

## PRESENTATIONS

FAA AND THE CAPACITY ISSUE - SUMMARY  
OF REMARKS

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Administration

With the Airport and Airway Improvement Act of 1982 expiring at the end of Fiscal Year 1987, the Federal Aviation Administration (FAA) is considering a variety of legislative recommendations to continue the federal airport and airway system for at least another five years past 1987. Three basic premises underlie the proposals: the current organization of the FAA will remain substantially intact, funding should be continued to complete the current program to modernize and improve the national airspace system, and users who benefit from the system should pay for it.

The FAA believes that it is effectively performing its aviation safety and air traffic functions as mandated by Congress, and thus supports continuing its present organizational structure. That means the Airport and Airways Trust Fund should be continued, but the appropriate level of taxes to be imposed on users of the system is still being analyzed. Also under consideration is the appropriate percentage of funding to be paid from the trust fund versus the general fund.

The current airport grants program has been successful in promoting airport system standardization, gaining almost universal acceptance of FAA's airport design and construction standards, which we believe significantly contribute to safety. The FAA believes adequate funds to bring about airport capacity increases that affect the entire air transportation network must continue to be available through a grant program.

Existing airport capacity must be used effectively, and further development must be encouraged where appropriate to match runway capacity with capacity increases occurring elsewhere in the national airspace system. One solution to the capacity problem under consideration involves developing more reliever airports through expanding the statute definition to cover reliever airports or increasing funding to relievers. In addition, future legislation could contain a provision requiring airport sponsors to balance landside and airside airport capacity as a condition to receiving grants. A major concern of the FAA is protecting the integrity of the national air transportation system from restrictions on airport runway use. FAA looks for ways to encourage aviation interests and local areas concerned with the environment to find a middle ground to accommodate the air transportation system without limiting aircraft operations.

To meet its safety mandates, future FAA budgets should be fully funded to continue the National Airspace System Plan at the earlier agreed-upon \$11.7 billion level and in addition provide \$550 million for the terminal Doppler radar, to support moderate staffing increases provided primarily in the air traffic inspector ranks and air marshal positions, and to adequately fund an airport grant program.

## THE DRIVING FORCES OF CHANGE

David E. Raphael, Bank of America

This paper will examine the driving forces of change that affect the aviation industry. New ways are needed to solve problems that we face and to view the future.

One approach is to look back to the future -- that is, to go back to 1960 and examine the assumptions and forecasts made at that time. Many of the assumptions seemed solid then, but virtually all of them have to be changed today.

First, the key assumptions or commandments of 1960 will be identified and examined. Then some driving forces for today will be suggested.

Commandment #1. Thou shalt not take the name of the Civil Aeronautics Board (CAB) in vain. Today the CAB is gone. On January 1, 1985, it officially went out of business after 40 years of regulating the United States airlines. But is regulation really gone? It seems that we are moving from a period of economic regulation to one of social or functional regulation. The new form of regulation covers noise, safety, passenger security, travel agents, airports, and international routes. Moreover, the new regulation comes from many agencies and special interest groups. Thus it seems that the very nature of regulation is changing.

Commandment #2. Remember to keep holy the growth rate of real gross national product (GNP). Today real GNP is 25 percent lower than was forecast in 1965 by some aviation forecasters (see the charts provided by Douglas Aircraft Company, "A 1985 Forecast of the Commercial Transport Market" Figure 1). This overly optimistic outlook for real economic growth did not take into consideration, of course, the recessions of 1970, 1974-1975, and 1982. These economic downturns affected cargo, general aviation, and commercial airline markets.

However, the actual revenue passenger-miles that developed were higher than forecast, except for the end of the period. We are too pessimistic about air travel growth except for one year, 1984, when we hit it exactly. The key factor is that we did not understand the relationship between real economic growth and air traffic growth. This haunts us today as well. There are too many other factors such as fares, fuel prices, changing tastes of customers, frequency, and connect times that have invalidated the old relationships.

Commandment #3. Thou shalt keep fuel prices low. Today fuel prices are more than two and a half times higher in real terms. Since 1980 the trend in fuel prices has been down. Even with fuel prices declining from \$1.05 per gallon in 1980 in today's terms to about 80 cents per gallon now, fuel prices remain high on a relative basis. Linked to higher fuel costs are inflation rates and the prime rate. Forecasters in 1965 assumed a flat jet fuel rate and a flat real interest rate. A key factor that we still have difficulty understanding is the relationship between economic growth rates and energy growth rates.

Commandment #4. Thou shalt not allow price competition among airlines. Today there is intense price competition. Witness the "ultimate super savers" announced in January of this year by American Airlines and matched by most other major air carriers. Discounts of up to 70 percent have become commonplace in the industry. Yields, or

average fares per passenger-mile, have fallen since the 1960s, but they rose in the mid-1970s, and rose again in 1980 (after the oil price hike). Average fares have been essentially flat for the past four years. One of the important assumptions that was not specified was the role of discounting. Today few travelers are paying full fare. The percentage of total coach traffic at discount prices has risen from 40 percent in 1978 to 85 percent in 1985 over domestic routes. Today we also have nonprice competition such as frequent traveler programs, free nights in hotels, and free rides in rental cars and cruise ships. None of these forms of competition were foreseen in 1960.

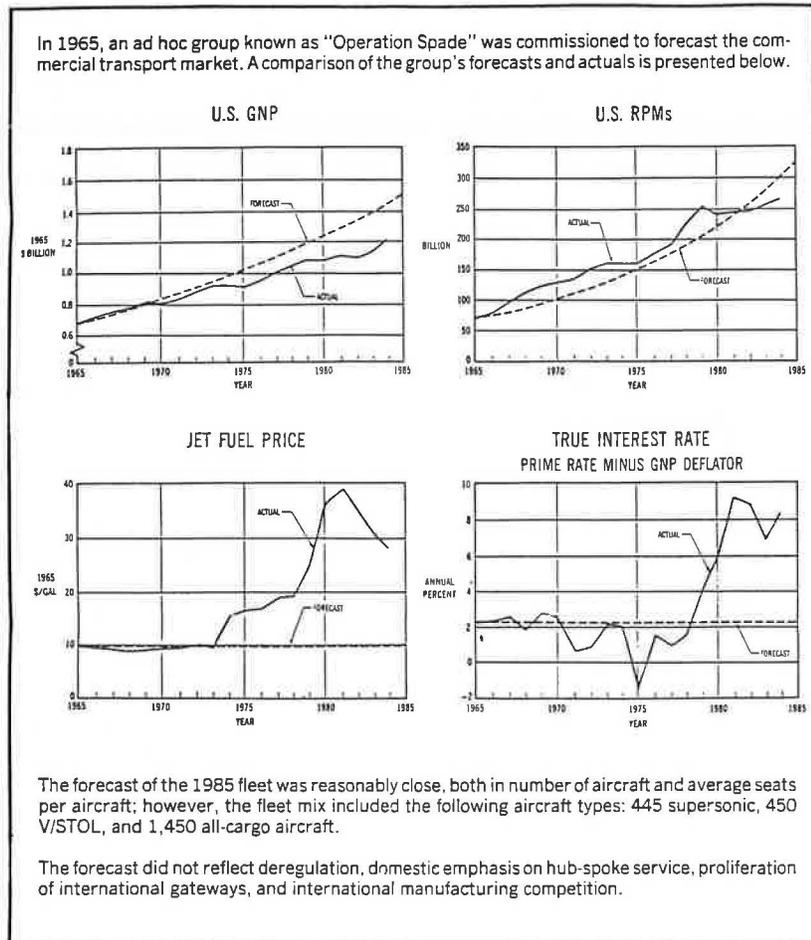
Commandment #5. Thou shalt fly on nonstop flights. Today we see the results of a proliferation of hub and spoke distribution systems. In the 1960s, it seemed that point-to-point routes would be the wave of the future. Instead, large carriers have plunged into hub and spoke markets. Small airlines joined as well. People Express Airlines, for example, has selected Newark Airport as its hub. Today Newark has more passengers than La Guardia Airport. Eastern, TWA, and United Air Lines selected Kansas City, among other cities, as a hub. Republic, at one point, had eight hubs. The structure of the airline distribution system has dramatically changed.

Commandment #6. Thou shalt retire aircraft before 20 years. Today some airlines have been operating their aircraft for up to 20 years. Some of the first B-727s are still in service after twelve years. The first B-737s went into service 18 years ago, and the first B-747s 16 years ago. There are two basic reasons for longer aircraft lives: economics and noise, and the growth of air cargo. It is economical to keep operating older aircraft that are depreciated especially if fuel prices moderate. Noise is currently not the primary issue it was a decade ago for many airports. Moreover, air cargo is growing. This growth has produced a market for many older aircraft. Emery, Federal Express, and UPS are becoming sizable operators. UPS alone has more than 150 aircraft in its fleet.

Retirement of old aircraft is a key factor in forecasting production rates of new aircraft. Over the long term, replacement of older aircraft accounts for about two-thirds of the market and new travel growth for the remaining one-third of the market. Thus, as aircraft retirement rates are prolonged, annual production rates of new aircraft are reduced.

Commandment #7. Thou shalt honor aviation technology. Today much more is spent on automated reservation systems, airport security systems, and inventory and fuel control systems than was

Figure 1. A 1965 forecast of the commercial transport market.



SOURCE: Douglas Aircraft Company

envisioned in 1960. The American Airlines SABRE system was under development in the late 1960s, and the United Air Lines APOLLO system was operational by 1972. American spend more than \$150 million and United spent more than \$250 million on these systems during this period. There are many other reservation systems today, but these two can be found in the offices of about half of today's travel agents and they account for 80 percent of the airlines' domestic revenues. In 1960 the important role of telecommunications and automation in the service side of aviation was neglected.

To sum up, the concrete assumptions of the early 1960s were smashed by the discontinuities that were not foreseen. It is not the smooth trend lines that lead us to the future but rather the disjointed, stop-and-go, discontinuous, and uncertain path of reality.

During the next three days the participants in this conference should think about the predictable and the unpredictable events of the future. The following potential forces of change need to be considered:

- o New forms of regulation,
- o New relationships between real GNP and aviation growth,
- o New forms of route distribution,
- o New forms of price and non-price competition,
- o New aircraft retirement conditions, and
- o New forms of technology.

#### THE OUTLOOK FOR THE UNITED STATES ECONOMY

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Two questions are often asked these days. The first is, is the United States economy in a recession now? The unequivocal answer is no. The second question is if not now, when will the next recession in the United States occur? Of course, that is a much more difficult question to answer. My answer is not in the next two or three years. In brief, given the inherent strength in the domestic United States economy and given the willingness of the Federal Reserve System to provide enough credit to keep the United States economy going, it is hard to describe a scenario in which a recession occurs, at least in the next two or three years.

I caution people that I am not complacent and that we are not looking at a very strong growth picture. I foresee a "muddling through" or a "muddling along" scenario for the next couple of years.

Let us look at what has happened since World War II to see if history can provide any guidance about when the present recovery will end and how it will end. Unfortunately, history has little to reveal about when the next recession in the United States is going to occur. There have been seven postwar recessions in the United States and a corresponding number of recoveries. The problem is that the timing of recessions varies widely. On average, postwar recoveries have lasted

about four years. So, from an actuarial point of view, the United States is due for a recession any day now. The problem is that the shortest recovery in the United States lasted one year. That was in 1980-1981. The longest recovery lasted some seven years in the 1960s. The range around the average of four years is a wide one, so it is difficult to figure out exactly when the next recession is going to occur.

There is a good deal more certainty about how the next recession in the United States is going to occur, or rather how it is not going to occur. Recessions or recoveries in the United States rarely die of old age. They tend to get pushed over the brink by some occurrence or another. Such occurrences take two forms. One is an outside shock, like the Arab oil embargo or the Iranian revolution. The other is a policy reaction or overreaction to imbalances that begin to occur in the economy. Typically what happens is that as you get to a mature phase in the recovery and imbalances start to appear in the economy, strains start to show up and, typically, policy makers, and it is usually the Federal Reserve in this case, get worried and tend to want to tighten up, and that tends to be enough to push the economy over the brink.

It has usually been this kind of situation that has brought about recessions in the past. But Wharton does not see those pre-recessionary imbalances in the economy at present.

Let me make this point again in the following way: United States growth tends to slow down because of two types of constraints, physical or financial. Are there physical constraints on the United States economy that will continue to grow in the next couple of years? The answer is no. There are three measures that people look at when they attempt to answer that question.

Are there strains in labor markets? The answer is no. The unemployment rate is quite high by historical standards. It is nowhere near that full-employment unemployment rate that economists tend to think of. The economy is quite far from any tightness in labor markets and any inflationary pressures in labor markets.

Another measure to look at is capacity utilization. In other words, is the United States economy bumping up against capacity ceilings? We are operating at somewhere around 80 percent of capacity on average in the United States. When the economy is operating at a capacity utilization rate in the high eighties inflationary problems begin to arise. The United States is well below the kind of problem capacity situation that is typically encountered by the third or fourth year of a recovery.

Finally, inventory accumulation starts to show up in a mature phase of a recovery. Inventories now are far below their peaks. Economists tend to look at the ratio of inventories to sales as some gauge of whether or not inventories are out of line. Right now they are not.

The answer to the question, are there physical constraints to United States growth right now is no. What about financial constraints to growth? The answer is maybe. The private debt situation in the United States seems to be getting a little worse. Consumers are incurring more and more debt as a percentage of their income, businesses seem to be borrowing at fairly high rates, and the United States government is "dissaving" at a rather alarming and record rate. It might be concluded that there could be problems for financial growth in the United States.