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# Aviation Congestion: Proposed Non-Air Traffic Control Remedies

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## Summary

Prior to the summer of 2001, the airline industry experienced two consecutive summers of record flight delays. This was accompanied by rising public dissatisfaction with airline service in general. The debate amongst airlines, airports, and government as to who should be blamed for this situation is long-standing. A concomitant debate continues to occur as to solutions to this problem. The two apparent points of agreement are that ultimately there is no single cause of the delays and there is no single solution to the problem.

Congress and the Bush Administration are examining a number of non-air traffic control strategies that might be useful in reducing delay both in the short and long term. Most of these efforts focus on expanding airport capacity or using existing capacity better. These include: new runway construction; environmental streamlining to speed up construction; allocation of airport space by use of economic incentives, i.e. peak period pricing; or administrative means, i.e. antitrust immunity to allow airline schedule coordination. All of the potential remedies engender some element of controversy, but the level of controversy varies significantly by suggested remedy. This report provides a brief overview and analysis of remedies currently under consideration by Congress and the Administration. This report will be updated as warranted by events.

Flight delays have been an issue since the early days of air travel. In the current discussion, delay as a long term issue is essentially the result of a supply and demand imbalance. Air travel is growing steadily on an annual basis. Airport capacity, especially in the most desired locations, and air traffic control (ATC) capacity are not growing as fast. The system is not congested at all times in all places, but it is congested enough that almost all air travelers experience delay at one time or another.

Although the causes of delay are not the primary focus of this report,[1] a brief summation of the alleged causes would include: weather; an inefficient, outdated air traffic

[1] For a discussion of the causes of delay, its implications, and measures to improve ATC see: CRS Report RS20734, *Aviation Delays*, by J. Glen Moore.

control system; insufficient airport capacity including runways and gates (primarily at the busiest airports); and airline scheduling practices that permit over-scheduling at certain times and places. All of these factors are potentially interrelated. The degree of interrelationship is often underestimated, or misunderstood, by the delayed passenger, who lacks the whole picture. Weather is by far the dominant factor in causing delays, but as a recent paper by the Mitre Corporation demonstrates, just a few flights in excess of a major airport's capacity can mushroom into a nationwide problem.[2]

Government spending for aviation technology and infrastructure improvements over the last two decades has been significant. The Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR21)(P.L. 106-181) provides for considerable additional federal funding beginning in FY2001, and gives airports the authority to raise even more funds by increasing passenger facility charges (PFC). Yet, even with these increased financial investments, congestion problems are expected to increase, especially at the Nation's most congested airports.

Short term initiatives to reduce congestion are numerous. The FAA has taken a number of actions aimed at better coordination of the ATC system. Some airlines have rescheduled their flights into and out of their hubs with an eye toward reducing delays inherent within their own systems. And some major airports have attempted to fast-track needed infrastructure projects and make other changes in operating procedures to reduce delay. Although the FAA and others believe these efforts have been at least somewhat successful, there is still concern that far more could be done. As a result a wide variety of additional remedies continue to be discussed. The Congress and Administration, however, now seem to be focusing on a relatively small number of solutions that are believed to have good short term paybacks and, more importantly, are viewed as politically possible.

# Airport Infrastructure

## New Runways

One area of agreement amongst most aviation experts is that a relatively small number of strategically placed new runways would make a major dent in the delay problem. Approximately 70% of all U.S. air travel takes place at only 31 airports. And the vast majority of all delays occur at these same airports. The significance of this situation is underscored by a recent Federal Aviation Administration (FAA) report detailing how the capacity crunch occurs at these airports.[3]

It is not possible to build new runway capacity at some of these airports. For example, the most congested airport in the national system, LaGuardia, in New York City,

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[2] Sinha, Agam N. and Boone, Diane E. *The Anatomy of Delays: Complexity and Interconnectivity of NAS Traffic Flow.* Mitre Corporation. February 16, 2001. Presentation at Transportation Research Board/Federal Aviation Administration Conference on Aviation Gridlock. www.trb.org/trb/publications/circulars/ec029.pdf

[3] U.S. Department of Transportation. Federal Aviation Administration. *Airport Capacity Benchmark Report 2001.* April 2001.

is boxed in by Long Island Sound on two sides. It is, however, possible to build new capacity at a number of the most congested airports. The Airports Council International-North America (ACI), which is the primary trade group for many large airports, is proposing 50 miles of new runways (25, 2 mile runways) as a major solution to the delay problem.[4] Similarly, others have called for a federal program similar to the interstate highway program to expedite needed airport construction projects.

While the aviation community at the national level is enthusiastic about new runway construction, this enthusiasm is not shared at the local level. Airports are not generally regarded as good neighbors, especially when the neighboring property is heavily residential. This dichotomy complicates the politics of airport construction. Local interests frequently fight airport expansion projects and are known to use almost any legal means to delay, thwart, or at a minimum modify expansion plans.

Local politics can get even more complicated as the ongoing debate about how to expand airport capacity in the Chicago area demonstrates. The City of Chicago, owner and operator of O'Hare airport, has discussed adding new runways at the airport, but has no formal plans to do so at the moment. Airlines serving O'Hare and several Members of Congress, including the Iowa Senatorial delegation, want new runways built at the airport. The State of Illinois, several suburban communities around O'Hare, and several Members of Congress are opposed to additional runways at O'Hare and instead want to build an entirely new airport in Peotone, Illinois. This debate has been ongoing for many years. Capacity crunch at O'Hare notwithstanding, the debate is likely to continue.

The net effect of local opposition, combined with the complicated public works project that an airport expansion represents, means that many airport expansion projects can take a decade or more to come to fruition. In the recent past, money was also considered a major impediment to airport modernization. But, this element of the airport building puzzle seems to have been reduced in importance, at least for the moment, by AIR21 and its PFC provisions.

## Environmental Streamlining

Compliance with the provisions of the National Environmental Policy Act of 1969 (NEPA)(P.L. 91-190) is a major issue for airports seeking to build new capacity. Most major airport construction projects receive at least some significant federal funding from the airport improvement program (AIP) or are otherwise subject to NEPA's provisions, requiring an environmental impact statement (EIS). Preparation of the EIS frequently requires a substantial amount of time and effort that can add years to a new runway's approval process. This is due in part to a process that sometimes fails to provide efficient coordination among the many federal and state agencies, e.g. the Corp of Engineers for wetlands, that participate in the EIS process.

Environmental requirements, it should be noted, are only a part of the administrative process required for airport modernization projects. Other federal, state, and local approval processes are, in fact, often more time consuming. There is a consensus,

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[4] Aviation Daily. *Quick Runway Construction Key to Delay Crisis, Kelleher Says.* April 24, 2001.

however, across all transportation industries, that the NEPA process, in particular, has become an ever growing barrier to the timely completion of desired infrastructure projects.

The Transportation Equity Act for the 21st Century (TEA21)(P.L. 105-178) authorized all federal highway and transit programs through FY2003. An important policy element of TEA21 contained in Section 1309 requires that the Federal Highway Administration (FHWA) take actions to "streamline" the environmental review process for highway projects. The provision requires that FHWA take actions to insure that environmental review is well coordinated and that review by other agencies is concurrent. The provision does not in any way abrogate NEPA requirements. To date FHWA has been unable to come up with a set of implementing regulations satisfactory to Congress and other interested parties. FHWA has, however, taken some interim efforts on its own to streamline the NEPA process pending completion of the regulatory process.[5]

The streamlining concept is now being offered in the 107th Congress as one mechanism that could speed up the construction of new airport infrastructure. Senators Kay Bailey Hutchison and John D. Rockefeller, chairman and ranking member respectively of the Senate Committee on Commerce, Science, and Transportation's Aviation Subcommittee, approved legislation on August 2, 2001, that provides for "expedited coordinated environmental review" of airport capacity enhancement projects. The Aviation Delay Prevention Act, S. 633, gives the Secretary of Transportation broad authority over environmental review of airport capacity projects. The bill includes a number of additional provisions that would speed up, and in some instances exempt, airport construction projects.

Aviation interests and airport operators, in particular, have a substantial interest in seeing some sort of environmental streamlining adopted and implemented. In the ideal situation such a change would result in a dramatic reduction in the approval time needed for new airport capacity.

There are few, however, in any part of the industry, who believe that such a change will come anytime soon. There are local and environmental interests who remain suspicious of streamlining and believe it might actually be an attempt to abrogate existing environmental rules. The EIS has been one of the places in the airport capacity approval process where airport neighbors believe they have significant influence. As a result, they are reluctant to willingly give up their ability to influence the decision making process.

## Demand Management

It is clear that airlines sometimes schedule more flights into and out of some airports than there is physical capacity to handle. The recent FAA benchmarking study mentioned earlier bears this out. The situation is not new. Overscheduling has been a fact for decades. However, for most of the period there has been enough slack in the aviation system to make delays engendered by this practice acceptably small.

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[5] For a discussion of the environmental streamlining provisions of TEA21 see: CRS Report RS20841, *Environmental Streamlining Provisions in the Transportation Equity Act for the 21st Century: Status of Implementation*, by David M. Bearden.

Since the late 1960s flights at four airports, O'Hare, New York Kennedy, New York LaGuardia, and Washington Reagan National have been subject to FAA administered capacity controls. These controls, imposed by slot allocations (takeoffs or landings), as a response to an earlier capacity crunch, have been controversial, and are seen as a major barrier to competition at the slot-controlled airports. It was the concern about competition that led Congress to legislate a phase out of slot controls as part of AIR21. The unexpected consequences of this phase out that occurred in the fall of 2000 at LaGuardia, when a large number of regional jets began service, however, are now a major reason that demand management is being revisited as at least a partial solution to the delay problem.

Slots are a form of demand management, which broadly defines all mechanisms that can be used to regulate the demand for airport and/or air traffic capacity. As will be discussed, demand management can be facilitated by administrative means as is the case with slots, or by economic means (pricing).

## Congestion Pricing/Peak Period Pricing

In several forums in early 2001, Secretary of Transportation Norman Mineta has suggested that some form of peak period charge might be a way to reduce congestion in the transportation system. As a result, the Department of Transportation has begun a rulemaking process by requesting public comment on possible demand management mechanisms. Peak period pricing, which is another form of congestion pricing, addresses the demand/supply imbalance at an airport by charging higher fees for use of the airport at peak periods.

Airports currently charge airlines landing fees based on aircraft weight. With a couple of small exceptions, there is no correlation between the landing fee and congestion. Peak period pricing suggests that a time sensitive-fee, as a replacement of the traditional landing fee, or as a surcharge to that fee, can be used to regulate available capacity. Such a fee would likely be considerably higher than existing landing fees. Airlines would, therefore, have to incorporate these new costs into their fare structure. Ideally, some market clearing fee would reduce the demand for capacity at an airport to the actual physical capacity of the airport thereby making improved access worth the additional cost.

What makes demand management controversial is modern America's relative aversion to tolls and other transportation pricing mechanisms. Roads in this Nation, for example, are provided largely as free goods in the minds of drivers who believe they pay for the roads through taxes at the gas pump. This same framework exists today in aviation with the airline ticket tax and associated taxes serving as a proxy for the highway fuels tax. Many observers, find it rather remarkable that a nation that differentiates access to many of its infrastructure systems on a price basis, e.g. telecommunications peak period pricing, has no comparable mechanism that differentiates users of the national transportation system.

Congestion pricing is opposed by many groups in the aviation community. Most vociferous in their objections to this mechanism are regional airlines, business aircraft operators, and general aviation aircraft operators. All of these groups believe that congestion pricing could be used to discriminate against them and will have the effect of reserving what is a publicly supplied asset - airports - for large airlines. Residents of small communities, primarily served by regional airlines, are also concerned that congestion

pricing will price them out of major airports and make them second class citizens within the aviation system.

## Antitrust Immunity

On a few occasions in the 1980s, the now sunset Civil Aeronautics Board and later DOT gave airlines antitrust immunity in order to discuss and coordinate schedules. Each of these grants was temporary in nature and related to specific events in the aviation industry, such as the aftereffects of the 1981 air traffic controllers strike. In 1990, antitrust regulation of the airline industry was transferred to the Department of Justice (DOJ) and there have been no subsequent grants of antitrust immunity to the industry for scheduling purposes.

Legislation has been introduced that would grant scheduling antitrust immunity to the industry in order to deal with the current capacity problem. On May 10, 2001, the Aviation Subcommittee of the House Committee on Transportation and Infrastructure marked up H.R. 1407, the Airline Delay Reduction Act. The bill allows airlines to ask the Secretary of Transportation for authority to discuss schedules when scheduled transportation exceeds airport capacity and gives the Secretary the authority to approve the resulting agreements. The bill provides for a number of conditions that must be met prior to Secretarial approval of discussions and limits the discussion itself only to airline schedules. The Committee on the Judiciary reported H.R. 1407 on June 28, 2001. The Judiciary Committee bill give oversight of scheduling discussions to the Attorney General and provides and makes additional changes in the bill passed by the Aviation Subcommittee. Senate legislation, S. 633, also contains a provision calling for a similar exemption from antitrust laws, but leaves authority over scheduling discussions with the Secretary of Transportation. The authors of these bills view the provisions as a short term solution to existing capacity problems, which they hope will be alleviated over time by the creation of new airport and ATC capacity

DOJ has not, as of this writing, provided a formal position statement on this legislation. A number of industry observers question whether scheduling committees will be able to avoid competitive issues that might lead to industry collusion on items such as service and fares. They are also concerned that scheduling committees, like the slot system before them, might become a semi-permanent and anti-competitive feature of the industry.