The economic impact of a major airport

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Introduction

The economic impact of aviation became all too apparent in the weeks that followed the attack on the World Trade Center, in New York, and on the Pentagon, in the nation's capital (table 1). More than 125,000 air carrier jobs were eliminated almost overnight; nearly 100,000 of these jobs were at American airlines, approximately 14 percent of the industry's total work force. Four to five times that many are expected to lose jobs in the businesses and industries that depend on air transport. With its 30,000 loss, Boeing is a good example of the 100,000 jobs that could be lost in manufacturing, alone.

A quick infusion of $15 billion was approved by the U.S. government to stabilize the industry. However, shock waves continue to reverberate throughout the world's aviation community. And the travel industry is profoundly shaken.

The most dramatic impacts are being imposed on those cities that are major centers of air travel (aviation hubs and business centers) and travel/tourism sites and industries. Chicago, Atlanta, Denver and Dallas are prime examples of the first factor; Orlando, Las Vegas, San Francisco and Miami are examples of the second. The impact on the economies of the 40 largest economic areas in the U.S. is estimated at $129 billion, a 2.47 percent decrease from the expected 2001-2002 growth. This estimate, by the firm Economy.com, was reported in the 9/30/2001 edition of the *New York Times* (table 2).

It will take some time to recover from this multiple assault on the economy. But the fundamental, underlying growth factors remain strong:

- a vibrant U.S. economy, based on entrepreneurship;
- a widening and more-interlinked global economy;
- a greater demand for multi-component goods from across the globe for manufactures and services;
- an increased standard of living and quality of life for large segments of the world;
- a heightened sensitivity to the growing gaps between haves and have nots; and,
- a willingness to share the wealth.

With this as a preface, we can begin to address the more-normal economic impacts of the aviation network and its major airports.

Table 1
The September 11, 2001 attack – Adverse economic impacts on aviation and job losses

Worldwide Aviation Job Losses	125,000
American Airline Losses	100,000
Percent of U.S. Airline Jobs	14 %
Losses in Related Industries	500,000
Losses in Manufacture	100,000
(Boeing losses)	30,000

(Sources: *Aviation Week and Space Technology,* 10/1/01; *New York Times,* 9/30/01).

Table 2
The September 11, 2001 attack – Forecasted impacts on U.S. metropolitan areas (dollar losses)

City	Economic Loss (2001-02)
New York	$ 14.2 Billion
Los Angeles	$ 8.94 Billion
Chicago	$ 9.65 Billion
Boston	$ 8.03 Billion
Dallas	$ 5.13 Billion
Atlanta	$ 5.54 Billion
San Francisco	$ 4.04 Billion

(Sources: Economy.com, *New York Times,* 9/30/01; ACG: The al Chalabi Group, Ltd).

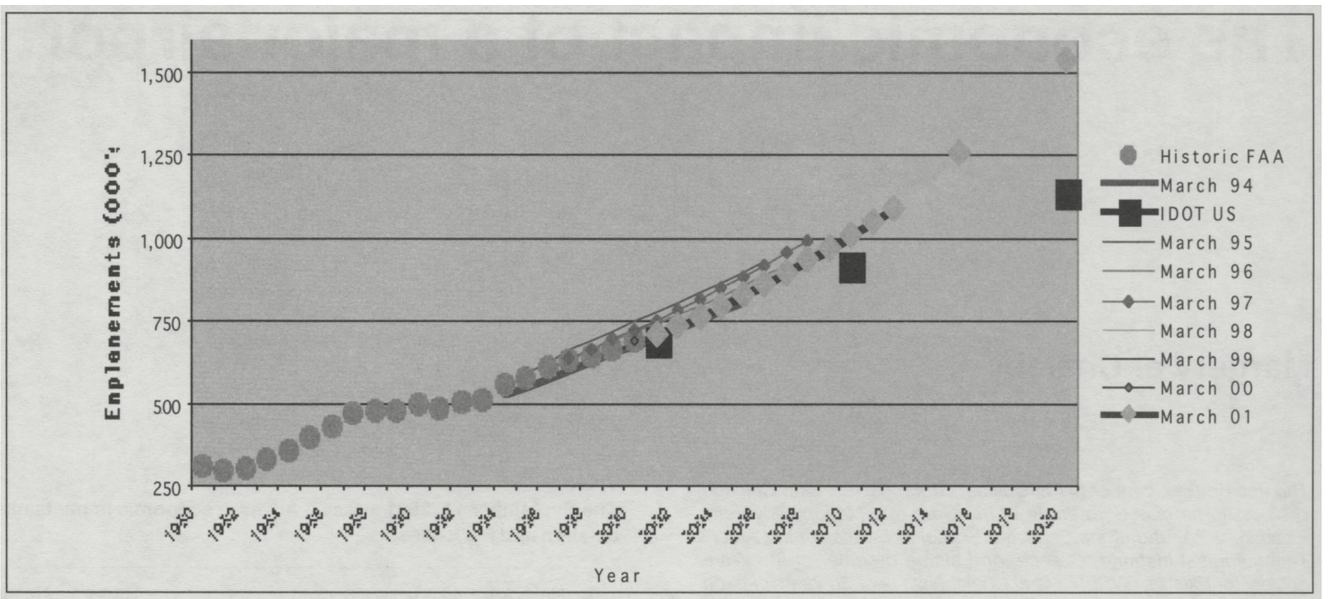

Fig. 1: U.S. total enplanement forecasts. (*Source:* Federal Aviation Administration – FAA).

Impacts of globalization

Aviation is now truly a mass transportation medium. Since 1980, air passenger traffic has doubled every 15-20 years. In 1980, there were 312 million enplanements in the U.S.; in 1990, there were 498 million; in 2000, 694 million; in 2010, over one billion are expected; and by 2020, the forecast is for 1.5 billion (fig. 1).

The aviation growth for North America (2000-2020) is 3.1 percent per year. While this growth is significant, the growth expected in Europe is even greater, 4.7 percent per year. Trans-Atlantic demand is expected to grow by 3.6 percent per year. These are the three largest of 12 regional demands worldwide. The remaining nine regions, while smaller, are all expected to grow at higher rates – from 4.7 to 7.7 percent, in Africa and Latin America, respectively (fig. 2).

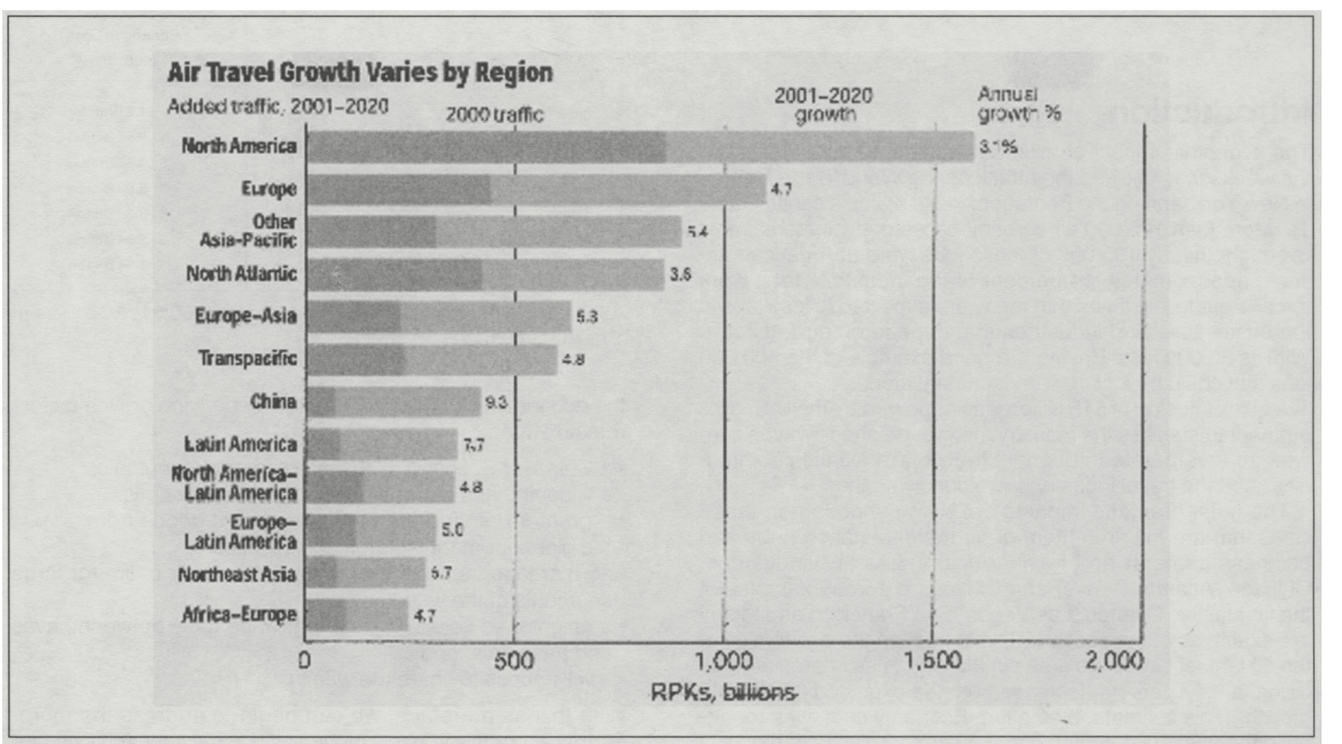

Fig. 2: Expected aviation growth, 2000-2020. (*Source:* Boeing, *Current Market Outlook*, 2001).

In spite of these dramatic demands only a few major airports actually have been built over the same period. Only one airport, Denver, has been built since 1974 in the USA. A few – Pittsburgh, Washington National – have been rebuilt. Only a few in Europe – Malpensa, Athens, Stansted and Munich – have been built in that same time. Most new facilities have been constructed in Southeast Asia; and many of these – Chek Lap Kok, Kansai, Inchon, Kuala Lumpur, Bangkok – have been constructed as small cities. In many ways, they are the new downtowns.

Aviation a significant part of the economy

Throughout the developed countries of the world – and certainly within the USA – aviation is a significant part of the national and regional economies. Travel and tourism is a nearly $1 trillion business in the USA. It is a substantial part of most European economies, as well. Air travel is a major and growing component of that economic sector.

Air transport's share of international trade is growing even more rapidly than global trade, itself. For instance, the average computer requires numerous parts from many countries prior to final assembly. The computer chip, itself, travels six times by air before being placed in the computer. Air cargo is growing at rates $1^1/_2$ times that of passenger growth, more than tripling in the next 20 years. It will require all-cargo aircraft and major distribution facilities and networks around the airport. In many cases, it has spawned new just-in-time industries at the airport and has reinvigorated old economies. UPS, at Louisville Airport, is one such example, spurring a significant job growth – nearly 17,000 – in 10 years. In so doing, Louisville Airport rose in rank from #11 to #3 in air cargo in the USA.

Currently, aviation (excluding manufacture) comprises 4 percent of the GDP; it is expected to grow to 6 percent by 2020. In some American cities, where aviation is particularly critical (Chicago, New York, Atlanta, Los Angeles, Miami), aviation comprises 5 percent or more of the regional economy and will grow to 7.5 to 9.0 percent by 2020. Chicago is one such region where aviation is a major and growing part of the economy.

Airports as economic engines

Major airports have been characterized, very correctly, as economic engines. Airports such as O'Hare, LAX (Los Angeles), La Guardia, San Francisco, Atlanta, Dallas-Fort Worth, and Miami have generated $15-$30 billion, annually, for their regions. Heathrow, Frankfurt, De Gaulle produce similar bounties for their regional and national economies.

The economic magnetism of a major airport can be seen in the growth patterns of the Chicago region between 1960 and 1996 (fig. 3). These dates are when O'Hare Airport opened and reached capacity. Massive economic development, including new industries and expanded employment, has clustered around the airport. By 1990, with 600,000 jobs, there were more jobs clustered around O'Hare Airport than in the Chicago Central Area, with 500,000.

- **Direct jobs at airports:** The al Chalabi Group has been studying airport economic impacts since 1985. The first step in the analysis was to determine the direct job impact of airports. Based on economic impact reports prepared for or by 40 airports and enplanement data collected from the U.S. Department of Transportation, Federal Aviation Administration, ACG was able to develop a model that estimated and could forecast direct employment at major airports.

Direct jobs are airline and air service jobs plus government jobs at the airport. Different types of enplanements – origin/destination (O/D), connecting and international – create differ-

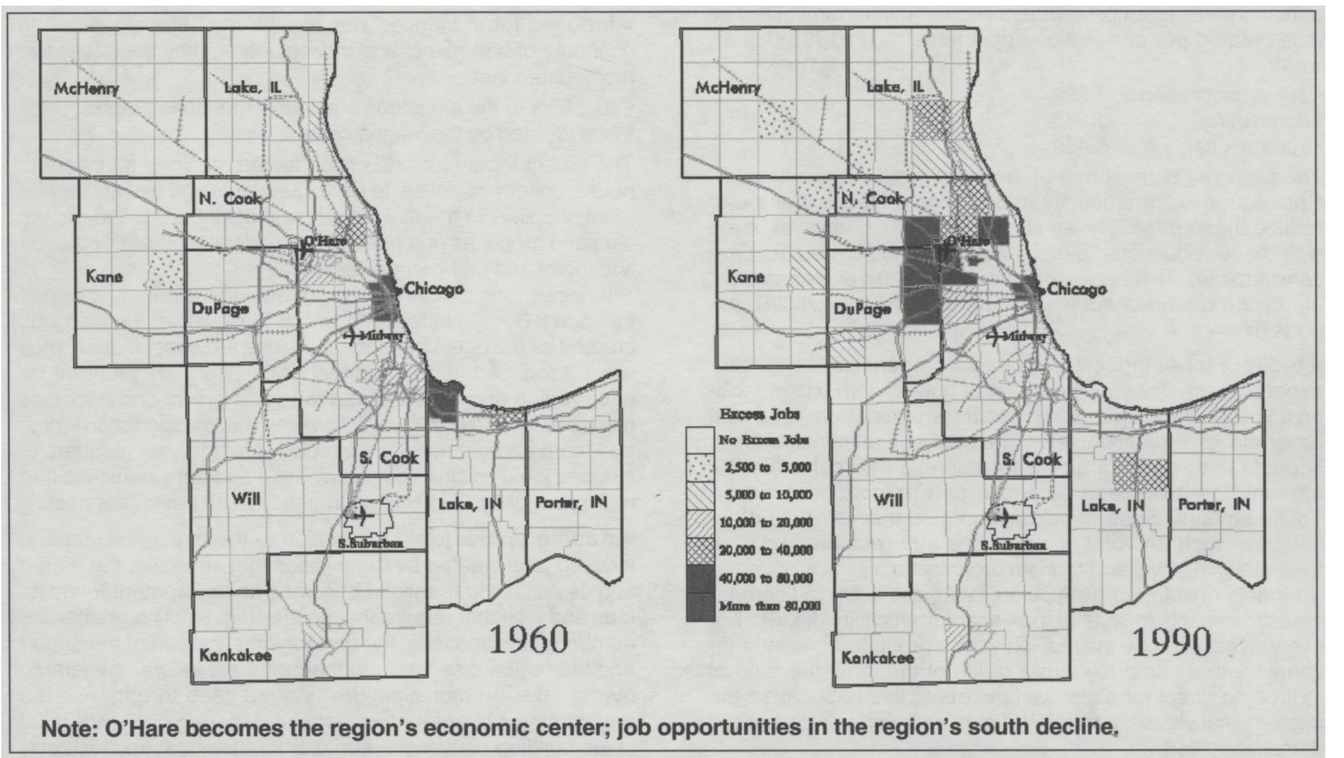

Fig. 3: Job migration in the Chicago region – 1960 to 1990.

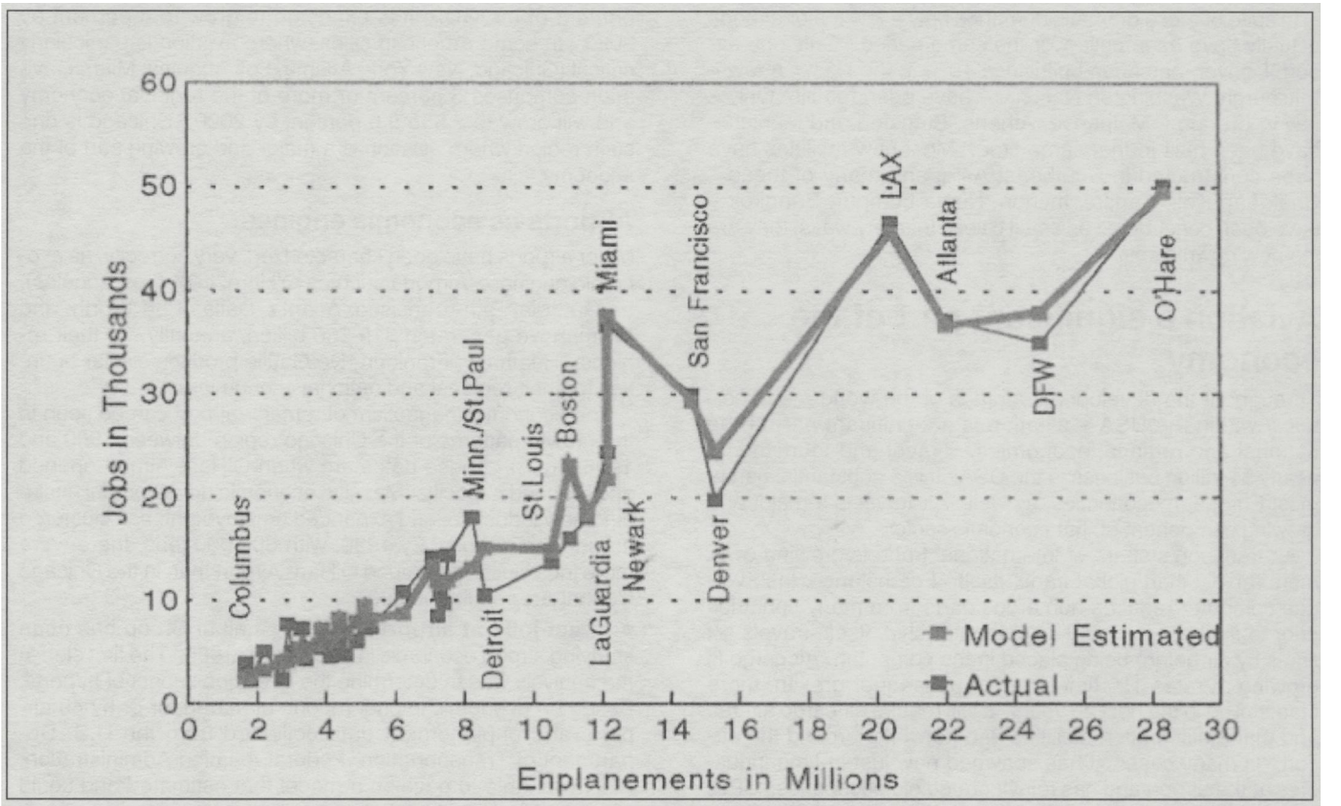

Fig. 4: Airports as economic engines – Direct jobs at airports. (*Source:* ACG Forecast Model).

ent levels of jobs, with international creating more than $3^1/_2$ times the number produced by domestic O/D. Connecting enplanements produce numbers slightly lower than O/D. The jobs created per one million enplanements, in 1990 (fig. 4), were:

- origin/destination - 1,529
- connecting - 1,348
- international - 5,459

The airline industry is one of the most productive in the U.S. Consequently, productivity improvements are expected to reduce these rates, shown above, by 2020. However, even with these reductions, direct jobs generated by aviation are considerable. At the adjusted rates and 2020's enplanements, nearly 2.0 million direct jobs would be produced at U.S. airports (fig. 4).

• **Indirect jobs:** Indirect jobs are those generated by visitor expenditures. They include jobs at hotels, convention facilities, visitor attractions, retail, local transportation, food and beverage, entertainment, etc. The best way to measure these impacts is to conduct air visitor surveys and calculate the amount spent by each domestic and international visitor. These amounts need to be corroborated, however, by other sources, such as hotel occupancies and receipts and data from national travel and tourism organizations.

Models developed by ACG in 1990 and 1995 indicate increased impacts in spite of increased productivity (fig. 5). For every direct job, one indirect job will be produced. As international visitors comprise larger ratios of the total, the ratio of indirect to direct jobs also will increase; this is because the international visitor spends $1^1/_2$ times as much per day as the domestic visitor.

Our studies indicate that an airport with approximately 30 million enplanements would generate approximately $3.4 billion in visitor expenditures (in 1994 $s).

• **Induced jobs:** Induced jobs are the multiplier effect on the economy of both direct and indirect jobs. They consist of two major categories:

- suppliers to the industries previously mentioned; and,
- jobs created by the wages spent.

The first category includes such factors as linen suppliers to hotels, uniform suppliers to flight attendants and fuel and equipment suppliers to the airlines. Examples of the second are the cars and groceries purchased and services required by the airline, hotel and other employees.

Induced jobs produced by indirect jobs are fairly modest; they are 0.6 induced for every indirect. However, induced jobs created by the direct transportation jobs are considerable; they are 1.6 induced for every direct. Multipliers are different for each region and increase as the region grows and becomes more economically diverse. However, the transportation industry – cars and aircraft, for example – creates vast numbers of induced jobs. In Chicago, the aviation and auto industries had multipliers of 6.65, indicating that they were basic industries.

• **Adding up the jobs:** In addition to the direct, indirect and induced jobs created by the aviation industry itself, the airport and its access to the world becomes an inducement to industries and jobs that require that access (fig. 6). The greater the number of destinations, the greater the attraction of the airport and the region it serves. Furthermore, the income generated by the taxes to municipalities is often used to enhance the travel/tourism/headquarters appeal of the region – with hotel taxes building convention centers, for instance, and with corporate donations to concert halls and museums.

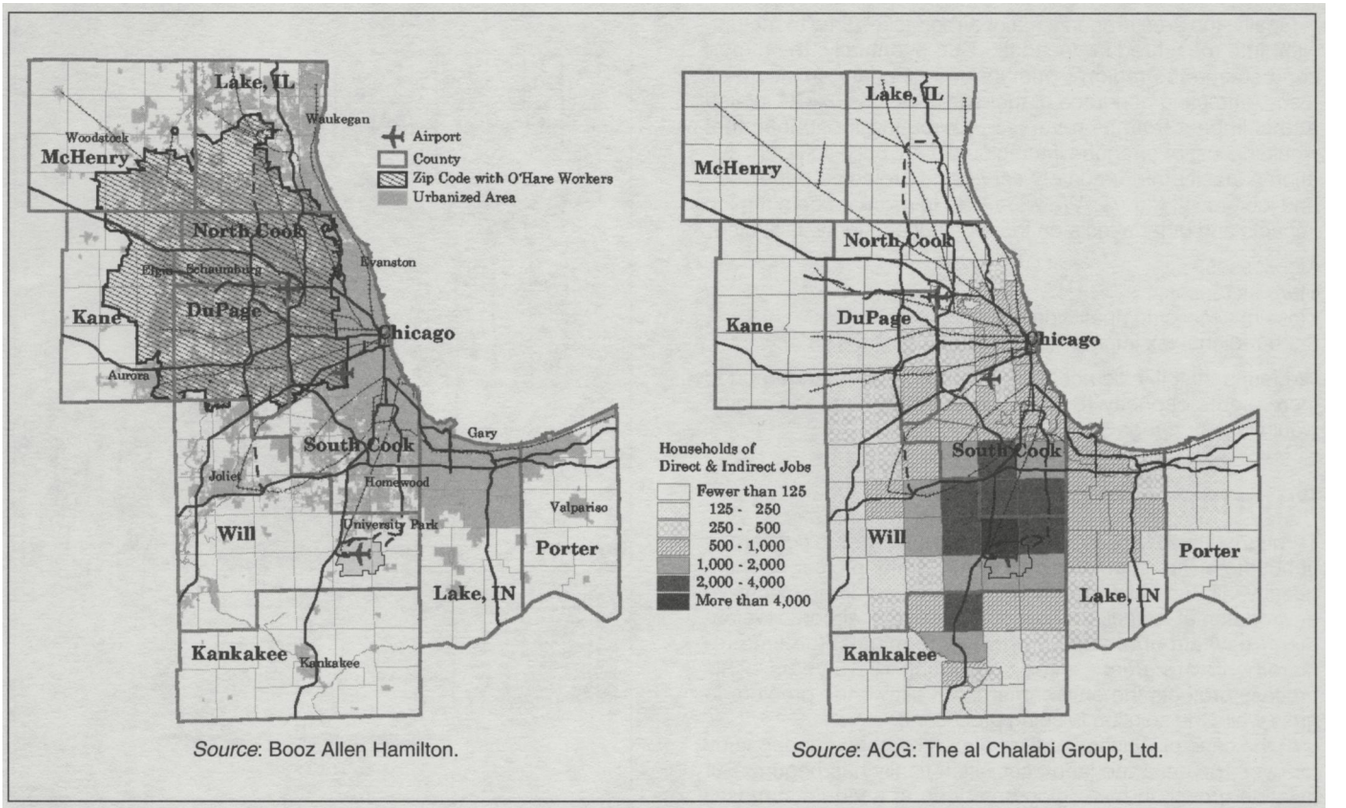

Fig. 5: O'Hare employees reside around it – The South Suburban Airport provides similar opportunities.

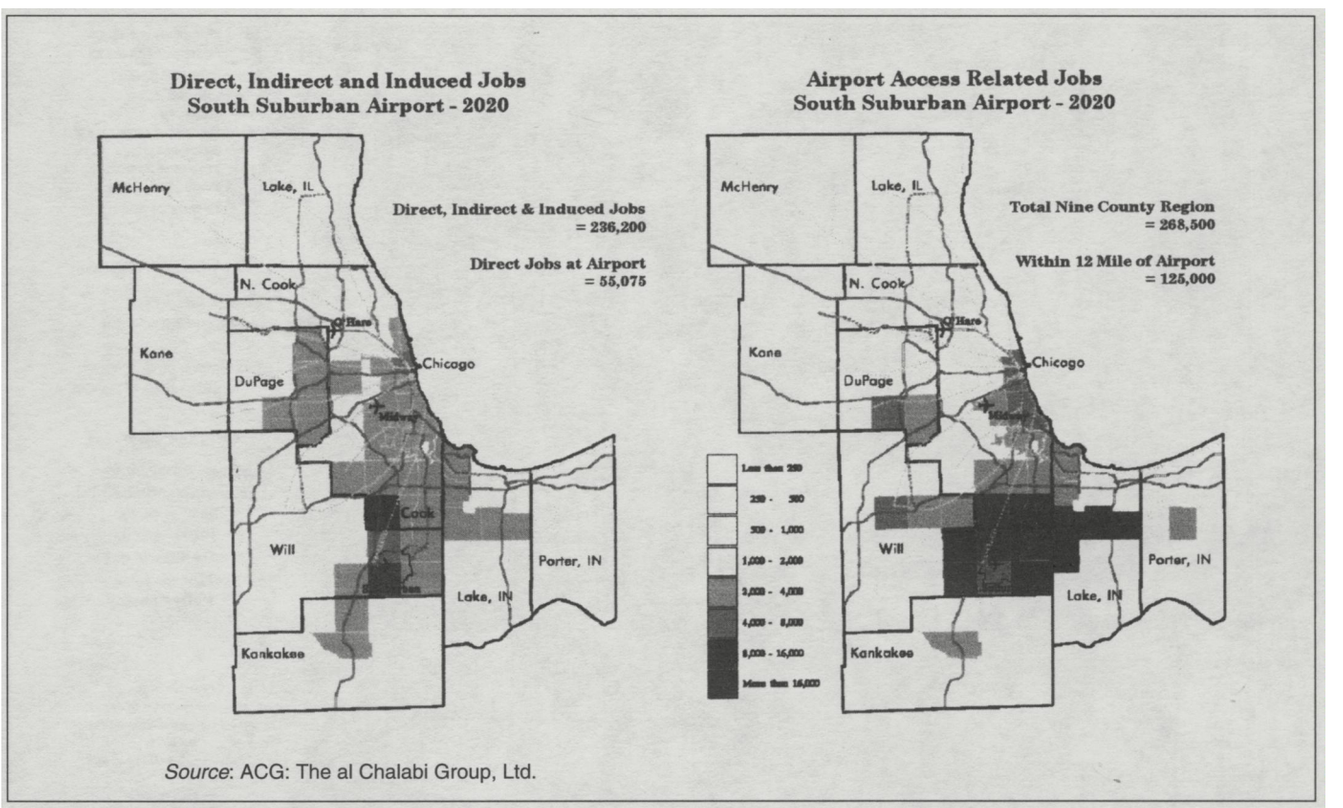

Fig. 6: Airports are economic engines – The economic impacts of the South Suburban Airport would be many and widespread.

Finally, the area around a major airport takes time to mature, with time measured in decades. But, eventually, the airport can become the region's primary or secondary employment focus, attracting hundreds of thousands of jobs. ACG looked at this impact from its reverse – estimating those jobs that would be lost or foregone if a region did not build sufficient aviation capacity to adequately service its projected population and job growth (fig. 7). We were able to estimate both the job impacts and other effects on the regional economy, including:

- job losses;
- fare increases;
- loss of access/competitiveness; and,
- sub-regional tax impacts (as remote areas lose jobs).

We found that, if it did not build the South Suburban Airport to increase its capacity to meet expected growth, the region would lose or forego 500,000 jobs by 2020.

Environmental impacts

Throughout the USA, as in much of Europe, we are concerned about the environmental impact of any major project. Consequently, all Federally-funded projects must undergo extensive environmental impact analysis. In the case of airport development (new airports, added runways, terminals) the time requirements are great – often consuming 10-15 years. This process protects the environment, but allows the problem to grow while the solution is being processed.

In the case of Chicago, a third airport has been under study for over 15 years and land acquisition finally has begun. But aviation growth in the region has been at a virtual standstill since 1995, when practical capacity was reached. In addition, more and more regions are reaching aviation capacity. Con-

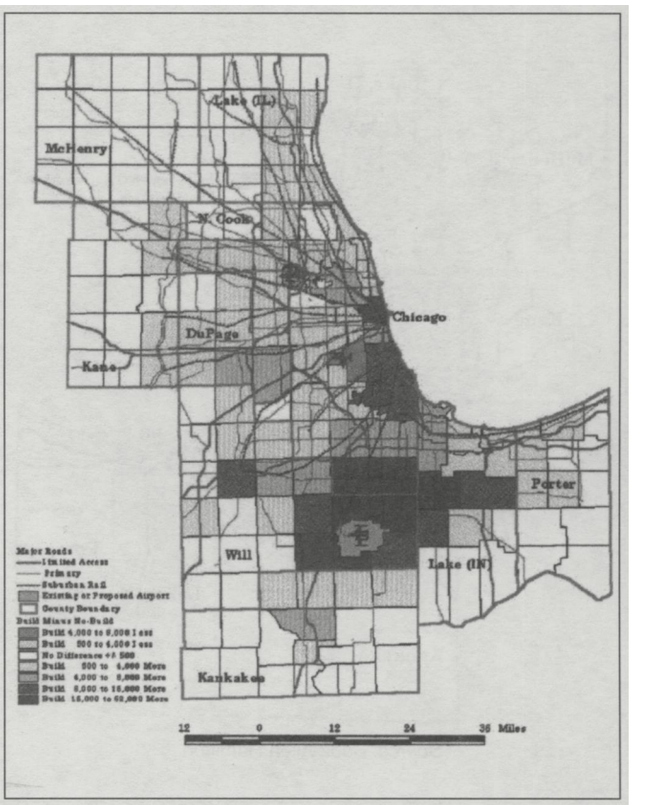

Fig. 7: Job impacts of building versus not building an airport – 2020 (build minus no-build).

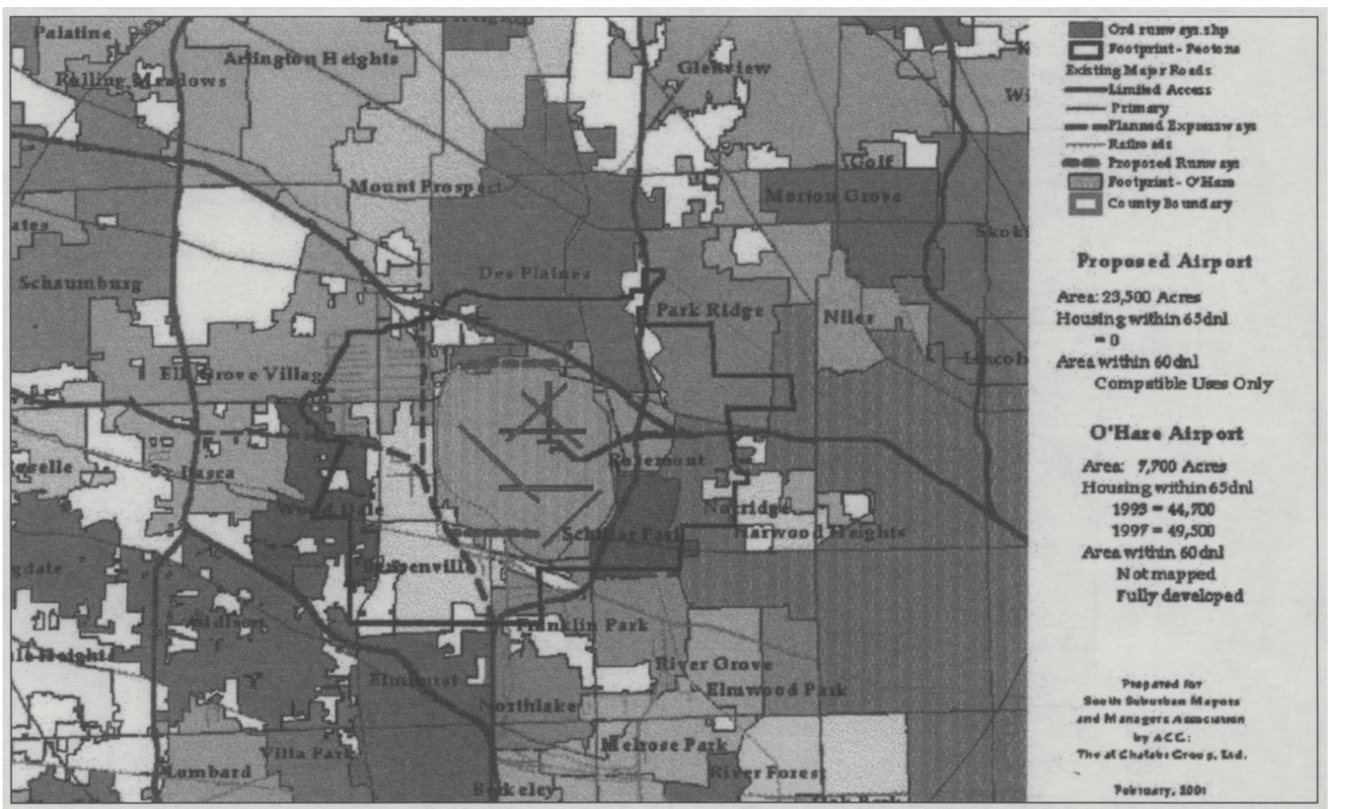

Fig. 8: Environmentally, South Suburban is well planned, unlike O'Hare – All objectionable noise and pollution is within the 23,500 acre site.

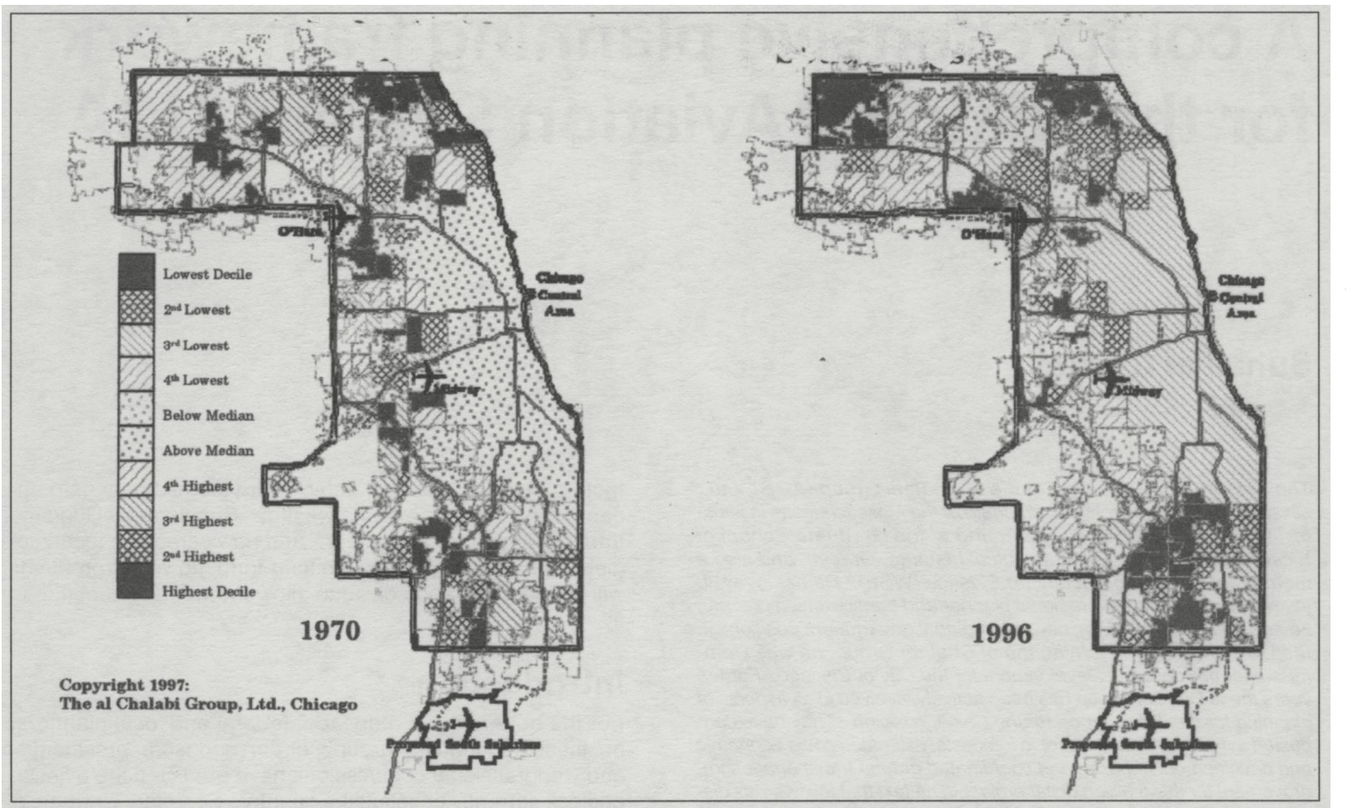

Fig. 9: The significant impacts of airports on real estate taxes – The O'Hare impacts on Cook County in 1970 and 1996: The North prospers, the South pays.

sequently, these time-consuming requirements need to be refined before they further exacerbate the problems. We need to protect our citizens as well as the flora and fauna of the region.

Construction of new facilities not only can reduce congestion, but can best accommodate the changing requirements of aviation, as well as provide the spatial buffers needed to contain adverse noise, air and water impacts. For instance, a parallel runway layout for the South Suburban Airport greatly increases its capacity over that of the intersecting runways of O'Hare Airport. Furthermore, the footprint of the proposed South Suburban Airport, superimposed on the existing O'Hare Airport, contains all of the latter's adverse noise impacts (over 65 Dnl) (fig. 8).

Finally, major airports, such as the proposed South Suburban Airport, can be used as a mechanism for balancing or rebalancing a region's economy. In the case of the South Suburban, it will provide a third growth focus for the region, replacing the employment facilities lost during the late 1960s; it will bring jobs closer to those who must now commute long distances; and it will generate tax revenues for cash-starved municipalities. Currently, those areas farthest from O'Hare suffer (fig. 9).

Conclusion

Building a third airport to serve the Chicago Metropolitan Area will be a major asset to the regional economy. It will accomplish the following:

- It will permit the forecasted population and jobs to materialize.
- It will provide additional jobs, income and revenues to those portions of the region in greatest need.
- It will help to re-establish economic balance to the region.
- It will contain adverse environmental impacts on site.
- It will reduce highway traffic and congestion as people find jobs and airport access closer to their residences.

In all respects, the construction of a major third airport for Chicago is a win/win solution.