owning CRSS, were "generally higher than the numbers used in the Department's 1988 report."⁶

On travel agent commission overrides, the Task Force concluded that, "Override programs in general give larger carriers an advantage in winning an agency's favor. . . . [and] given the importance of incremental airline revenues, the large carriers' advantages in obtaining preferred status from travel agencies does weaken the competitive position of smaller carriers."⁷

⁵Secretary's Task Force on Competition in the U.S. Domestic Airline Industry: *Airline Marketing Practices*, p. 41.

⁶Secretary's Task Force on Competition in the U.S. Domestic Airline Industry: *Airline Marketing Practices*, pp. 5-6.

⁷Secretary's Task Force on Competition in the U.S. Domestic Airline Industry: *Airline Marketing Practices*, p. 30.

The Task Force did not directly address the impact of code-sharing agreements on competition. However, it did comment on the relatively small average number of regional airlines serving hub-and-spoke routes, which “probably reflects the difficulty experienced by potential new entrants into hub-feeding markets in competing with the code sharing regional affiliates of major airlines” that operate connecting hubs at the larger airports.⁸

Conclusions

Together, these airline marketing strategies are likely to significantly limit the potential market for an entrant. Frequent flyer plans, under which the dominant airline has an advantage, exercise a significant hold on business passengers, who represent more than half of the market. CRSS, usually owned by the dominant airline, and travel agent incentives significantly influence the booking patterns on flights selected for passengers who leave their choice of airline to the agent. Even if the entrant can book a passenger on one of its flights, it may have to pay its competitor a premium for booking the flight on the competitor’s CRS. While an entrant may be able to offer its own incentives to travel agents and establish its own code-sharing agreements, these strategies significantly increase the costs and risks of entry. Code-sharing seems likely to discourage entry, but may have enough advantages for consumers to compensate for its anticompetitive effects.

⁸Secretary’s Task Force on Competition in the U.S. Domestic Airline Industry: Regional Airline Competition, p. 20.

Net Air Carrier Slots Leased and Sold by Airline Type at Each of the Slot-Controlled Airports, April 1986 Through September 1988

Table I.1: Net Equivalent Air Carrier Slots Leased by Airline Type, April 1986 Through September 1988

Airport and airline type	Slots leased to airline type	Slots leased from airline type	Net equivalent slots leased ^a
Washington National			
Major airlines	199	232	(34) ^b
National airlines	43	7	36
Regional airlines	20	22	(2)
Others ^c	0	0	0
Total	262	226^b	0
New York Kennedy			
Major airlines	159	232	(73)
National airlines	0	1	(1)
Regional airlines	74	0	74
Others ^c	0	0	0
Total	234^b	234^b	0
New York LaGuardia			
Major airlines	203	219	(16)
National airlines	15	13	3 ^b
Regional airlines	14	0	14
Others ^c	0	0	0
Total	232	232	0^b
Chicago O'Hare			
Major airlines	332	401	(69)
National airlines	124	52	72
Regional airlines	73	62	11
Others ^c	1	16	(15)
Total	531^b	531	0^b
All slot-controlled airports			
Major airlines	893	1,085	(192)
National airlines	183	73	110
Regional airlines	181	84	97
Others ^c	1	16	(15)
Total	1,258	1,258	0

^aSlots are leased for various periods of time. In order to make leased slots comparable to purchased slots, leased slots were converted to equivalent slots by dividing the number of possible operations during the life of the lease (slot-days) by the number of days in a quarter (91). When more slots were leased out by the airlines in a size category than were leased to airlines in that size category, the decrease in equivalent slots is shown in parentheses.

^bColumns and rows do not add precisely because fractional equivalent slots leased were rounded.

^cThe "Others" category includes foreign airlines holding domestic slots, all-cargo airlines, and non-airline holders of slots.

Source: GAO analysis of FAA Slot Administration records.

Appendix I
Net Air Carrier Slots Leased and Sold by
Airline Type at Each of the Slot-Controlled
Airports, April 1986 Through September 1988

Table I.2: Net Air Carrier Slots Sold by
Airline Type, April 1986 Through
September 1988

Airport and airline type	Slots sold to airline type	Slots sold by airline type	Net slots sold^a
Washington National			
Major airlines	103	73	30
National airlines	17	33	(16)
Regional airlines	17	31	(14)
Others ^b	8	8	0
Total	145	145	0
New York Kennedy			
Major airlines	17	14	3
National airlines	3	8	(5)
Regional airlines	14	8	6
Others ^b	4	8	(4)
Total	38	38	0
New York LaGuardia			
Major airlines	129	72	57
National airlines	6	48	(42)
Regional airlines	0	15	(15)
Others ^b	0	0	0
Total	135	135	0
Chicago O'Hare			
Major airlines	260	171	89
National airlines	21	68	(47)
Regional airlines	6	48	(42)
Others ^b	2	2	0
Total	289	289	0
All airports			
Major airlines	509	330	179
National airlines	47	157	(110)
Regional airlines	37	102	(65)
Others ^b	14	18	(4)
Total	607	607	0

^aWhen airlines in a size category sold more slots than they bought during the period, the resulting net decrease in slots held by that category of airline is shown in parentheses.

^bThe "Others" category includes foreign airlines holding domestic slots, all-cargo airlines, and non-airline holders of slots.

Source: GAO analysis of FAA Slot Administration records.

Distribution of Air Carrier Slots Leased by Length of Leases, April 1986 Through September 1988

Length of leases	Percentage of slots leased			
	1986	1987	1988	1986-88
90 days or less	52%	78%	66%	69%
91-180 days	15%	20%	25%	21%
Over 180 days	33%	3%	9%	10%
Total	100%	100%^a	100%	100%
	Actual number of slots leased			
Total slots leased ^b	241	651	462	1,354

^aPercentages in this column do not add to 100 because of rounding.

^bThis is the actual number of slots leased in the period. Because slots are leased for varying periods, actual slots are converted to equivalent full-time slots. The 1,354 actual slots leased are equivalent to 1,258 full-time air carrier slots.

Source: GAO analysis of FAA Slot Administration records.

Distribution of Domestic Slot Holdings Between Related and Unrelated Airlines, by Airline Type, December 1985 Through December 1988

Airline type ^a	Percentage of air carrier slots held			
	December 1985	December 1986	December 1987	December 1988
Major airlines and related carriers	86	96	97	98
National airlines	10	3	2	2
Regional airlines	4	1	0 ^b	0 ^b
Others	0 ^b	1	1	0 ^b
Total^c	100	100	100	100
	Number of air carrier slots allocated			
Total slots	3,162	3,109	3,091	3,091
	Percentage of total domestic slots held			
Major airlines and related carriers	70	94	95	97
National airlines	8	2	2	1
Regional airlines	22	3	3	2
Others	0 ^b	1	0 ^b	0 ^b
Total^c	100	100	100	100
	Number of domestic slots allocated			
Total slots	3,801	3,956	4,006	3,985

^aThe "Majors and related carriers" category includes all domestic slots held by the major airlines, their subsidiaries, and code-sharing partners. The "Nationals" and "Regionals" categories include all independent national and regional airlines. The "Others" category includes foreign airlines holding domestic slots, all-cargo airlines, and non-airline holders of slots.

^bThe actual percentage is less than 0.5 percent.

^cColumns may not add to 100 percent because of rounding.

Source: GAO analysis of FAA Slot Administration records.

Domestic Gates Leased at the 66 Large and Medium-Sized Airports, by Airline and Airline Type

Airline	Total gates leased	Percentage of leased gates				Total
		Exclusive use		Preferential use		
		Without use-or-lose	With use-or-lose	Without use-or-lose	With use-or-lose	
Major airlines						
Texas Air ^d	484	62%	29%	7%	2%	100%
USAir ^b	394	54%	20%	21%	5%	100%
Delta	368	70%	12%	17%	1%	100%
American	329	79%	6%	11%	4%	100%
United	329	83%	6%	10%	1%	100%
Northwest	298	83%	9%	7%	1%	100%
TWA	214	86%	5%	7%	2%	100%
Pan Am ^c	52	73%	19%	8%	0%	100%
Total	2,468	72%	14%	12%	2%	100%
National airlines						
Southwest	86	64%	16%	14%	6%	100%
America West	55	70%	5%	20%	5%	100%
Braniff	42	84%	2%	12%	2%	100%
Midway	31	88%	0%	6%	6%	100%
Alaska Air	25	36%	28%	36%	0%	100%
American Trans Air	1	100%	0%	0%	0%	100%
Total	240	69%	10%	16%	5%	100%
Regional airlines						
Midwest Express	7	86%	0%	14%	0%	100%
Horizon	3	33%	0%	67%	0%	100%
Comair	2	50%	0%	50%	0%	100%
MGM Air	2	100%	0%	0%	0%	100%
Other regionals	16	31%	19%	44%	6%	100%
Total	30	50%	10%	37%	3%	100%

^aTexas Air data include domestic gates leased to both Eastern and Continental.

^bUSAir data include domestic gates leased to both USAir and Piedmont.

^cVery few domestic gates were reported leased to Pan Am, which is primarily an international carrier.

Gate Use at Large and Medium-Sized Airports, by Airline Type

Airport type ^a	Total gates ^b	Percentage of leased gates				Total
		Own use only	Fully subleased	Shared use ^c	Unused	
Major airlines						
Size of airport						
Large	1,621	80%	6%	13%	1%	100%
Medium	768	67%	8%	20%	5%	100%
Airport market						
Concentrated	800	88%	4%	6%	2%	100%
Unconcentrated	1,589	69%	8%	20%	3%	100%
Subtotal	2,389	76%	7%	15%	2%	100%
National airlines						
Size of airport						
Large	98	87%	0%	13%	0%	100%
Medium	124	72%	1%	15%	12%	100%
Airport market						
Concentrated	12	84%	0%	8%	8%	100%
Unconcentrated	210	78%	0% ^d	15%	7%	100%
Subtotal	222	78%	0%^d	15%	7%	100%
Regional airlines						
Size of airport						
Large	9	78%	0%	22%	0%	100%
Medium	21	48%	4%	48%	0%	100%
Airport market						
Concentrated	4	100%	0%	0%	0%	100%
Unconcentrated	26	50%	4%	46%	0%	100%
Subtotal	30	57%	3%	40%	0%	100%
All airlines						
Total, all airports	2,641	76%	6%	15%	3%	100%

^aThere are a total of 66 airports—27 large airports and 39 medium-sized airports. Of the 66 airports, 14 are concentrated and 52 are unconcentrated.

^bWe did not get gate use information on 97 of the leased gates.

^cThe "shared use" category includes all gates where the leasing airline handles another airline's flights or where the leasing airline subleases the gate to another airline part of the time.

^dActual value is less than 0.5 percent.

Exclusive-Use Leasing of Facilities Other Than Gates

Table VI.1: Large and Medium-Sized Airports' Exclusive-Use Leasing of Facilities Other Than Gates

Airport size and market	Number of airports	Percentage of airports				Total leased	None Unused and all leased on exclusive use
		None leased on exclusive use	Some leased on exclusive use	All leased on exclusive use			
Ticket counters							
Size of airport							
Large	27	15%	56%	29%	100%	17%	
Medium	39	3%	46%	51%	100%	29%	
Total	66	8%	50%	42%	100%	25%	
Airport market							
Concentrated	14	0%	50%	50%	100%	14%	
Unconcentrated	52	10%	50%	40%	100%	28%	
Total	66	8%	50%	42%	100%	25%	
Passenger hold rooms							
Size of airport							
Large	27	15%	56%	29%	100%	30%	
Medium	39	26%	48%	26%	100%	21%	
Total	66	21%	52%	27%	100%	25%	
Airport market							
Concentrated	14	7%	57%	36%	100%	23%	
Unconcentrated	52	25%	50%	25%	100%	26%	
Total	66	21%	52%	27%	100%	25%	
Baggage claim facilities							
Size of airport							
Large	27	44%	45%	11%	100%	20%	
Medium	39	72%	23%	5%	100%	9%	
Total	66	61%	32%	7%	100%	15%	
Airport market							
Concentrated	14	64%	36%	0%	100%	0%	
Unconcentrated	52	59%	31%	10%	100%	19%	
Total	66	61%	32%	7%	100%	15%	

^aThis percentage is based on the number of airports leasing the facility in question for exclusive use. It does not include those airports that do not lease the type of facility for exclusive use because those airports did not answer the questions regarding unused facilities.

Appendix VI
 Exclusive-Use Leasing of Facilities Other
 Than Gates

Table VI.2: Small Airports' Exclusive-Use Leasing of Facilities Other Than Gates

Type of facility	Percentage of 117 small airports				
	None leased on exclusive use	Some leased on exclusive use	All leased on exclusive use	Total leased	None unused and all leased on exclusive use ^a
Ticket counters	7%	38%	55%	100%	51%
Passenger hold rooms	64%	20%	16%	100%	43%
Baggage claim facilities	97%	1%	2%	100%	67%

Note: These data are not generalizable to all of the small airports in the continental United States but apply only to the 117 small airports we surveyed.

^aThis percentage is based on the number of airports leasing the facility in question for exclusive use. It does not include those airports that do not lease the type of facility for exclusive use because those airports did not answer the question regarding unused facilities.

Table VI.3: Exclusive-Use Leasing of Facilities Other Than Gates, by Type of Airline

Airline type	Percentage leased		
	Ticket counters	Passenger hold rooms	Baggage claim facilities
Large airports			
Major airlines	87%	94%	97%
National airlines	6%	5%	1%
Regional airlines	5%	1%	1%
Others ^a	2%	0%	1%
Total	100%	100%	100%
Medium-sized airports			
Major airlines	78%	83%	75%
National airlines	13%	12%	23%
Regional airlines	6%	5%	0%
Others ^a	3%	0%	2%
Total	100%	100%	100%
Concentrated airports			
Major airlines	91%	96%	100%
National airlines	5%	2%	0%
Regional airlines	3%	2%	0%
Others ^a	1%	0%	0%
Total	100%	100%	100%

(continued)

**Appendix VI
Exclusive-Use Leasing of Facilities Other
Than Gates**

	Percentage leased		
	Ticket counters	Passenger hold rooms	Baggage claim facilities
Airline type	Unconcentrated airports		
Major airlines	80%	88%	89%
National airlines	11%	9%	9%
Regional airlines	7%	3%	1%
Others ^a	2%	0%	1%
Total	100%	100%	100%
Size of airport	Number of facilities leased		
Large	2,455	1,154	148
Medium	2,108	590	65
Total	4,563	1,744	213
Airport market			
Concentrated	1,160	594	24
Unconcentrated	3,403	1,150	189
Total	4,563	1,744	213

^aThis category includes foreign airlines, all-cargo airlines, charter airlines, and fixed base operators.

Various Factors That Could Affect Airport Expansion in the Next 5 Years

Effect on expansion	Number of airports citing each factor			
	Community opposition			
	To increased noise	To other aspects of expansion	Air traffic control capacity	Other factors ^a
	Large airports			
Greatly limit	18	6	6	7
Somewhat limit	4	9	9	4
Would not limit	4	11	10	^b
No response	1	1	2	18
	Medium-sized airports			
Greatly limit	6	3	4	6
Somewhat limit	23	9	8	3
Would not limit	9	26	25	^b
No response	1	1	2	31
	Large and medium-sized concentrated airports			
Greatly limit	7	1	4	2
Somewhat limit	5	4	4	1
Would not limit	2	9	6	^b
No response	0	0	0	12
	Small airports^c			
Greatly limit	13	10	7	25 ^d
Somewhat limit	32	15	14	6
Would not limit	69	89	91	^b
No response	3	3	5	88

Note: Airport representatives were asked to check boxes showing the extent that the two types of community opposition and the ability of the air traffic control system to handle expansion could limit or delay expansion in the next 5 years at their airports. They were also given an opportunity to write in additional factors of particular concern for their airport, which are tabulated in the column headed "Other factors."

^aData in this column reflect the number of additional constraints on expansion written in by airport representatives. Some airports cited more than one such factor; other airports did not respond. Other factors cited include lack of funding, airline opposition to expansion, and concern over the impact of expansion on wetlands.

^bThe "Would not limit" category is not applicable for these factors that airport representatives wrote in.

^cData on the small airports in our survey apply only to the 117 small airports that responded to our survey and are not generalizable to all small airports in the country.

^dFourteen small airports wrote in answers stating that lack of funding would limit expansion to some extent, with 11 saying it would greatly limit expansion and 3 saying it would somewhat limit expansion.

Airports Reporting Stage II and Stage III Aircraft Restrictions to Control Noise in Effect as of March 1988

Airport	Restrictions					Noise budget
	Stage III aircraft		Stage II aircraft			
	Day	Night	Maximum use ^a	Day	Night	
Large airports						
Boston		50.9% ^b	Limit	Ban	Yes	
Denver		Limit		Limit	Limit	Yes
Minneapolis		Ban ^c		Limit ^c	Ban ^c	Yes
San Diego		Ban			Ban	
Washington National		Limit			Ban	
Medium-sized airports						
Burbank		Ban ^c	0%	Ban	Ban	
Dallas Love Field			40%	Limit	Limit	
Midway		Ban ^c			Ban ^c	
Palm Beach				Fee ^d	Fee ^d	
San Jose		Ban			Ban	
Orange County	Limit	Ban	0%	Ban	Ban	Yes
Small airports^e						
Islip	Limit	Limit		Limit	Ban	Yes
Lake Tahoe		Limit ^f	0%	Limit ^f	Limit ^f	
Long Beach	Limit ^g	Limit ^g	0%	Ban	Ban	Yes
Myrtle Beach		Ban			Ban	
Palm Springs		Ban ^c			Ban ^c	
Santa Barbara					Ban ^c	
Sarasota		Ban ^c			Ban ^c	
White Plains		Ban ^c			Ban ^c	
Worcester					Ban	

Note: The absence of an entry indicates that no relevant restriction applies.

^aThese airports require a minimum level of use of Stage III aircraft. Therefore, they restrict flights by Stage II aircraft.

^bThis percentage applies only if an airline selects the fleet mix option, which requires a proportion of an airline's flights be made with Stage III aircraft, for meeting the airport's noise budget limits.

^cVoluntary restriction.

^dAirport uses a differential fee structure, making night operations and use of noisier aircraft more expensive.

^eThe data reported here represent only 117 small airports surveyed by GAO and do not include information on the other 46 small airports with 20 or more passengers per day.

^fLake Tahoe has voluntary decibel level limits for each takeoff and landing. No Stage II aircraft meet these limits.

^gLong Beach has a court ordered limit of 40 flights per day.

Airports Responding to the GAO Airport Survey

Airport code	Size ^a	Concentrated	Airport name and location
ABE	S		Allentown/Bethlehem/Easton International Airport, Allentown, Pa.
ABQ	M		Albuquerque International Airport, Albuquerque, N. Mex.
ALB	S		Albany County Airport, Albany, N.Y.
ALW	S		Walla Walla City County Airport, Walla Walla, Wash.
AMA	S		Amarillo International Airport, Amarillo, Tex.
ASE	S		Aspen-Pitkin County Airport, Aspen, Colo.
ATL	L	Yes	Hartsfield-Atlanta International Airport, Atlanta, Ga.
ATW	S		Outagamie County Airport, Appleton, Wis.
AUS	M		Robert Mueller Municipal Airport, Austin, Tex.
AVL	S		Asheville Regional Airport, Fletcher, N.C.
AVP	S		Wilkes-Barre/Scranton International Airport, Avoca, Pa.
BDL	M		Bradley International Airport, Windsor Locks, Conn.
BGM	S		Edwin A. Link Field, Johnson City, N.Y.
BGR	S		Bangor International Airport, Bangor, Maine
BHB	S		Hancock County-Bar Harbor Airport, Ellsworth, Maine
BHM	S		Birmingham Municipal Airport, Birmingham, Ala.
BIL	S		Billings Logan International Airport, Billings, Mont.
BIS	S		Bismarck Municipal Airport, Bismarck, N.D.
BLI	S		Bellingham International Airport, Bellingham, Wash.
BNA	M	Yes	Nashville Metropolitan Airport, Nashville, Tenn.
BOI	S		Boise Air Terminal, Boise, Idaho
BOS	L		Logan International Airport, Boston, Mass.
BPT	S		Jefferson County Airport, Beaumont, Tex.
BTR	S		Baton Rouge Metropolitan Airport, Baton Rouge, La.
BTV	S		Burlington International Airport, South Burlington, Vt.
BUF	M		Greater Buffalo International Airport, Buffalo, N.Y.
BUR	M		Burbank/Glendale/Pasadena Airport, Burbank, Calif.
BWI	L		Baltimore/Washington International Airport, Baltimore, Md.
CAE	S		Columbia Metropolitan Airport, West Columbia, S.C.
CAK	S		Akron-Canton Regional Airport, North Canton, Ohio
CHA	S		Chattanooga Metropolitan Airport, Chattanooga, Tenn.
CHO	S		Charlottesville Airport, Charlottesville, Va.
CHS	S		Charleston International Airport, Charleston, S.C. ^b
CID	S		Cedar Rapids Municipal Airport, Cedar Rapids, Iowa
CLE	M		Hopkins International Airport, Cleveland, Ohio
CLT	L	Yes	Charlotte/Douglas International Airport, Charlotte, N.C.
CMH	M		Port Columbus International Airport, Columbus, Ohio
CMI	S		Willard Airport, University of Illinois, Savoy, Ill.
COS	S		Colorado Springs Municipal Airport, Colorado Springs, Colo.

(continued)

**Appendix IX
Airports Responding to the GAO
Airport Survey**

Airport code	Size^a	Concentrated	Airport name and location
CRP	S		Corpus Christi International Airport, Corpus Christi, Tex.
CRW	S		Yeager Field, Charleston, W.Va.
CVG	M	Yes	Greater Cincinnati International Airport, Cincinnati, Ohio
DAB	S		Daytona Beach Regional Airport, Daytona Beach, Fla.
DAL	M		Dallas Love Field, Dallas, Tex.
DAY	M	Yes	Dayton International Airport, Vandalia, Ohio
DCA	L		Washington National Airport, Washington, D.C.
DEN	L	Yes	Stapleton International Airport, Denver, Colo.
DET	S		Detroit City Airport, Detroit, Mich.
DFW	L		Dallas/Fort Worth International Airport, Dallas/Fort Worth, Tex.
DLH	S		Duluth International Airport, Duluth, Minn.
DRO	S		Durango-La Plata County Airport, Durango, Colo.
DSM	S		Des Moines International Airport, Des Moines, Iowa
DTW	L	Yes	Detroit Metro/Wayne County Airport, Detroit, Mich.
ELM	S		Elmira/Corning Regional Airport, Horseheads, N.Y.
ELP	M		El Paso International Airport, El Paso, Tex. ^b
ERI	S		Erie International Airport, Erie, Pa.
EUG	S		Mahlon Sweet Field, Eugene, Oreg.
EVV	S		Evansville Regional Airport, Evansville, Ind.
EWR	L		Newark International Airport, Newark, N.J.
EYW	S		Key West International Airport, Key West, Fla.
FAR	S		Hector International Airport, Fargo, N. Dak.
FAT	S		Fresno Air Terminal, Fresno, Calif.
FAY	S		Fayetteville Municipal Airport, Fayetteville, N.C.
FLL	M		Fort Lauderdale/Hollywood International Airport, Fort Lauderdale, Fla.
FLO	S		Florence City-County Airport, Florence, S.C.
FNT	S		Bishop International Airport, Flint, Mich.
FSD	S		Joe Foss Field, Sioux Falls, S. Dak.
FYV	S		Fayetteville Municipal Airport, Fayetteville, Ark.
GEG	S		Spokane International Airport, Spokane, Wash.
GJT	S		Walker Field, Grand Junction, Colo.
GNV	S		Gainesville Regional Airport, Gainesville, Fla.
GRB	S		Austin Straubel Field, Green Bay, Wis.
GRR	S		Kent County International Airport, Grand Rapids, Mich.
GSO	S	Yes	Greensboro/Highpoint Airport, Greensboro, N.C.
GSP	S		Greenville/Spartanburg Airport, Greer, S.C.
GTF	S		Great Falls International Airport, Great Falls, Mont.
HOU	M		William P. Hobby Airport, Houston, Tex. ^b
HPN	S		Westchester County Airport, White Plains, N.Y.
HRL	S		Valley International Airport, Harlingen, Tex.
HSV	S		Huntsville-Madison County Airport, Huntsville, Ala.

(continued)

**Appendix IX
Airports Responding to the GAO
Airport Survey**

Airport code	Size^a	Concentrated	Airport name and location
IAD	M		Dulles International Airport, Washington, D.C.
IAH	L		Houston Intercontinental Airport, Houston, Tex. ^b
ICT	S		Wichita Mid-Continental Airport, Wichita, Kans.
IND	M		Indianapolis International Airport, Indianapolis, Ind.
ISP	S		Long Island/MacArthur Airport, Ronkonkoma, N.Y.
JAN	S		Jackson Municipal Airport, Jackson, Miss.
JAX	M		Jacksonville International Airport, Jacksonville, Fla.
JFK	L		John F. Kennedy International Airport, New York, N.Y.
LAN	S		Capital City Airport, Lansing, Mich.
LAS	L		McCarran International Airport, Las Vegas, Nev.
LAX	L		Los Angeles International Airport, Los Angeles, Calif.
LBB	S		Lubbock International Airport, Lubbock, Tex.
LEX	S		Blue Grass Airport, Lexington, Ky.
LFT	S		Lafayette Regional Airport, Lafayette, La.
LGA	L		LaGuardia International Airport, New York, N.Y.
LGB	S		Long Beach Airport, Long Beach, Calif.
LIT	S		Little Rock Regional Airport, Little Rock, Ark.
LNK	S		Lincoln Municipal Airport, Lincoln, Nebr.
LSE	S		La Crosse Municipal Airport, La Crosse, Wis.
MAF	S		Midland International Airport, Midland, Tex.
MBS	S		Tri-City Airport, Freeland, Mich.
MCI	M		Kansas City International Airport, Kansas City, Mo.
MCO	L		Orlando International Airport, Orlando, Fla.
MDT	S		Harrisburg International Airport, Middletown, Pa.
MDW	M		Chicago Midway Airport, Chicago, Ill.
MEM	L	Yes	Memphis International Airport, Memphis, Tenn.
MFE	S		McAllen-Miller International Airport, McAllen, Tex.
MFR	S		Medford-Jackson County Airport, Medford, Oreg.
MGM	S		Dannelly Field, Montgomery, Ala.
MIA	L		Miami International Airport, Miami, Fla.
MKE	M		General Mitchell International Airport, Milwaukee, Wis.
MLB	S		Melbourne Regional Airport, Melbourne, Fla.
MLI	S		Quad-City Airport, Moline, Ill.
MOB	S		Mobile Municipal Airport-Bates Field, Mobile, Ala.
MSN	S		Dane County Regional Airport, Madison, Wis.
MSO	S		Missoula International Airport, Missoula, Mont.
MSP	L	Yes	Minneapolis/St. Paul International Airport, Minneapolis, Minn.
MSY	M		New Orleans International Airport, New Orleans, La.
MYR	S		Myrtle Beach AFB, Myrtle Beach, S.C.
OAJ	S		Ellis Airport, Richlands, N.C.
OAK	M		Metropolitan Oakland International Airport, Oakland, Calif.

(continued)

**Appendix IX
Airports Responding to the GAO
Airport Survey**

Airport code	Size^a	Concentrated	Airport name and location
OKC	M		Will Rogers World Airport, Oklahoma City, Okla.
OMA	S		Eppley Airfield, Omaha, Nebr.
ONT	M		Ontario International Airport, Los Angeles, Calif.
ORD	L		Chicago O'Hare International Airport, Chicago, Ill.
ORF	M		Norfolk International Airport, Norfolk, Va.
ORH	S		Worcester Municipal Airport, Worcester, Mass.
PBI	M		Palm Beach International Airport, Palm Beach, Fla.
PDT	S		Pendleton Municipal Airport, Pendleton, Oreg.
PDX	M		Portland International Airport, Portland, Oreg. ^b
PFN	S		Panama City-Bay County Airport, Panama City, Fla.
PHL	L		Philadelphia International Airport, Philadelphia, Pa.
PHX	L		Sky Harbor International Airport, Phoenix, Ariz.
PIA	S		Greater Peoria Airport, Peoria, Ill.
PIT	L	Yes	Greater Pittsburgh International Airport, Pittsburgh, Pa. ^b
PNS	S		Pensacola Regional Airport, Pensacola, Fla.
PQI	S		Northern Maine Regional Airport, Presque Isle, Maine
PSC	S		Tri-Cities Airport, Pasco, Wash.
PSP	S		Palm Springs Regional Airport, Palm Springs, Calif.
PUB	S		Pueblo Municipal Airport, Pueblo, Colo.
PUW	S		Pullman/Moscow Regional Airport, Pullman, Wash.
PVD	S		Green State Airport, Warwick, R.I.
PWM	S		Portland International Jetport, Portland, Maine
RAP	S		Rapid City Regional Airport, Rapid City, S. Dak.
RDD	S		Redding Municipal Airport, Redding, Calif.
RDM	S		Roberts Field, Redmond, Oreg.
RDU	M	Yes	Raleigh/Durham Airport, Morrisville, N.C.
RIC	S		Richmond International Airport, Richmond, Va.
RNO	M		Reno Cannon International Airport, Reno, Nev.
ROA	S		Roanoke Regional Airport, Roanoke, Va.
ROC	M		Greater Rochester International Airport, Rochester, N.Y.
RST	S		Rochester Municipal Airport, Rochester, Minn.
RSW	M		Southwest Florida Regional Airport, Fort Myers, Fla.
SAN	L		San Diego International-Lindbergh Field, San Diego, Calif.
SAT	M		San Antonio International Airport, San Antonio, Tex.
SAV	S		Savannah International Airport, Savannah, Ga.
SBA	S		Santa Barbara Municipal Airport, Goleta, Calif.
SBN	S		Michiana Regional Airport, South Bend, Ind.
SCK	S		Stockton Metropolitan Airport, Stockton, Calif.
SDF	S		Standiford Field, Louisville, Ky.
SEA	L		Sea-Tac International Airport, Seattle, Wash.
SFO	L		San Francisco International Airport, San Francisco, Calif.

(continued)

**Appendix IX
Airports Responding to the GAO
Airport Survey**

Airport code	Size^a	Concentrated	Airport name and location
SGF	S		Springfield Regional Airport, Springfield, Mo.
SHV	S		Shreveport Regional Airport, Shreveport, La.
SJC	M		San Jose International Airport, San Jose, Calif.
SJT	S		Mathis Field, San Angelo, Tex.
SLC	L	Yes	Salt Lake City International Airport, Salt Lake City, Utah
SMF	M		Sacramento Metropolitan Airport, Sacramento, Calif.
SNA	M		John Wayne Airport, Orange County, Costa Mesa, Calif.
SRQ	S		Sarasota-Brandenton Airport, Sarasota, Fla.
STL	L	Yes	Lambert-St. Louis International Airport, St. Louis, Mo.
SUX	S		Sioux Gateway Airport, Sioux City, Iowa
SYR	M	Yes	Hancock International Airport, Syracuse, N.Y.
TLH	S		Tallahassee Municipal Airport, Tallahassee, Fla.
TOL	S		Toledo Express Airport, Toledo, Ohio
TPA	M		Tampa International Airport, Tampa, Fla.
TUS	M		Tucson International Airport, Tucson, Ariz.
TVL	S		Lake Tahoe Airport, South Lake Tahoe, Calif.
TYS	S		McGhee Tyson Municipal Airport, Alcoa, Tenn.
VPS	S		Okaloosa County Air Terminal, Fort Walton Beach, Fla.
YKM	S		Yakima Air Terminal, Yakima, Wash.

Note: Two small airports that responded were dropped from the analysis. Wausau Municipal Airport (Wausau, Wisconsin) does not have regularly scheduled service. Knox County Regional Airport (Rockland, Maine) has no terminal or gate space and all flights are handled by a fixed base operator.

^aAirports were divided into size categories based on their percentage of 1988 total national enplanements as follows: large airports (L) enplaned at least 1 percent of passengers; medium-sized airports (M) enplaned 0.25 percent to 0.99 percent of passengers; small airports (S) enplaned fewer than 0.25 percent of passengers.

^bAirport answered key questions, but did not provide detailed lease information for each airline leasing gates or other exclusive-use facilities.

GAO Airport Survey Responses

U.S. GENERAL ACCOUNTING OFFICE
AIRPORT SURVEY: EXPANSION & LEASES^a

INTRODUCTION

The U.S. General Accounting Office (GAO), an independent agency of the U.S. Congress, has been asked to assess the potential for competition in the nation's major air traffic markets. Congress is concerned that control of this access by a few airlines may be raising fares and reducing service. We need an understanding of the ways in which airports try to provide access to air carriers wishing to compete for passengers at major airports. Only with your help will we be able to give Congress an accurate picture of the potential for competition at your airport and in the markets served by it.

In this survey, we ask about your airport's ability to expand capacity to accommodate more domestic scheduled passenger service. We also ask about your leasing arrangements with airlines.

Please return the survey in the enclosed post-paid envelope within two weeks from date of receipt, if possible. If you have any questions, you may call Delores Parrett collect at (202) 366-1780 or Jack Wells at (202) 366-1758. If the envelope has become detached, please return the completed survey to:

Delores Parrett
U.S. General Accounting Office
Nassif Building, Room 2336
400 7th Street, S.W.
Washington, D.C. 20590

This survey concerns only current conditions at the airport specified below.

Airport: 183 airports responded

-> PLEASE ANSWER ALL OF THE FOLLOWING QUESTIONS BASED ONLY ON CURRENT CONDITIONS AT THE AIRPORT SPECIFIED ABOVE.

1. Does this airport operator also operate any other airports that currently receive scheduled passenger service? (CHECK ONE.)
N = 180

1. [7%] Yes -> Please write in the names of the other airports below:

Six airports listed

other airports run by

the same operator

2. [93%] No

^aPercentages may not add to 100% due to rounding.

AIRPORT CAPACITY EXPANSION

In this section, we ask about projects that expand the airport's capacity for domestic air passenger operations. We are also interested in projects that allow more domestic airlines to provide service.

2. Has this airport undertaken any such capacity expansion and/or improvement projects since 1980 costing over \$10 million? (CHECK ONE.)

N = 179

1. [58%] Yes -> Continue

2. [42%] No -> Skip to 5

3. Approximately how much has the airport spent on major capacity expansion and/or improvement projects since 1980 (those costing more than \$10 million)? (CHECK ONE.)

N = 104

1. [59%] Less than \$50 million

2. [15%] \$51-100 million

3. [13%] \$101-250 million

4. [10%] \$251-500 million

5. [4%] More than \$500 million

**Appendix X
GAO Airport Survey Responses**

4. To what extent, if any, are each of the following sources of funding typically used by your airport to finance major capacity expansion and/or improvement projects (i.e., those costing \$10 million or more)? (CHECK ONE BOX FOR EACH TYPE OF FINANCING.)

	MAJOR SOURCE (1)	MINOR SOURCE (2)	NOT USED (3)	N =
(CHECK ONE BOX PER ROW)				
a. State or local general obligation bonds	23%	8%	70%	92
b. State or local revenue bonds	14%	4%	81%	91
c. Airport revenue bonds <u>needing</u> airline approval or guarantees	40%	6%	54%	89
d. Airport revenue bonds <u>not needing</u> airline approval/guarantees	31%	16%	53%	93
e. Paid for by the airline seeking the improvements or expanded facilities	16%	41%	43%	87
f. Airport operator's own revenues	36%	51%	13%	99
g. Federal grants	68%	28%	4%	100
h. Other -- Please describe briefly below:	49%	24%	27%	33

5. Approximately what percent of the time did the weather conditions at this airport meet VFR (Visual Flight Rule) standards in 1987? (ENTER PERCENT. IF NONE, ENTER "0".)

N = 149

Range: 50% - 100%

Mean: 87%

Median: 90%

6. Approximately how many hours were operations suspended in 1987 due to weather conditions? (ENTER NUMBER OF HOURS. IF NONE, ENTER "0".)

N = 152

Range: 0 - 250 Hours

Mean: 31.5 hours

Median: 10.5 hours

Appendix X
GAO Airport Survey Responses

7. In your judgement, is there any land owned by the airport or adjoining the airport on which it would be practical for the airport to build additional terminals, concourses, and gates? (CHECK ONE.)

N = 177

1. [75%] Definitely yes
2. [12%] Probably yes
3. [1%] Uncertain
4. [2%] Probably no
5. [10%] Definitely no

8. How many gates, including those currently under construction, for domestic use could be added at your airport without also adding additional runways? (ENTER NUMBER OF GATES. IF NONE, ENTER "0")

N = 162

Range: 0-148 gates
Mean: 22 gates
Median: 10 gates

9. How many gates for domestic use, including those currently under construction, do you plan to add at the airport within the next 5 years? (ENTER NUMBER. IF NONE, ENTER "0".)

N = 171

Range: 0-60 gates
Mean: 6 gates
Median: 3 gates

10. The following are some other factors that may limit or delay expansion of an airport. Please indicate to what extent each factor would limit or delay expansion of capacity at your airport over the next 5 years. (CHECK ONE BOX FOR EACH FACTOR.)

	GREATLY LIMIT OR DELAY (1)	SOMEWHAT LIMIT OR DELAY (2)	WOULD NOT LIMIT OR DELAY (3)	N =
(CHECK ONE BOX FOR EACH ROW)				
a. Community opposition to increased airport noise	21%	33%	46%	178
b. Community opposition to other consequences of airport expansion (for example, increased highway congestion)	11%	19%	71%	178
c. Air traffic control system's ability to handle expansion	10%	18%	72%	174
d. Other -> Please explain below:	63%	20%	18%	56

Appendix X
GAO Airport Survey Responses

11. Please consider airlines that have contacted this airport operator about establishing service at this airport since 1978. Have any such airlines been unable to start service because gates or other airport facilities were not available? (CHECK ONE.)

N = 175

1. [6%] Yes ->Continue
2. [94%] No ->Skip to 13

12. For those airlines who were unable to begin service because facilities were not available, please list the airline code and date of request. (ENTER DATE AS THE TWO-DIGIT EQUIVALENT; e.g., MARCH 1982 WOULD BE 03 82. USE ADDITIONAL SHEETS IF NECESSARY.)

Airline code	Date of request [Month & year]
1. <u>16 airlines</u>	_____
2. <u>and 19</u>	_____
3. <u>instances</u>	_____
4. <u>given</u>	_____
5. _____	_____

13. Please consider the following situation. An airline already serving the airport (incumbent) has unused or underused space. An airline wanting to establish service (entrant) has made a good faith effort to arrange a sublease or handling agreement with the incumbent. How likely is the airport operator to help the entrant in the following ways? (CHECK ONE BOX FOR EACH TYPE OF ASSISTANCE.)

	VERY LIKELY (1)	SOME-WHAT LIKELY (2)	NOT LIKELY (3)	DOES NOT APPLY (4)	N=
(CHECK ONE BOX FOR EACH ROW)					
a. Offer informal help with negotiations between entrant and incumbent	77%	14%	3%	6%	176
b. Offer formal help with negotiations between entrant and incumbent (e.g., a hearing process)	36%	26%	28%	10%	174
c. Invoke use-or-lose or recapture clauses in lease to provide access to entrant	26%	16%	16%	41%	172
d. Use other methods allowing airport operator to make space available to entrant	59%	27%	9%	5%	176
e. Offer no assistance to entrant	1%	0%	68%	31%	166

MAJORITY-IN-INTEREST AGREEMENTS

-> PLEASE ANSWER THE QUESTIONS IN THIS SECTION BASED ON AGREEMENTS IN FORCE AS OF MARCH 31, 1988

14. Does this airport have majority-in-interest agreements with airlines that require airline approval of runway and terminal expansions? (CHECK ONE.)

N = 183

- 1. [31%] Yes -> Continue
- 2. [69%] No -> Skip to 19 (NEXT PAGE)

15. Please describe the basis for determining majority-in-interest percentages (for example, number of enplanements or landed weight of aircraft)?

N = 56

16. To what extent does this requirement limit or delay capital projects to expand domestic passenger service at your airport? (CHECK ONE.)

N = 54

- 1. [15%] Greatly limit or delay
- 2. [19%] Moderately limit or delay
- 3. [44%] Somewhat limit or delay
- 4. [22%] Does not limit or delay

17. In what month and year does the majority-in-interest agreement expire? (USE TWO-DIGIT CODES FOR MONTH AND YEAR; e.g., MARCH 1990 WOULD BE ENTERED AS 03 90.)

N = 55

_____ 1986-2018 range
[Month] [Year]

18. For each airline having at least a 5% share in the majority-in-interest agreement, please list its code and its percent share. All airlines will not necessarily be listed and shares might not add to 100%. (PLEASE ROUND TO NEAREST WHOLE PERCENT.)

N = 54

Airline code	Percent share
1. 36	1-100% range
2. different	%
3. airlines	%
4. listed	%
5. _____	%
6. _____	%
7. _____	%
8. _____	%
9. _____	%
10. _____	%
11. _____	%
12. _____	%
13. _____	%
14. _____	%
15. _____	%
16. _____	%
17. _____	%
18. _____	%
19. _____	%
20. _____	%

SUBLEASES

19. Which of the following best describes how the payment terms of subleases are controlled by this airport? (CHECK ONE.)

N = 177

1. [7%] Payments cannot exceed a pre-determined percentage of lease payments
2. [44%] There is no pre-determined maximum payment, but payment terms are considered before subleases are approved
3. [35%] Payment terms for subleases are not examined by the airport operator
4. [15%] Other -> Please explain:

20. Does this airport require approval of subleasing agreements between airlines? (CHECK ONE.)

N = 177

1. [86%] Yes
2. [14%] No

EXCLUSIVE-USE LEASES

The questions in this section concern your airport's facilities, other than gates, necessary to airlines offering scheduled domestic passenger service. (Gates are covered in a separate part of the survey.) We are interested in facilities leased exclusively to one airline.

21. Does your airport lease any ticket counters in domestic terminals to airlines on an exclusive-use basis? (CHECK ONE.)
 N = 183

1. [93½] Yes -> Continue
2. [7½] No -> Skip to 25 (NEXT PAGE)

22. What is the total number of ticket counter positions in domestic terminals at your airport? (ENTER NUMBER.)
 N = 165
 Range: 1-355 ticket counter positions
 Mean: 40 positions
 Median: 20 positions

23. How many of these ticket counter positions are leased to airlines on an exclusive-use basis? (ENTER NUMBER.)
 N = 165
 Range: 1-340 ticket counter positions
 Mean: 36 positions
 Median: 18 positions

24. Approximately how many ticket counters are currently not being used at your airport? (ENTER NUMBER.)
 N = 164
 Range: 0-73 ticket counters
 Mean: 4 counters
 Median: 1 counter

25. Please give the following information for each airline leasing the ticket counter positions in domestic terminals referred to in question 23. If the lease can be renewed at the option of the airline, give the renewal option term in column D. (USE ADDITIONAL SHEETS IF NECESSARY.)
 N = 164

	(A) Airline <u>code</u>	(B) Number of <u>positions leased</u> [NUMBER]	(C) Original <u>lease expires</u> [YEAR]	(D) Renewal option <u>term (if any)</u> [YEARS]
1.	_____	Range: 1-95	Range: 1983-2027	Range: 0-20 yrs.
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____

Appendix X
GAO Airport Survey Responses

26. Does your airport have any baggage carousels in domestic terminals leased to airlines on an exclusive-use basis? (CHECK ONE.)
N = 183

1. [16%] Yes -> Continue

2. [84%] No -> Skip to 29
(NEXT PAGE)

27. What is the total number of baggage carousels in domestic terminals at your airport? (ENTER NUMBER.)
N = 25

Range: 1-30 baggage carousels
Mean: 11 carousels
Median: 10 carousels

28. How many of these baggage carousels are leased to airlines on an exclusive-use basis? (ENTER NUMBER.)
N = 25

Range: 1-23 baggage carousels
Mean: 9 carousels
Median: 6 carousels

29. Approximately how many baggage carousels are currently not being used at your airport? (ENTER NUMBER.)
N = 26

Range: 0-2 baggage carousels
Mean: 0 carousels
Median: 0 carousels

30. Please give the following information for each airline leasing the baggage carousels in domestic terminals referred to in question 28. If the lease can be renewed at the option of the airline, give the renewal option term in column D. (USE ADDITIONAL SHEETS IF NECESSARY.)
N = 26

	(A) Airline code	(B) Number of baggage carousels leased [NUMBER]	(C) Original lease expires [YEAR]	(D) Renewal option term (if any) [YEARS]
1.	_____	Range: 1-8	Range: 1984-2027	Range: 0-21 yrs.
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____

**Appendix X
GAO Airport Survey Responses**

31. Does your airport lease any passenger hold rooms in domestic terminals to airlines on exclusive-use basis? (CHECK ONE.)

N = 183

- 1. [51 $\frac{1}{2}$] Yes -> Continue
- 2. [49 $\frac{1}{2}$] No -> Skip to 33 (NEXT PAGE)

32. What is the total number of passenger hold rooms in domestic terminals at your airport? (ENTER NUMBER.)

N = 90

Range: 1-136 hold rooms
Mean: 24 hold rooms
Median: 13 hold rooms

33. How many of these hold rooms are leased to airlines on an exclusive-use basis? (ENTER NUMBER.)

N = 90

Range: 1-136 hold rooms
Mean: 22 hold rooms
Median: 11 hold rooms

34. Approximately how many passenger hold rooms are currently not being used at your airport? (ENTER NUMBER.)

N = 90

Range: 0-17 hold rooms
Mean: 1 hold room
Median: 0 hold rooms

35. Please give the following information for each airline leasing the passenger hold rooms in domestic terminals referred to in question 33. If the lease can be renewed at the option of the airline, give the renewal option term in column D. (USE ADDITIONAL SHEETS IF NECESSARY.)

N = 89

	(A) <u>Airline code</u>	(B) <u>Number of hold rooms leased</u> (NUMBER)	(C) <u>Original lease expires</u> (YEAR)	(D) <u>Renewal option term (if any)</u> (YEARS)
1.	_____	Range: <u>1-62</u>	Range: <u>1983-2027</u>	Range: <u>0-20 yrs.</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____

**Appendix X
GAO Airport Survey Responses**

36. Does your airport lease any domestic passenger terminals to airlines on an exclusive-use basis? (CHECK ONE.) ^b

- 1. [] Yes -> Continue
- 2. [] No -> Skip to 37 (NEXT PAGE)

37. What is the total number of domestic passenger terminals at your airport? (ENTER NUMBER.)

_____ ^b _____ terminals

38. How many of these domestic passenger terminals are leased to airlines on an exclusive-use basis? (ENTER NUMBER.)

_____ ^b _____ terminals

39. Please give the following information for each airline leasing the domestic passenger terminals referred to in the previous question. If the lease can be renewed at the option of the airline, give the renewal option term in column D. (USE ADDITIONAL SHEETS IF NECESSARY.)

	(A) Airline code	(B) Number of terminals leased [NUMBER]	(C) Original lease expires [YEAR]	(D) Renewal option term (if any) [YEARS]
1.	_____ ^b _____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____

^bData for questions 36 through 39 are not presented due to inconsistencies in reporting: some airports based their responses on the number of concourses rather than the number of terminals.

GENERAL GATE INFORMATION

Detailed information on gates at your airport is covered on the white forms also included in this package. Please give the following information about the total number of gates at your airport.

40. What is the total number of gates available for domestic passenger service at your airport? (ENTER NUMBER.)

N = 183

Range: 1-136 gates

Mean: 21 gates

Median: 9 gates

41. What is the total number of gates available for domestic passenger service that are held or controlled by the airport operator? (ENTER NUMBER. IF NONE, ENTER "0".)

N = 183

0 gates

^cData for question 41 are not presented due to inconsistencies in reporting: some airports included preferentially leased gates as well as unleased gates when responding to this question. Others reported only unleased gates.

PERIMETER RULES

42. In some cities that have more than one airport in the same market area, the area that can be served from an airport is limited. This is often called a perimeter rule. Does this airport have such a rule? (CHECK ONE.)

N = 183

1. [2%] Yes -> Continue
2. [98%] No -> Skip to 42

43. How is the area that can be served defined? (CHECK ONE.)

N = 4

1. [50%] Length of flight-stage -> Enter miles:

2. [50%] Geographic area -> Enter limits by states, counties, etc.:

3. [___] Other -> Please describe briefly:

44. Has there ever been a formal challenge to the perimeter rule in a court or administrative proceeding? (CHECK ONE.)

N = 4

1. [75%] Yes
2. [25%] No
3. [___] Don't know

45. As mentioned in our cover letter, we need to obtain a copy of a current map showing the locations and numbers of your airport's gates. Have you enclosed the map with this survey? (CHECK ONE.)

N = 171

1. [~~88~~] Yes
2. [~~8~~] No
3. [~~4~~] Other -> Please explain:

46. Please fill in the name, title, and telephone number of the person we could call, if necessary, for additional information relating to this survey.

N = 179

Name: 179 contacts given

Title: _____

Phone: ()
Area Code

47. Thank you for your voluntary cooperation in making our study as complete and accurate as possible. Please add any comments about your airport's particular situation below.

30 airports added comments

**Appendix X
GAO Airport Survey Responses**

Airports with gate leases	138	Gate forms with leases	838
Airports with no gate leases	<u>45</u>	Gate forms with no leases	<u>45</u>
Total responding	<u>183</u>	Total forms returned	<u>883</u>

USE ONE FORM FOR EACH AIRLINE LEASING GATES FROM THIS AIRPORT



**U.S. GENERAL ACCOUNTING OFFICE
GATE USE AND LEASE TERMS**

1. Airline code _____

2. Total gates leased by the airport operator to this airline as of March 31, 1988, if possible. (If another date is used, please enter date below.)

Total: 3,229 gates 96 forms with dates
[DATE]

Range: 1-62 Mean: 4 Median: 2

3. Does this airline sublease any gates to other airlines? Do not include handling arrangements. (CHECK ONE.) N = 138

- 1. [16%] Yes -> Continue
- 2. [81%] No -> Skip to 5
- 3. [4%] Don't know -> Skip to 5

4. Please list the other airlines below that sublease gates from this airline. (ENTER AIRLINE CODE(S). USE ADDITIONAL SHEETS IF NECESSARY.)

- 1. _____ 178 airlines listed on
- 2. _____ 125 forms
- 3. _____
- 4. _____
- 5. _____
- 6. _____

5. Considering all the gates leased by this airline from the airport specified above, please give the number of gates being used in each of the following ways. (ENTER NUMBER OF GATES. IF NONE, ENTER "0".)

TYPE OF USE	NUMBER OF GATES
a. Number of gates used exclusively by leasing airline for passenger boardings only	Total Range 0-62 2,312 Mean 3 Median 1
b. Number of gates subleased to other airlines	Total Range 0-13 164 Mean 0 Median 0
c. Number of gates where leasing airline handles flights for or shares use with other airlines	Total Range 0-38 567 Mean 1 Median 1
d. Number of gates leased to this airline that are not currently used for passenger boardings	Total Range 0-12 82 Mean 0 Median 0
e. Other arrangements -- please describe briefly:	Total Range 0-6 7 Mean 0 Median 0

**Appendix X
GAO Airport Survey Responses**

Gate Lease Information -- AS OF MARCH 31, 1988 (continued from Page 1)

Airline Code (from Page 1): _____

This table asks for information about the gates your airport leases to this airline. Please fill out this table based on conditions as of March 31, 1988, if possible. If another date is used, please enter date here: _____
Please use the following definitions:

- Exclusive use: only the leasing airline has the right to use the gate
- Use-or-lose: recapture clause requiring leasing airline to maintain a minimum level of use to retain possession of the gate
- Other recapture: any other provision that airport operator can use to reassign gate use to an airline other than leasing airline

USE ONE LINE FOR EACH GATE OR GROUP OF GATES OF THE SAME TYPE LEASED UNDER THE SAME TERMS AND CONDITIONS.

(A) GATE NUMBERS OR DESIGNATORS (a)	(B) TYPE OF GATE Total: 3,229 gates			(C) LEASE TERMS				(G) TYPE OF USE		(H) RECAPTURE			
				(C) Original Length of Lease	(D) Lease Expiration Date	(E) Term of Next Lease, If Known	(F) Renewal Option Term(b)	(G) Exclusive Use		(H) Use-or-Lose		(I) Other Provisions	
	Yes (1)	No (2)	Yes (1)					No (2)	Yes (1)	No (2)			
Combine gates under identical lease terms and conditions	Jet Aircraft (1)	Commuter Aircraft (2)	Both (3)	(ENTER YEARS)	(ENTER YEAR)	(ENTER YEARS)	(ENTER YEARS)	(CHECK ONE)		(CHECK ONE)		(CHECK ONE)	
Example:	2,406	197	626	Monthly-1983 - 99 yrs.	2088	0-20 yrs.	0-15 yrs.	[] []	[] []	[] []	[] []	[] []	[] []
C1, C3, & C5	75%	6%	19%	Range	Range	Range	Range	[] []	[] []	[] []	[] []	[] []	[] []
	[]	[]	[]					[] []	[] []	[] []	[] []	[] []	[] []
	[]	[]	[]	Number of gates by lease length				Number of gates by type of lease					
	[]	[]	[]	Column D	Number	Percent						Number	Percent
	[]	[]	[]	Expired	66	2%		Exclusive-Use (G):					
	[]	[]	[]	Monthly	100	3%		With Use-or-Lose (H)		389	12%		
	[]	[]	[]	1-2 yrs.	421	13%		No Use-or-Lose (H)		2,195	68%		
	[]	[]	[]	3-5 yrs.	405	12%		Not Exclusive-Use (G):					
	[]	[]	[]	6-10 yrs.	536	17%		With Use-or-Lose (H)		91	3%		
	[]	[]	[]	11-20 yrs.	740	23%		No Use-or-Lose (H)		554	17%		
	[]	[]	[]	Over 20 yrs.	961	30%		Total					
	[]	[]	[]	Total	3,229	100%		Total		3,229	100%		

(a) Use numbers or designators, e.g., 1-10, M14-M17, 12-15a.

(b) If the lease can be renewed at the option of the airline, please enter the renewal option term in column F of the Lease Terms section.

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*Information on other recapture provisions is not reported because of inconsistencies in the data gathered from respondents.

U.S. GENERAL ACCOUNTING OFFICE
AIRPORT SURVEY: NOISE CONTROLS^a

INTRODUCTION

The U.S. General Accounting Office (GAO), an independent agency of the U.S. Congress, has been asked to examine airport noise abatement and mitigation strategies that may affect operations of aircraft in different ways. Some airlines believe that certain noise-control strategies make it harder for new or smaller airlines to compete against the established larger carriers.

In this survey, we ask about noise control restrictions that limit access for some types or classes of aircraft. By restrictions we mean any regulation, voluntary agreement, or policy that helps to control airport noise. We are only interested in those that cap or reduce airport noise and control access to the airport.

The survey contains general questions about your airport's noise control and abatement strategies. Depending on your policies, your airport may receive a follow-up telephone call requesting more detailed information.

Please return the survey in the enclosed postpaid envelope within two weeks of date of receipt, if possible. If you have any questions, you may call Delores Parrett collect at (202) 366-1780 or Jack Wells at (202) 366-1758. If the envelope has become detached, please return the completed survey to:

Delores Parrett
U.S. General Accounting Office
Nassif Building, Room 2336
400 7th Street, S.W.
Washington, D.C. 20590

This survey concerns only the airport specified below.

Airport: 181 airports responded

--> PLEASE ANSWER THE QUESTIONS IN THIS SECTION BASED ON CONDITIONS AS OF MARCH 31, 1988, IF POSSIBLE. THIS WILL MATCH THE LATEST DATE FOR WHICH WE HAVE FARE AND TRAFFIC DATA FOR YOUR AIRPORT. IF ANOTHER DATE IS USED, PLEASE ENTER THE DATE:

Note: 10 airports answered this questionnaire based on 1989 data.

____ [Month] ____ [Year]

1. The Federal Aviation Administration (FAA) designates aircraft as Stage II or Stage III based on the aircraft's noise level. (These stages are defined in Federal Aviation Regulation (FAR) Part 36, Sections 36.1(f)(3) and (f)(5).) What percentage, if any, of the aircraft used at this airport by each airline during daytime operations must be Stage III aircraft? (CHECK ONE.)

N = 181

1. [97%] Not required
2. [___] 1% - 15% Stage III
3. [___] 16% - 30% Stage III
4. [___] 31% - 50% Stage III
5. [1%] 51% - 70% Stage III
6. [2%] 71% - 100% Stage III

^aPercentages may not add to 100% due to rounding.

Please remember, by restriction we mean any regulation, voluntary agreement, or policy that helps to control airport noise.

2. Do you have any of the following restrictions on the use of aircraft meeting FAA's Stage III definition for purposes of noise control? (CHECK ONE.)

N = 183

1. [71] Nighttime operations
2. [] Daytime operations
3. [21] Both nighttime and daytime operations
4. [91] No Stage III restrictions

3. Do you have any of the following restrictions on the use of aircraft meeting FAA's Stage II definition for purposes of noise control? (CHECK ONE.)

N = 183

1. [61] Nighttime operations
2. [] Daytime operations
3. [61] Both daytime and nighttime operations
4. [89] No Stage II restrictions

4. Other than federal restrictions on Stage I aircraft, does your airport restrict the use of certain types of aircraft (e.g., DC-9's, 707's)? (CHECK ONE.)

N = 181

1. [21] Yes
2. [98] No

5. Please use the following definitions when answering this question:

Incumbent carriers -- airlines that were already providing service at your airport when the restriction began.

Entrant carriers -- airlines that began or applied to begin service at your airport after the restriction began.

Does your airport have any noise restrictions that treat incumbent carriers and entrant carriers differently? (CHECK ONE.)

N = 183

1. [21] Yes
2. [98] No

6. Has your airport ever been involved in suits alleging excessive noise or legal challenges to its noise policy? (CHECK ONE.)

N = 180

1. [29] Yes
2. [71] No

7. Does your airport have a noise budget or cap (i.e., a procedure to allocate allowable noise to scheduled air carriers operations from the airport)? (CHECK ONE.)

N = 183

1. [31] Yes -> Continue
2. [97] No -> Skip to 9

8. What month and year did the noise budget or cap take effect? (ENTER TWO DIGIT EQUIVALENT FOR MONTH AND YEAR; e.g., MAY 1986 WOULD BE 05 86.)

N = 6

Range: 1981-1987
[Month] [Year]

9. Does your airport currently have a noise mitigation or abatement program? This may be the FAA's Part 150 Noise Compatibility Planning (14 CFR 150) or another program. (CHECK ONE.)

N = 181

1. [33%] Yes, we are currently working on a Part 150 plan
2. [20%] Yes, the FAA has approved our Part 150 plan
3. [14%] We do not participate in the Part 150 process, but we do have our own program
4. [23%] We do not currently have any noise mitigation or abatement program.
5. [10%] Other -> Please explain:

10. As mentioned in our cover letter, we need to obtain a copy of any noise rules or policies in effect at this airport that limit access for particular types or classes of aircraft. Have you enclosed copies of the pertinent rules with this survey? (CHECK ONE.)

N = 177

1. [27%] Yes
2. [6%] No
3. [68%] Not applicable (no noise rules)

11. Please fill in the name, title, and telephone number of the person we should contact, if necessary, for additional information relating to this survey.

N = 153

Name: 153 contacts given

Title: _____

Phone: (____) _____

12. Thank you for your voluntary cooperation in making our study as complete and accurate as possible. Please add any comments on your airport's particular situation below.

16 Airports had comments

GAO Travel Agent Survey Responses

PAGE 1

CODE SHARING¹

In this first section of the survey, we want to ask you about customer attitudes toward code-sharing flights. On code-sharing flights, a passenger rides partly on a major airline and partly on a commuter airline that share the same airline designator code. We'd like to compare the code-sharing flights with interline flights when the passenger rides partly on a major carrier and partly on a carrier that does not share the same code. O.K.?

1. Does your office have a policy that agents make sure that your customers know that the flight they picked is a code-sharing commuter BEFORE the flight is booked?

		N = 520
[88%]	1. Yes (GO TO QUESTION 3)	SE = 3.8%
[11%]	2. No	SE = 3.7%
[_*_]	3. Don't know	SE > estimate
[_*_]	4. Other	SE > estimate

2. How many of your customers do you think realize before they arrive at the airport that their flight is actually on a code-sharing commuter rather than on a major carrier? Would you say most of them, about half of them, less than half of them, or none of them? (CHECK ONLY ONE ANSWER)

		N = 61
[59%]	1. Most	SE = 16.5%
[_5%]	2. About half	SE = 4.5%
[21%]	3. Less than half	SE = 14.3%
[13%]	4. None	SE = 12.5%
[_*_]	5. Don't know	SE > estimate
[__]	6. Other	

¹The percentages shown in this appendix are national projections or estimates based on our survey of 520 travel agents. The actual number of agents responding to each question is represented by "N." The sampling error for selected estimates is given as "SE." When the sampling error exceeds the estimate, the estimate is unreliable. Such estimates are denoted by a "*". Percentages for some questions do not add to 100 percent because of rounding and because unreliable estimates are not reported.

3. Sometimes there may be an alternative for connecting flights between a code-sharing flight and an interline flight that includes a commuter airline. If you tell your customers that they may choose between the code-sharing and the interline flight, do they seem to show a preference for the code-sharing flight, for the interline flights, or do they not seem to have a preference? (CHECK ONLY ONE ANSWER)

		N = 517
[19%]	1. Strong preference for code-sharing flight	SE = 4.5%
[10%]	2. Moderate preference for code-sharing flight	SE = 3.4%
[53%]	3. No preference/depends on the situation	SE = 5.7%
[6%]	4. Moderate preference for interline flight	SE = 2.5%
[9%]	5. Strong preference for interline flight	SE = 3.1%
[4%]	6. Don't know or other	SE = 2.3%

I'd like to ask you about several aspects of service that might differ for your customers on code-sharing flights and interline flights. Think about each service I read and tell me whether you get more complaints from your customers on code-sharing flights, interline flights, or are the number of complaints about the same. If you don't get any complaints about a type of service, just tell me and we'll go on to the next one.

4. The first type of complaint is . . . Baggage was lost, delayed, or damaged. Do you get more complaints from your customers on code-sharing flights, interline flights, or are they about the same? (CHECK ONLY ONE ANSWER)

		N = 516
[8%]	1. Code sharing	
[17%]	2. Interline	
[44%]	3. Both the same	
[30%]	4. No complaints	
[*_]	5. Other	

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5. The next one is . . . Gates are too far for changing planes. Do you get more complaints from your customers on code-sharing flights, interline flights, or are they about the same?
(CHECK ONLY ONE ANSWER)

N = 517

- [14%] 1. Code sharing
- [27%] 2. Interline
- [31%] 3. Both the same
- [25%] 4. No complaints
- [2%] 5. Other

6. The next one is . . . Flights are delayed or cancelled. Do you get more complaints from your customers on code-sharing flights, interline flights, or are they about the same?
(CHECK ONLY ONE ANSWER)

N = 516

- [20%] 1. Code sharing
- [8%] 2. Interline
- [51%] 3. Both the same
- [18%] 4. No complaints
- [2%] 5. Other

7. The next one is . . . Connecting times are inconvenient. Do you get more complaints from your customers on code-sharing flights, interline flights, or are they about the same?
(CHECK ONLY ONE ANSWER)

N = 516

- [6%] 1. Code sharing
- [21%] 2. Interline
- [30%] 3. Both the same
- [41%] 4. No complaints
- [2%] 5. Other

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8. The next one is . . . In-flight service has problems. Do you get more complaints from your customers on code-sharing flights, interline flights, or are they about the same? (CHECK ONLY ONE ANSWER)

N = 517

- [6] 1. Code sharing
- [4] 2. Interline
- [36] 3. Both the same
- [53] 4. No complaints
- [*] 5. Other

9. The next one is . . . It is difficult to locate airline gates, flight information, or ticket counters. Do you get more complaints from your customers on code-sharing flights, interline flights, or are they about the same? (CHECK ONLY ONE ANSWER)

N = 517

- [26] 1. Code sharing
- [12] 2. Interline
- [18] 3. Both the same
- [43] 4. No complaints
- [*] 5. Other

10. Are there any other areas where you tend to receive complaints about code-sharing or interline flights?

N = 520

FREQUENT FLIER PROGRAMS

The next questions concern frequent flyer plans and how they may affect the traveling decisions your customers make.

11. First, how often do BUSINESS customers tell you that they are selecting flights specifically to match a frequent flyer plan that they belong to? Would you say always or almost always, more than half the time, about half the time, less than half the time, or rarely, if ever? (CHECK ONLY ONE ANSWER)
- | | |
|----------------------------------|-----------|
| | N = 520 |
| [57%] 1. Always or almost always | SE = 5.7% |
| [24%] 2. More than half the time | SE = 5.0% |
| [9%] 3. About half the time | SE = 3.1% |
| [4%] 4. Less than half the time | SE = 2.1 |
| [2%] 5. Rarely, if ever | SE = 1.5% |
| [3%] 6. Don't know or other | SE = 2.3% |
12. Which frequent flier plans are used most frequently by your office's business customers?
- N = 506
13. (Are those the airlines/Is that the airline) that account(s) for most of your office's bookings? (CHECK ONLY ONE ANSWER)
- | | |
|--|---------|
| | N = 514 |
| [75%] 1. Yes (GO TO QUESTION 14) | |
| [21%] 2. No (GO TO QUESTION 14) | |
| [3%] 3. Don't know (GO TO QUESTION 15) | |
| [*] 4. Other (GO TO QUESTION 15) | |
14. What airlines would those be?
- N = 77

15. In this question, we'd like to ask your opinion on how your customers choose a frequent flier program. Some people think it's more important to build up miles easily traveling to places they normally travel. Others would rather choose a program that has the best destinations for awards. How do YOU think your customers choose programs? Is it more important to build up miles easily or to have good destinations for awards, or are those two reasons about equally important? (CHECK ONLY ONE ANSWER)

N = 519

- [57%] 1. Easy to build up miles
- [16%] 2. Good destinations
- [21%] 3. Both about equally important
- [2%] 4. Don't know
- [3%] 5. Other

16. Now think for a minute about your customers actually choosing their awards for the frequent flier programs. Some people choose trips to destinations that are far away to save the most money. Vacation spots are also popular for awards. Which do you think is more likely for your customers to choose--a long trip, a vacation spot, or are those two things about equally important in choosing the award? (CHECK ONLY ONE ANSWER)

N = 519

- [17%] 1. Long trips
- [37%] 2. Vacation spots
- [41%] 3. Both about equally important
- [2%] 4. Don't know
- [3%] 5. Other

OVERRIDE COMMISSIONS AND OTHER VOLUME INCENTIVES

Now I'd like to ask you some questions about override commissions and other incentives from the airlines. I'm going to read a list of volume incentives that your office might have received during the last 12 months. For each one, just tell me whether or not your office received that incentive from any airlines in the last 12 months.

17. The first one is . . . free tickets. Did your office receive any free tickets for increased volume in the last 12 months? (CHECK ONLY ONE ANSWER)

[41%]	1. Yes	N = 499
		SE = 5.6%
[45%]	2. No (GO TO QUESTION 19)	SE = 5.7%
[8%]	3. Don't know (GO TO QUESTION 19)	SE = 3.0%
[4%]	4. Other (GO TO QUESTION 19)	SE = 1.7%

18. Did you receive the incentive from more than one airline? (CHECK ONLY ONE ANSWER)

[68%]	1. Yes	N = 234
		SE = 8.5%
[31%]	2. No	SE = 8.5%
[*_]	3. Don't know	SE > estimate
[__]	4. Other	

19. The next one is . . . Free VIP Club memberships. Did your office receive that incentive in the last 12 months? (CHECK ONLY ONE ANSWER)

[11%]	1. Yes	N = 496
		SE = 3.8%
[77%]	2. No (GO TO QUESTION 21)	SE = 4.7%
[6%]	3. Don't know (GO TO QUESTION 21)	SE = 2.6%
[3%]	4. Other (GO TO QUESTION 21)	SE = 1.4%

20. Did you receive that incentive from more than one airline?
(CHECK ONLY ONE ANSWER)

[41%]	1. Yes	N = 59 SE = 17.0%
[50%]	2. No	SE = 17.8%
[_*_]	3. Don't know	SE > estimate
[__]	4. Other	

21. The next one is . . . Overbooking privileges--that is, the ability to get a favored client booked on a flight that is already fully booked. Did your office receive that incentive in the last 12 months? (CHECK ONLY ONE ANSWER)

[36%]	1. Yes	N = 499 SE = 5.5%
[53%]	2. No (GO TO QUESTION 23)	SE = 5.7%
[_6%]	3. Don't know (GO TO QUESTION 23)	SE = 2.4%
[_3%]	4. Other (GO TO QUESTION 23)	SE = 1.6%

22. Did you receive that incentive from more than one airline?
(CHECK ONLY ONE ANSWER)

[52%]	1. Yes	N = 206 SE = 5.7%
[36%]	2. No	SE = 5.7%
[_7%]	3. Don't know	SE = 2.6%
[_3%]	4. Other	SE = 1.4%

23. The next one is . . . Override commissions--that is, the volume incentives that airlines pay above the normal commission when a travel agent's bookings on that airline are above a certain threshold. Did your office receive that incentive in the last 12 months? (CHECK ONLY ONE ANSWER)

[52%]	1. Yes	N = 497 SE = 5.7%
[36%]	2. No (GO TO NEXT SECTION, PAGE 11)	SE = 5.7%
[_7%]	3. Don't know (GO TO NEXT SECTION, PAGE 11)	SE = 2.6%
[_3%]	4. Other (GO TO NEXT SECTION, PAGE 11)	SE = 1.4%

24. Did you receive that incentive from more than one airline?
(CHECK ONLY ONE ANSWER)

[65%]	1. Yes	N = 304 SE = 7.7%
[31%]	2. No	SE = 7.5%
[4%]	3. Don't know	SE = 3.3%
[]	4. Other	

25. When your office receives override commissions, are they ever tied to bookings made for particular routes? (CHECK ONLY ONE ANSWER)

[39%]	1. Yes	N = 304
[58%]	2. No	
[*_]	3. Don't know	
[*_]	4. Other	

26. What proportion of the override commissions that your office receives are tied to bookings for particular routes? Would that be all or almost all, more than half, about half, less than half, very few, or don't you know? (CHECK ONLY ONE ANSWER)

[6%]	1. All or almost all	N = 130
[12%]	2. More than half	
[20%]	3. About half	
[22%]	4. Less than half	
[38%]	5. Few	
[]	6. Don't know	
[]	7. Other	

27. Thinking about the last two years, have any new domestic carriers entered your market since January 1, 1987? (CHECK ONLY ONE ANSWER)

N = 304

- [62%] 1. Yes
- [31%] 2. No (GO TO QUESTION 29)
- [7%] 3. Don't know (GO TO QUESTION 29)
- [] 4. Other (GO TO QUESTION 29)

28. Did any of the OTHER carriers change their override commissions in response to the new competition, or didn't you notice? (CHECK ONLY ONE ANSWER)

N = 183

- [16%] 1. Yes, they did change
- [69%] 2. No, they did not change
- [10%] 3. I didn't notice
- [5%] 4. Don't know
- [] 5. Other

29. Considering the money made from override commissions, how important, if at all, do you think override commissions are in contributing to the revenue of your office? Would you say very important, moderately important, somewhat important, not very important, or don't you know? (CHECK ONLY ONE ANSWER)

N = 304

- [39%] 1. Very important
- [24%] 2. Moderately important
- [21%] 3. Somewhat important
- [14%] 4. Not very important
- [0%] 5. Don't know
- [0%] 6. Other

PREFERRED AIRLINE

30. Some travel agents have a PREFERRED AIRLINE and they try to book domestic customers on that airline if the customers don't prefer another airline. Does your office have a preferred airline for domestic travel? (CHECK ONLY ONE ANSWER)

- | | | | |
|-------|-----------------------------------|---------------|-----------|
| [41%] | 1. Yes | N = 516 | SE = 5.6% |
| [57%] | 2. No (GO TO QUESTION 34) | SE = 5.7% | |
| [*_] | 3. Don't know (GO TO QUESTION 34) | SE > estimate | |
| [_2%] | 4. Other (GO TO QUESTION 34) | SE = 1.4% | |

31. What airline is that?
 N = 197

32. Why is [Q31] your preferred airline? Could you tell me more about that?
 N = 213

33. (IF MORE THAN ONE REASON WAS GIVEN:) What was the single most important factor in picking [Q31] as your PREFERRED carrier?
 N = 146

34. In this question, I'd like for you to think about the times that a customer books a domestic flight and has no preference for a particular airline. Could you tell me about what percent of your bookings the customer leaves it up to you to decide which airline to book the ticket on? I just need a rough estimate. (What percent?)
 N = 515

<u>Percentage of bookings</u>	<u>Percentage of agents</u>	
25 percent or more	69%	SE = 5.2%
50 percent or more	51%	SE = 5.7%

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IF THE ANSWER TO THE LAST QUESTION WAS:
0 -> GO TO NEXT SECTION, PAGE 13
GREATER THAN 0 -> GO TO NEXT QUESTION

35. Could you tell me about how you decide which airline to use in those cases? (IF RESPONDENT MENTIONS ONLY CUSTOMER'S CONVENIENCE, ASK:) What would you do if two flights were equally convenient for the customer?

N = 474

CRS (COMPUTER RESERVATION SYSTEMS)

In the next few questions, we'd like to ask about the CRS system that you use for your bookings.

36. Which of the five computer reservation systems did this office use in the last 12 months to make the most airline bookings in terms of dollar amount? Would that be SABRE, APOLLO, SYSTEM ONE, PARS, or DATAS II? (CHECK ONLY ONE ANSWER)

N = 514

- [32%] 1. SABRE (owned by American Airlines)
- [24%] 2. APOLLO (owned by United)
- [19%] 3. SYSTEM ONE (owned by Eastern/Continental)
- [15%] 4. PARS (owned by TWA/Northwest)
- [11%] 5. DATAS II (owned by Delta)
- [] 6. Don't know (GO TO NEXT SECTION, PAGE 15)
- [*_] 7. Other (GO TO NEXT SECTION, PAGE 15)

37. Record airline that owns respondent's CRS here: (See Question 36 above for airlines owning CRSs.)

38. Thinking about the airline representatives that visit you, do they seem to just come by on a regular basis, or do they sometimes contact you in response to declines in bookings? (CHECK ONLY ONE ANSWER)

N = 514

- [59%] 1. Regular visits only
- [9%] 2. In response to decline in bookings
- [16%] 3. None come by (GO TO NEXT SECTION, PAGE 15)
- [*_] 4. Don't know (GO TO NEXT SECTION, PAGE 15)
- [15%] 5. Other (GO TO NEXT SECTION, PAGE 15)

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39. Still thinking about visits from airline representatives, are there any instances that you can remember when you thought that a visit from the [Q36] representative was the result of information from the bookings you made on the CRS? (CHECK ONLY ONE ANSWER)

N = 380

[27%] 1. Yes

[70%] 2. No (GO TO NEXT SECTION, PAGE 15)

[3%] 3. Don't know (GO TO NEXT SECTION, PAGE 15)

[*_] 4. Other (GO TO NEXT SECTION, PAGE 15)

BACKGROUND

Finally, I have just a few questions about this travel agency. I'd like to remind you that all the questions in our survey are voluntary. These questions are confidential and we ask them only so we can tell the types of travel agencies that were interviewed for our study.

40. I'm going to ask what category your office fits in terms of the proportion of business travelers. What percent of this agency's airline bookings are made by business travelers? Would you say zero to 15 percent, 16 to 35 percent, 36 to 65 percent, 66 to 85 percent, or 86 to 100 percent? (CHECK ONLY ONE ANSWER)

[17%]	1. 0% - 15%	N = 519 SE = 4.7%
[21%]	2. 16% - 35%	SE = 4.9%
[36%]	3. 36% - 65%	SE = 5.5%
[20%]	4. 66% - 85%	SE = 4.3%
[4%]	5. 86% - 100%	SE = 1.7%
[*_]	6. Don't know	SE > estimate
[*_]	7. Other	SE > estimate

41. Could you tell me what airports serve as the point of origin for most of your clients?

N = 520

42. Now, I'd like to read a list of categories for the total revenue for your office for 1987. Just tell me the letter of the category that is closest to the revenue for your office in 1987. (A) \$1 million or less; (B) \$1 million to \$3 million; (C) \$3 million to \$5 million; and (D) Over \$5 million. (CHECK ONLY ONE ANSWER)

[34%]	1. A: \$1 million or less	N = 511 SE = 5.6%
[32%]	2. B: \$1 million to \$3 million	SE = 5.5%
[8%]	3. C: \$3 million to \$5 million	SE = 2.3%
[4%]	4. D: Over \$5 million	SE = 1.3%
[11%]	5. Don't know	SE = 3.5%
[2%]	6. Other	SE = 1.6%

43. That's all the questions I have today. If I need to ask for clarification later, would it be all right for me to phone you again? (CHECK ONLY ONE ANSWER)

[]	1. Yes	N = 499
[]	2. No	

44. Our study won't be completed for several more months, but when it is, would you like to receive a copy of our report? (CHECK ONLY ONE ANSWER)

[97%]	1. Yes	N = 519
[3%]	2. No	

45. Do you have any last comments or questions? (CHECK ONLY ONE ANSWER)

Comments	17%	N = 519
No comments	83%	

Appendix XI
GAO Travel Agent Survey Responses

Table XI.1: Point Estimates and Sampling Errors for Selected Data From the Travel Agent Survey

Description of data	Percentage of agents	Sampling error (percent ±)	Percentage of revenues^a	Sampling error (percent ±)
Agents believing most customers know their flight is on a code-sharing commuter or having a policy of informing customers when the flight booked is a code-shared flight	98	2.4	95	2.1
Agents reporting their customers have a preference for code-shared flights over interline flights	66	8.1	64	6.5
Agents reporting that business customers book flights to match their frequent flyer plans more than half the time	82	4.4	76	3.8
Agents reporting that ease of building up miles is a factor in customers' choice of a frequent flyer plan	78	4.9	81	3.5
Agents receiving at least one incentive	74	5.1	75	3.9
Agents receiving override commissions and reporting that the commissions are moderately or very important to office revenues	63	7.6	69	5.4
Agents reporting more than 35 percent business customers	60	5.7	74	3.9
Agents reporting more than 65 percent business customers	24	4.5	38	4.3
Agents selecting airline for customers at least half the time	51	5.7	42	4.4
Agents selecting airline for customers at least one-quarter of the time	69	5.2	64	4.3
Agents reporting office revenues of \$3 million or less	73	4.5	54	4.2

^aThis column represents an estimate of the proportion of total revenues earned by agents in the response category rather than an estimate of the number of agents in the response category.

Excerpts on Policy Options From GAO Testimony on Barriers to Competition in the Airline Industry

On September 20, 1989, GAO testified before the Subcommittee on Aviation, Senate Committee on Commerce, Science, and Transportation, on Barriers to Competition in the Airline Industry (GAO/T-RCED-89-65). We presented the same testimony the next day, September 21st, before the Subcommittee on Aviation, House Committee on Public Works and Transportation (GAO/T-RCED-89-66). In that testimony, we outlined various policy options for dealing with the features of airline markets that are likely to discourage entry. Those policy options are excerpted below.

Policy Options

The data we have gathered on potential barriers to entry in the airline industry indicate that some features of airline markets are likely to discourage entry. Slot controls, gate leases, and, at a few airports, noise restrictions are likely to restrict access to the essential facilities needed to establish competing service. While we do not have definite estimates yet from our econometric model of the impacts of these restrictions, we believe they are likely to restrict entry and inhibit competition.

The effects of some of the airline marketing strategies are less clear. CRSS, as we indicated in our testimony last year, appear to have a clear anticompetitive effect, and we have urged DOT to consider possible remedies. Frequent flyer plans appear to present a clear potential for disadvantaging entrants. However, because of the lack of data on levels of use of these plans, it may not be possible even with the results of our econometric model to estimate these plans' effects. TACOS [travel agent commission overrides] appear to offer a less compelling basis for disadvantaging entrants. We do have some data on TACOS, however, that may be able to show their effect on fares. Code-sharing may have some anticompetitive effects, but also appears to offer some consumer advantages that may offset these effects.

We recognize that the Committee is considering taking action to minimize the possible anticompetitive effects of the practices we have discussed. During the course of our work, we have identified various policy options. Though not an exhaustive list, our preliminary evaluation suggests that they can provide a framework for analysis and deliberation. All of these options involve important policy considerations and require a careful weighing of costs and benefits and an assessment of trade-offs.

Gate Access

Airport facilities are essentially local responsibilities, yet most operate under federal restrictions imposed by the Airport and Airway Improvement Act of 1982. This act requires that airports receiving federal grants be public use facilities, available for all to use on an equal basis. One policy option would be to extend additional federal restrictions on new leases so as to reduce the long-term control that leasing airlines acquire over the airport's facilities. Airlines need some assurance of access to an airport's gates to justify their investment in providing service. However, it might be possible to provide this assurance without giving the airline the broad control over a gate that an exclusive-use lease provides. A preferential-use gate, for example, gives the leasing airline access to the gate whenever it needs it, while still making the gate available to others when it is unused. Several airports have acted to regain control over their facilities, either by requiring short-term or preferential leases or, as Omaha and Grand Rapids have done, by not renewing majority-in-interest clauses.

Another policy option would be to reduce the federal restrictions that make the airports dependent on the airlines as a source of revenue. The Airport Development Acceleration Act of 1973, for example, prohibits the airports from imposing any direct passenger facility charges on the passengers using the airport. The airports argue that this act, by preventing the airports from charging the passengers directly, forces them to rely on the airlines as a source of revenue, thus giving the airlines more bargaining power in lease negotiations. Airlines believe that it is appropriate for them to control airport expansion, and also have been concerned that municipal authorities would use revenues from passenger facility charges for non-airline purposes. However, the 1982 Airport and Airway Improvement Act requires airport operators to provide the Secretary of Transportation with assurances that all local revenues will be expended for airport purposes as a precondition for obtaining federal airport grants. Passenger facility charges could help solve the funding problems that have prevented airport expansion and reduce the airports' need to seek majority-in-interest clauses.

Noise Restrictions

A small number of airports have particularly stringent noise restrictions that, while not imposed by airlines, can be a substantial entry barrier. While all parties agree on the desirability of reducing airport noise, they disagree on the questions of the pace and strategy for doing so. These contentious issues have often set local and national interests at odds, and it is not clear how far federal efforts to impose national noise policies should go. Some airports (such as Boston and Denver) have adopted

noise rules that have waivers to ease entry while still achieving the desired level of noise reduction. Further exploration of noise control strategies might identify other approaches that would allow airports to control noise while minimizing adverse impacts on competition.

Slot Restrictions

In our view, the buy/sell rule for airport slots has been ineffective at encouraging entry into slot-controlled markets. Our analysis of FAA's data indicates that no new entrants have been able to establish service by buying slots; that the number of slots sold has steadily declined; and that the slot market is increasingly becoming a short-term leasing market, in which major carriers that have accumulated excess slots lease out rather than sell the ones they do not need. The leasing market, while permitted in FAA's original formulation of the market, appears to have been considered the exception. It is now the exception that is becoming the rule. Several outside studies have found that the presence of slot controls increases airline fares significantly.¹

By allowing a public right—the right to use the nation's airspace—to be treated in some respects as a private asset that is not generally available on the open market, the present operation of the buy/sell rule not only restricts competition at the four slot-controlled airports, but can impede competition throughout the northeastern and midwestern United States. These airports are a critical part of any air traffic network in the northeastern or midwestern parts of the United States. It is difficult for any carrier to become an effective competitor in these heavily populated parts of the country without access to these four airports. The short-run access to slots that leasing permits is a risky basis on which to invest in a long-term service commitment (e.g., by leasing gates and investing in advertising).

We believe that something should be done to open up the slot market so that permanent entry becomes easier at slot-controlled airports. We are particularly concerned about proposals to extend slot restrictions as currently structured to other congested airports. One solution to this problem would be for the FAA to lease slots to the airlines rather than

¹See, for example, David R. Graham, Daniel P. Kaplan, and David S. Sibley, "Efficiency and Competition in the Airline Industry," *Bell Journal of Economics*, vol. 14, No. 1 (Spring 1983), pp. 135-136; Elizabeth E. Bailey, David R. Graham, and Daniel P. Kaplan, *Deregulating the Airlines* (Cambridge: MIT Press, 1985); Gregory D. Call and Theodore E. Keeler, "Airline Deregulation, Fares and Market Behavior: Some Empirical Evidence," in Andrew F. Daughety (ed.), *Analytical Studies in Transport Economics* (Cambridge: Cambridge University Press, 1985), pp. 221-247; and Stephen A. Morrison and Clifford Winston, "Empirical Implications and Tests of the Contestability Hypothesis," *Journal of Law and Economics*, vol. 30 (April 1987), pp. 61-62.

allow them to retain the control of slots that were given to them for nothing. Leasing would have the advantage both of generating revenue for the federal government and of opening up the slot market to new entrants. It would be essential, in establishing such a market, to recognize that airlines need to have assured access to slots for a long enough period to make reasonable investments in serving routes from that airport. It would be equally important, however, to ensure that the leases ran for a limited period of time so as to prevent the slots from becoming the de facto property of the leasing airlines (as gates have become at airports that have long-term gate leases). Lease terms could be staggered so that leases would be long enough to assure continuity of service while ensuring that some leases would come up for renewal each year, giving entrants an opportunity each year to bid on airport capacity.

An alternative would be for DOT, under the provisions of the current buy/sell rule, periodically to withdraw a portion of the slots and reallocate them by lottery. Incumbent carriers would have the opportunity to buy the slots back from the winners of the lottery, but at least new entrants would have an opportunity to secure slots, either through the lottery itself, or by bidding on slots sold by lottery winners.

Computerized Reservation Systems

In our testimony last year on CRSS, we discussed a number of policy options, ranging from divestiture of airline-owned CRSS to non-airline owners to modifications in vendor contracts with travel agents. We continue to believe that further action is warranted to remedy the anticompetitive features of the CRS industry. As we emphasized in our earlier testimony, action in one area, such as reducing or eliminating booking fees, could create problems in another area, such as increases in CRS subscription fees to travel agents. Consequently, travel agents' bargaining power with CRS vendors would have to be increased by modifying restrictive contract provisions, e.g., length of contract terms and minimum use clauses. While DOT is making further investigations into the competitive impact of CRSS, it has not acted to open any regulatory proceedings, as we recommended it do last fall. It is especially important that DOT begin to act since its CRS rules will sunset at the end of 1990.

Other Airline Marketing Practices

The three other airline marketing practices that we have discussed—frequent flyer plans, TACOS, and code-sharing—have effects that are more difficult to measure. Frequent flyer plans have proven to be extremely popular promotional tools, but they have the potential to reduce competition in markets where a single carrier has a dominant

market share. Frequent flyer plans offer a literal free ride to their participants, but these free trips are paid for in the form of higher fares for the average traveler and possibly also in the form of excessive business travel. DOT, in its Information Directive of June 14, 1989, has requested information on frequent flyer plans which may help to resolve the question of their impact on competition. Travel agent commission overrides, overbooking privileges, and other volume incentives clearly have some effect on the pattern of airline bookings. They increase the cost of marketing tickets and thus may pose an entry barrier to entrants with less access to capital than established airlines have. Code-sharing agreements offer some advantages to airline passengers, while also probably having some anticompetitive effects.

All these practices are subject to regulation by DOT under its authority to regulate anticompetitive practices in the airline industry. Should anticompetitive effects of these practices be demonstrated, they could be either prohibited or modified in some way so as to reduce any anticompetitive impact. The popularity of frequent flyer plans may make action to reduce their anticompetitive effect unpalatable. For example, one modification short of outright prohibition would be to require that mileage be transferable from one plan to another or from one passenger to another. While this would reduce the potential anticompetitive effects because passengers could earn valuable miles on any airline, such a requirement could make the plans so unattractive to the airlines that they would withdraw them.

If TACOS were prohibited, airlines might well resort to other kinds of volume incentives. If code-sharing agreements were prohibited, airlines would probably just buy out their code-sharing partners or develop commuter subsidiaries internally, as several airlines have already done. An important part of the success of code-sharing has been the preference that code-shared flights are allowed in CRSS, where code-shared flights are generally listed ahead of interline flights. It would be possible to prohibit CRSS from listing code-shared and on-line connections ahead of interline connections, as the European CRS rules propose, but this would make it more difficult for travel agents to find code-shared flights for passengers who prefer code-shared connections.

Conclusions

While our analysis is not yet complete, the work we have done so far indicates that some features of airline markets are likely to discourage entry. The factors that appear most likely to discourage entry are gate

access problems, slot controls, and CRSS. We have offered some alternatives for reducing the potential anticompetitive effects of these factors. While not an exhaustive list, these options involve important policy considerations and require a careful weighing of costs and benefits and an assessment of trade-offs. While the effects of some of these factors seem fairly clear, the effects of others are still uncertain. As we obtain further results from our econometric model, we will be able to provide the Committee with more information on the relative significance of these factors. And as the significance of these factors becomes clearer, we would be happy to work with the Committee on further analysis of possible solutions.

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