

AIR CARRIER AIRPORTS

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This panel included representatives from eight airports (Boston, Dallas-Fort Worth, El Paso, Los Angeles, Miami, New York, Philadelphia, and Toronto), airport associations, aircraft manufacturers, and both the Canadian and United States governments.

A broad spectrum of aviation issues was addressed including airfield capacity, terminal capacity (both domestic hub and international gateway), landside capacity, airport financing, economic development of non-aviation airport property, airport privatization, and new aircraft.

Airfield Capacity. The session was opened by a discussion of Boston Logan Airport's "PACE" (Program for Airport Capacity Efficiency) project. By way of background, at major airports such as Boston Logan, which is locked in by dense urban development on one side and by water on the other, it is not realistic to consider increasing airport capacity by the addition of more runways, even if it were politically feasible. Therefore, if there is only a finite amount of runway concrete, it is important to get more people per hour onto that concrete by using larger aircraft at higher load factors.

Increasing the "people-capacity" of the passenger terminals at any major airport should be relatively straightforward, given an innovative airport planning staff and adequate financing. Increasing the "people-capacity" of the runway-taxiway system would also be relatively straightforward if airports were permitted to operate as an economically deregulated industry, in the same manner as the airlines. Each airport then could define its own policy to require limited runway capacity to be used by progressively larger aircraft, carrying more people. Economically rational airfield access pricing policies, reflecting opportunity costs and benefits during peak traffic periods, would achieve this objective. Sensible airfield pricing policies using a market, as opposed to a compensatory, approach would also raise increased revenues that could then be used to construct additional capacity elsewhere. Increased revenues also could be used to finance general aviation (GA) reliever airport improvements to enhance the capacity of the total airport system. Further, sensible airport pricing policies would strengthen the aviation industry's credibility with the public.

It was emphasized that "slots," as imposed by FAA at O'Hare, JFK, Washington National, and La Guardia lock in inefficient use of an airport's critical facilities.

During the six months in which the PACE program was in effect at Boston Logan, approximately 30 percent of small general aviation aircraft operations disappeared. Commuter airline operations were also slightly reduced (e.g., Boston-to-Burlington, VT., from 20 to 15 flights per day), but total commuter airline seats at Boston increased, through the use of larger, more efficient, commuter aircraft. During that same six-month period, Boston rose from 21st in terms of on-time performance among the busiest 27 U.S. airports, to second, clearly illustrating the significant benefits of the program to the air carrier passengers using Boston. After the loss of the lawsuit and DOT's threat to cut off all FAA funds, the PACE program was suspended. As a result, operations at Boston-Logan are now back to their pre-PACE level, and the airport has fallen back again to 21st in terms of ATC delays. The results speak for themselves.

Massport appears determined to develop a legally viable program with objectives similar to PACE. The major airport representatives on the panel agreed that most of the major hubs in the nation would have to adopt similar programs within the next ten years, perhaps incorporating the successful "peak-hour-pricing" principle applied at the New York airports and London Heathrow and Gatwick.

It was noted that Massport representatives would shortly be meeting with appropriate FAA and DOT officials to discuss the issue. The problem is well understood, and Massport was optimistic that the government agencies would work with Massport to develop a new opportunity-cost and peak-hour-pricing approach acceptable to all concerned. There appeared to be a consensus that the major U.S. hub airports will support Massport on this issue, since it addresses the basic concept of deregulating the U.S. airports to permit them to be run as efficient businesses. This would be consistent with the deregulated airlines who are partners in the air transportation industry. Both need control of their product in order to provide good, cost-effective, service to airline passengers in the next ten years.

Terminal Capacity - U.S. Domestic Hubs

Dallas-Fort Worth Airport (DFW) is a large domestic hub that in 1974 handled 6 million passengers on its 17,500 acre site. During 1988 DFW handled 42 million passengers, 70 percent of whom were connecting from one flight to another, primarily on-line with either American or Delta, who served 80 percent of the total passengers at this airport. DFW is now handling approximately 2,000 aircraft operations daily during its 18-hour operating day, from 6 a.m. to midnight. The airport operator is planning to construct two additional runways, enabling DFW to handle 4,000

aircraft daily and providing seating capacity for 100 million annual passengers.

The airport management and American Airlines are planning a new terminal at DFW, which would have some interesting features:

- (a) The estimated cost is \$1 billion.
 - (b) Change orders up to \$100,000 will not require airport board approval, due to special legislation enacted to expedite the project.
 - (c) Three policy-level members from the board are involved.
- Also a three-person technical management team, from American, DFW, and the engineering contractor will oversee the whole project, from planning in 1988, through design in 1989, construction in 1990-1994, and full operation in 1995, making all decisions within 24 hours.
- (d) In Phase 1, 66 gates will become available; in Phase 2, 88 gates. The design capacity is approximately 60 million annual passengers.
 - (e) American wants dual roadways for arrivals and departures, dual roadways for public vehicles and private vehicles, and separate airport access roadways from Dallas and Fort Worth.

Delta Airlines is watching with interest. Initially Delta intends to move into some American's vacated horseshoe terminals, as a first step to phasing out these terminals. Delta will then develop its own integrated terminal with the same general capacity as American's terminal. This would permit other carriers to grow into some of the horseshoe terminals.

DFW's management is insisting that a connector be provided between the existing east-side passenger terminal area and the new west-side terminal area.

Terminal Capacity - International Gateway Airports

From the perspective of a major international gateway, Los Angeles International Airport (LAX) provides some interesting developments in terminal capacity. In 1988, LAX handled 45 million passengers, of whom 20 percent were connecting and 80 percent were local origin and destination (O & D), leading to huge volumes of automobile traffic. Of the O & D passengers 80 percent were domestic, 20 percent were international. LAX is served by 80 airlines, with United as the largest single carrier, handling 18 percent of total passenger volume.

The new Bradley International Terminal at LAX was opened only five years ago and is now bursting at the seams, with a 14-percent annual transpacific passenger growth rate. This terminal has 11 wide-body aircraft gates, plus 11 remote gates and 18 bus gates.

The design consultants for the Bradley Terminal predicted that six baggage carrousel would be adequate. LAX insisted on eight. Ten carrousel are needed for a heavily loaded B747. Approximately 70 U.S. Immigration and Naturalization Service (INS) inspection booths are available, but the maximum ever staffed is about 20, due to manpower limitations.

LAX has performed initial planning studies for a new international terminal on the west side of the airport, where space is available to construct a passenger terminal capable of handling 27 B747-400 aircraft at one time, representing at least 15 million passengers annually. Good highway access also is available. The political and environmental constraints on this future terminal development, however, still require a great deal of additional planning and coordination before it becomes a reality.

Landside Capacity.

At the New York airports, as at many other airports around the nation, landside surface-access problems are now becoming the critical constraint in terms of future airport capacity. This involves not only to access to the passenger terminal areas, but also access to cargo areas and access for the thousands of employees working at a major airport. As the airlines add more new wide-body aircraft by 1995, thereby significantly increasing terminal capacity requirements, the landside capacity of many airports will become out of balance with the airside capacity.

The landside problem is compounded at New York Kennedy Airport, for example, by the fact that airport users constitute only 20 percent of the usage of the adjacent highway system. The airport user therefore is competitive for roadway space with the regular business and personal commuter traffic.

The planning of improvements to most highway systems also is split between multiple State, county, and city jurisdictions, each with its own political and financial priorities. The ability of airports to become involved in the planning and construction of related highway improvement projects is limited by FAA regulations, bond covenants, and tenant agreements, which require that all airport-generated funds be spent within boundaries of the airport.

One airport representative expressed the hope that under the new Secretary of Transportation DOT would recognize that FAA and the airline industry

both came under the jurisdiction of the DOT. He hoped that the new Highway Bill (due out in 1990) would recognize this fact and mandate that, in the case of Federal or State funding of alternative, relatively equal, projects, any project involving access to a major airport should receive priority. Airlines, too, must realize that they must work with the airports on this issue. It was noted that this was yet another important example of how a potential passenger facility charge (PFC) could be used by an airport authority for the maximum cost-benefit of the whole aviation industry.

Airport Financing - A Financier's Viewpoint

There are serious financial constraints on the horizon for airports in the capital markets. Many major hubs have ten-year capital requirements of between \$1 billion and \$3 billion. As a result, the operating costs at these airports could double in real terms over the next ten years.

The money markets are becoming concerned about the leveraged buy-out trends of the major airlines, where an airport's long-term leases with even major airlines could become virtually useless as collateral. The markets would rather see a move towards some form of PFC, where each airport's base passenger volume clearly provides unencumbered cash flow for that specific airport.

It was suggested that the airport industry work with the airlines and FAA to explore alternative concepts; such as PFCs, revolving loan funds, rotating loan credit lines, credit guarantee programs, and credit supplement programs.

A Federal Aviation Administration representative, said that FAA was aware of the potential airport funding problems, and the agency would be receptive towards working with the industry to examine mutually acceptable alternative funding concepts.

Airport Financing - An Airport Operator's Viewpoint

The potential future significant increase in airport operating costs was illustrated by reference to the planned development at Philadelphia International Airport (PHL). PHL's present airfield, terminal, landside improvement programs will require an investment of approximately \$600 million. This would cause PHL's costs for debt service and operation and maintenance to double in the next five years. PHL's experience was typical of similar size hubs.

The airport representatives were strongly in favor of PFCs as a method of airport financing, not only to get away from potentially highly leveraged financing, but

also as a method of guaranteeing stable, long-term, future revenue streams, thus enabling sensible long-term facility planning. Equally important, PFCs would enable the airport to change direction quickly in the event of a sudden change in airline demand.

The PFC is a very simple concept. It could be applied in a manner similar to some State fuel taxes, where the airlines collect the tax on the passenger ticket coupon and send funds each month directly to the State or, in some cases, directly to the airport authority.

Airport Privatization - Non-Aviation Economic Development

The discussion on airport privatization provided some interesting data on El Paso International Airport's experience with commercial development of land at the airport for non-aviation purposes.

El Paso is now handling 1.5 million passengers annually. 25 percent of the airport revenues is now derived from non-aeronautical sources. In 1990, 30 percent of revenues is expected to be non-aeronautical; and by 1995, 50 percent of revenues is expected to be non-aeronautical.

There were now three hotels on the airport, a golf course (which has noticeably raised the value of adjacent property), a shopping strip (complete with a Publix supermarket and dry cleaner), and a luggage sales and baggage repair company (with whom 30 U.S. airlines now have contracts).

The airport authority laid out the roads, raised the grades, put in the utilities, laid out the primary landscaping, and set standards for very high quality secondary landscaping and set-backs by county ordinance, so that the whole high-quality development could never be downgraded. The airport authority provided some "up-front" investment, but it was not aggressive about the rate of return and took care not to be too competitive with the private sector. The airport also invited participation by local real-estate brokers.

Like the private sector, the airport could sign a 20-year lease with a suitable tenant in 30 days. The first two months' lease payments are required up front, but the first year's lease payments can be spread out over the first two years.

Airport Privatization

Until 1984, the Canadian Government provided all airport services. However, after 1984, the government invited the private sector to play a larger role in the development and operation of Canadian Airports. As

a result Transport Canada, in 1986, decided to "privatize" the design, construction, and operation of the new Terminal 3 at Toronto International Airport with the following objectives: (1) providing a world class terminal, (2) reducing government expenditures, (3) increasing the airport role of the private sector, and (4) providing a financial return to the Crown. Four excellent proposals were received from previously qualified consortiums in response to an RFP that specified the basic design of a terminal capable of handling 5 million passengers.

The successful consortium, the Airport Development Corporation, then spent two months negotiating with Transport Canada the final terms of the development agreement. After an additional six months, a lease -- and corresponding operations, security, design, and construction agreements were executed. Only then was the work permitted to start.

The final project will result in a 24-gate, three-sector terminal including all utilities, roads, aprons, etc., capable of handling 7.5 million annual passengers. Total project cost will be approximately \$400 million Canadian, plus an additional \$60 million Canadian for a new 500-room hotel, built adjacent to the terminal building, on top of the parking garage.

The developer has signed long-term leases with the airlines that will be occupying the new terminal, which will begin operation in the Summer of 1990.

New Aircraft Developments

Airlines are totally uninterested in new technology for its own sake, and they give scant attention to prop-fans, tiltrotors, next-generation SSTs, and hypersonic aircraft. Airlines are now in a very conservative mood, and they want more aircraft like those they now have or perhaps slightly longer, with 20 percent more seats and perhaps 20 percent more fuel for extended range. They want derivations of existing aircraft with resultant commonality of crew training and spares. Economics and reliability -- two engines, two pilots, favorable operating

economics, reliability and range -- will be the driving parameters in the airline industry of the 1990s.

Manufacturers see large numbers of MD-80s followed by even larger numbers of stretch 170-seat MD-90s, to compete with the B757. A large number of MD-11s, followed by large numbers of stretch MD-11s, are expected. Large numbers of 150-seat A320s, followed by even larger numbers of stretch 180-seat A321s, and large numbers of 300-seat A330s, followed by even larger numbers of stretch 375-seat A331s are also expected.

The next generation SST is not expected until 2010 at the earliest. The super-stretch, double-deck, new-wing B747-500 will probably not appear until after 2000.

Boeing's current program includes: a) meeting the very high demand for the whole range of Boeing 737, 747, 757, and 767 aircraft for the next five years; and b) defining in detail the all-new "B767X". At least six large B767 operators are said to be ready to order this new 300-seat aircraft as soon as the design is frozen.

The new Boeing 767X is expected to be a completely new version of the B767. It will have a wider fuselage, with 10-abreast seating; a completely new super-critical low-drag wing, with winglets; a 300-passenger capacity in a three-class configuration, and 5,000 miles transoceanic range under the 180-minute (EROPS) criteria. Wingspan will be approximately 170 feet and length approximately 210 feet, enabling the aircraft to use DC10 gates. Second-door loading will be provided, enabling the aircraft to use normal gates.

Design definition of the B767X will be frozen to the satisfaction of the major airlines during 1990, with deliveries from the full production line beginning in 1995. With its state-of-the-art technology, attractive operating economics, and capability to evolve into stretch versions with more seats or longer range, the B767X is expected to remain in production through 2010.