

# **PLANNING FOR NEW PRIMARY AIRPORTS IN THE UNITED STATES: A SURVEY OF METROPOLITAN PLANNING ORGANIZATIONS**

**David A. NewMyer**  
**Southern Illinois University, Carbondale**  
**Carbondale, IL**

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## **ABSTRACT**

Airport congestion at primary airports in major metropolitan areas was analyzed in a report prepared by the Transportation Research Board (TRB) in 1990. Taking the top twenty-three most congested airports from this study, a questionnaire was prepared and sent to the metropolitan planning organizations (MPOs) for twenty of the twenty-three metropolitan areas represented in the TRB study. The questionnaire focused on the role of the MPOs in planning for new primary airports in the United States, including questions about the status of the most recent MPO airport system plan, whether or not the latest plan recommends a new primary airport, and whether or not any other entities in the MPO areas are recommending new primary airports. The results indicated that 44.4 percent of the eighteen respondent MPOs have airport system plans that are five years old or older. Also, only two of the respondent MPOs have recommended a new primary airport in their latest regional airport system plan and only one of these two is a common recommendation in the Federal Aviation Administration's National Plan of Integrated Airport System.

## **INTRODUCTION**

Airport capacity problems and solutions have been debated for decades in the United States. Former Administrator of the Federal Aviation Administration (FAA) David R. Hinson made one of the strongest descriptive statements made in recent years:

Within the next twenty years, we predict that our U.S. air traffic control system, our airlines and our airports will have to accommodate one billion passengers a year - twice as many as today. Providing for this surge of new travelers is a challenge we are going to be hard-pressed to meet. Not because of a shortage of seats in our carriers. Not because the sky is so clogged with planes that our air traffic control system begins to falter under the workload. The most serious potential problem in meeting the demands on aviation in the coming years will be inadequate capacity of our major airports, and the great

difficulties we face in trying to enlarge this capacity (Hinson, 1994, p.1).

But what is the nature of the difficulties in meeting this demand for airport capacity, particularly when building all-new primary airports? The Transportation Research Board describes the difficulties this way:

This approach [building new primary airports] has been explored in most major cities but with little success. Only two new major airports (Dallas-Ft. Worth and Southwest Florida Regional in Fort Myers, Florida) have been opened in the past twenty years. The principal barriers to a second (or third or fourth) airport to serve major metropolitan areas are lack of a suitable site, conflict with other potential uses of land, introduction of noise into sensitive areas, the difficulties of providing adequate landside access, traffic pattern conflicts and congestion in terminal-area airspace, opposition by incumbent airlines at the existing airport(s), and the large investment required to build a new facility in an already developed area. It is the past failure to achieve community acceptance and support for such projects that has contributed significantly to the lack of adequate airport capacity in our largest cities today (Transportation Research Board, 1990, p. 37).

So who is responsible for building this community consensus to construct new primary airports in major cities? Certainly, the FAA has a goal to expand the airport infrastructure, but as it can be seen, it is general in nature and does not apply just to metropolitan area airport planning:

The FAA's policy for capacity and access is that the FAA will vigorously pursue optimization of the airspace and airport systems within the context of the overall transportation system. The FAA will adopt the following strategies:

- Implement effective capital investment programs for expanding airspace airport capacity to accommodate growth and provide flexibility for future innovation.
- Preserve and enhance the capacity of and access to existing airspace and airports, using effective management techniques and advanced technology.
- Provide leadership to ensure coordinated airport system development among Federal, State, and local governments (Federal Aviation Administration, 1990, p. 27).

However, where does the airport system planning in metropolitan areas - which frequently span multiple county and even state lines and include hundreds or thousands of local government units - fit into the above statement? The

answer is in the MPO or Metropolitan Planning Organizations. Federal law and regulations require that:

A Metropolitan Planning Organization (MPO) be designated for each urbanized area and that the metropolitan area has a continuing, cooperative, and comprehensive transportation planning process that results in plans and programs that consider all transportation modes, and supports metropolitan community development and social goals. These plans and programs shall lead to the development and operation of an integrated, intermodal transportation system that facilitates the efficient, economic movement of people and goods (Code of Federal Regulations, 23CFR #450.300).

This metropolitan transportation plan is required to include the policy inputs of all affected local governmental agencies and is normally approved by some sort of representative policy committee of these agencies before being sent to the respective state and federal departments of transportation for their approval. The approved MPO-prepared transportation plan then becomes the basis for investing federal transportation funds in a metropolitan area. No plan? No Funds!

The purpose of this research article is to report on a survey of the MPO's in metropolitan areas that were reported to have the busiest major airports in the nation. This survey was designed to provide a status report on new primary airport planning in those MPO areas, as well as to describe the overall problems faced by MPO's in planning new primary airports.

### ADDITIONAL DEFINITIONS

Before proceeding with the bulk of the article, several definitions must be provided:

1. **Primary Airport:** A primary airport is defined by the FAA as a commercial service airport with 10,000 or more annual enplaned passengers (FAA, 1995).
2. **Metropolitan Area:** The United States Office of Management and Budget (OMB) defines metropolitan areas according to published standards that are applied to the U.S. Census Bureau data. A metropolitan area must include at least one city with 50,000 or more inhabitants, or a Census Bureau-defined urbanized area (of at least 50,000 inhabitants) and a total metropolitan population of at least 100,000 (75,000 in New England) (U.S. Census Bureau, 1998).
3. **Airport System Plan:** This is a plan for a system or group of airports in a given area (such as a metropolitan area, a state, national, etc). This is different from an airport master plan, which is a plan for a single airport.

## LITERATURE REVIEW

This literature review describes the demand for airport capacity, difficulties in solving the airport capacity problem and the role of the MPO in airport system planning. In 1990, the Committee for the Study of Long-Term Airport Capacity Needs of the Transportation Research Board issued a report entitled *Airport System Capacity: Strategic Choices* (Transportation Research Board, 1990). In that report, the TRB stated the airport system capacity problem this way:

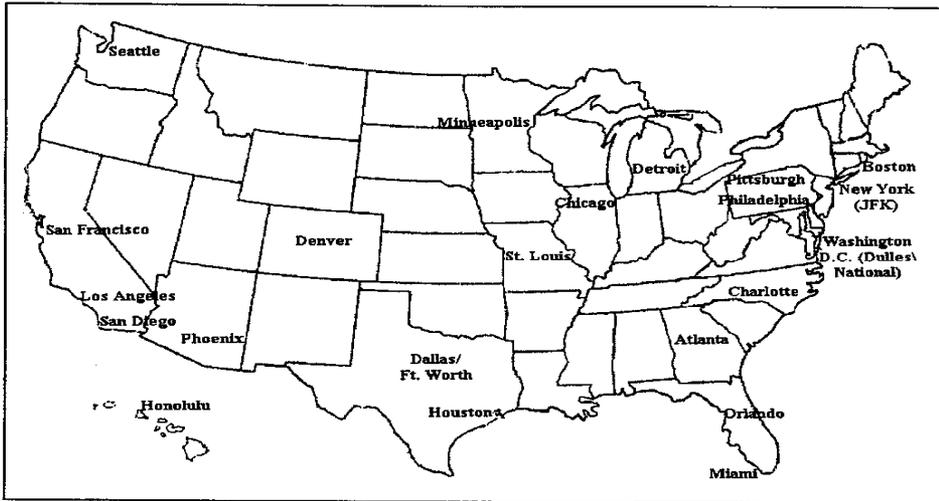
Air travel is growing at a rate that outstrips the capacity of the airport and air traffic control system, resulting in mounting congestion and delay. The consequences for the air transport industry and the traveling public are higher costs, greater inconvenience, declining quality of service and possibly diminished safety. Development of airport and airway infrastructure to accommodate growing demand is seriously lagging - mired in funding problems, local opposition to airport expansion, lack of direction, inertia, and predisposition to make do with infrastructure that has not been increased substantially in twenty years or longer (Transportation Research Board, 1990, p. 1).

The TRB went on to list 23 of the most congested airports in the U.S. at the time of their study (See Figure 1).

Four years later then-Administrator of the Federal Aviation Administration, David R. Hinson, gave a speech to the Wings Club of New York entitled "No Place to Land: The Coming Capacity Crunch at U.S. Airports." In the speech Mr. Hinson noted the following problem.

The magnitude to the airport capacity problem has been clearly understood for at least a decade. In 1990, the Transportation Research Board published a report that provided a comprehensive, impartial analysis of the issue, and then laid out seven different strategies for expanding airport system capacity. The study was completed during the euphoria of the 1980's, when no one could foresee that civil aviation was about to enter one of the worst economic slumps in the history of the industry. But with this unforeseen event, a new chapter was opened. A page was turned. Once again, history has changed the subject, and congested airports were no longer an issue. Well, as I've said, we've about to come full circle. Airport capacity, not excess seat capacity, is about to become our most important future concern. It's time to renew all those old proposals that have been shelved for the past five years. Hinson, 1994, pp. 4-5).

One of the key proposals of the TRB, Mr. Hinson and others who deal with the problem of airport capacity is that the development of new airports is an



**Figure 1. Transportation Research Board (TRB) 1990 list of 23 most congested primary airports**

important strategy for solving the airport capacity problem. For example, the FAA stated in 1990, “Expanding capacity and access by encouraging new or expanded airports, runways, and roads, and preserving existing capacity through increased efficiency and productivity are preferred policy” (FAA, 1990, p.28).

Also, the Federal Aviation Administration notes in the 1997 Airport Capacity Enhancement Plan, “The largest NAS [National Aviation System] capacity gains result from the construction of new airports.” (FAA, December 1997, p. 45).

This study goes on to describe why this is a difficult strategy to implement.

However, given the high cost of airport construction (e.g. more than \$4 billion for the new Denver International Airport, which opened in 1995) building a new airport is not a common capacity enhancement technique. Currently, no new airports with the potential to significantly impact NAS capacity are being constructed, with the exception of construction required to convert Bergstrom Air Force Base [Austin, TX] into a civilian airport (FAA, December 1997, p. 45).

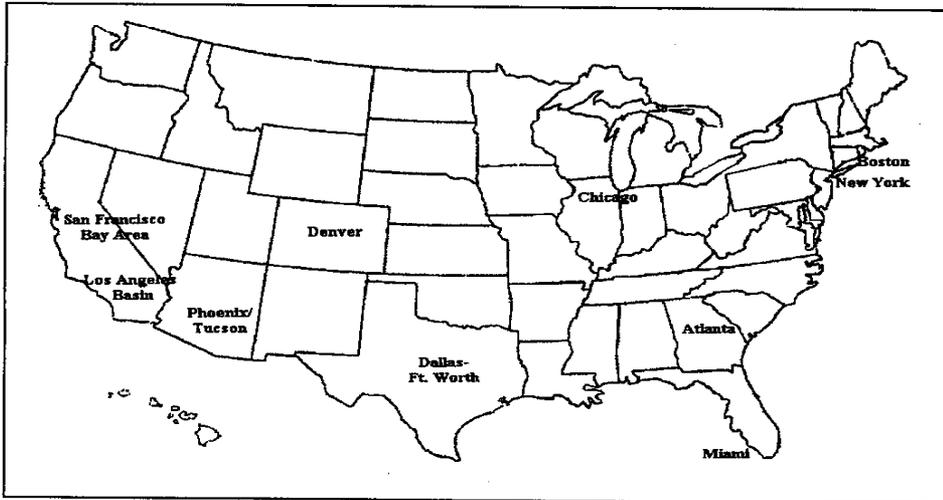
Another federal government report further defines some of the problems facing the planners of airports in major metropolitan areas.

One study suggests that beyond the year 2000 new airports will be required to maintain the quality of service available today. As iden-

tified in several studies, the principal barriers to building new airports include aircraft noise, opposition from incumbent airlines at existing nearby airports, and the large investment needed to build in an already developed area. Our work on the new Denver airport confirmed that establishing new airports usually requires overcoming significant political and community opposition and having strong support from the anticipated user airlines (General Accounting Office, Feb 5, 1992, p.4).

In spite of all the problems in developing new primary airports, the TRB did identify ten metropolitan area locations (See Figure 2) with potential for adding operational capacity from new airports. They were: Chicago, Atlanta, Los Angeles Basin, Dallas - Ft. Worth, Denver, New York, San Francisco Bay Area, Miami, Phoenix - Tucson, and Boston (TRB, 1990, p. 39). Since that time, the new Denver International Airport has opened.

So what is the Federal response in the area of new primary airport planning? The Federal Aviation Administration has the responsibility for issuing the National Plan of Integrated Airport Systems (NPIAS) as a report to Congress pursuant to Section 47103 of Title 49 of the United States Code. As noted in this plan, "The NPIAS estimates the costs associated with establishing a system of airports adequate to meet the needs of civil aviation and to support the Department of Defense and the Postal Service" (FAA, 1995, p.17). In the most recent NPIAS, dated April 1995, the FAA lists five new, already built new primary airports (See Figure 3), and another six that still need to be built (See Figure 4).



**Figure 2. Ten metropolitan areas identified by TRB with potential for adding new primary airport (1990)**



Figure 3. New primary airports opened in the past ten years (from NPIAS)



Figure 4. Proposed new primary airports in the current National Plan of Integrated Airport Systems

The Federal Aviation Administration also developed guidelines for the development of Metropolitan airport system plans in 1970, when they produced a joint publication with Airport Operators Council International entitled *Planning the Metropolitan Airport System* (May 1970). The purpose of that document was stated as follows.

This document, then, is in recognition of the need for guidance in airport planning for the Nation's large metropolitan areas. A large metropolitan area is defined as one which has more than one publicly owned airport and can be expected to have at least 500,000 population or which generates annually over 250,000 scheduled airline enplaned passengers within the planning time frame. It is these large urban areas that are most significant in the national air transportation system. The principles set forth in this document can also be used, in part, for correcting immediate problems and identifying priority development requirements. (p.7)

This document also noted how important it was to coordinate metropolitan airport system planning with metropolitan-wide comprehensive land use and urban (ground) transportation planning.

The airport system must be recognized as a key element in metropolitan planning and development, by virtue of its nature as a major consumer of urban land, a principal environmental influence, an important stimulant to intensive urban development, and a significant consumer of ground transportation services.

All large metropolitan areas have some type of metropolitan planning agency carrying on a continuing comprehensive planning effort which aims to construct the framework for metropolitan development. Also, all large metropolitan areas have a specific urban transportation planning process dealing with ground transportation. The relationship between these two planning efforts varies from virtual separation to, in a few cases, complete merging.

Since an airport is one of the most important public facilities in a metropolitan area, there is a need to mesh airport system planning with these other planning efforts. This merging or other lesser coordination of planning programs should take place during that organization phase of the airport system planning endeavor and should continue throughout the several stages of initial plan preparation, adoption, implementation, and continuing planning. (p. 4)

The general requirements for metropolitan planning are clear in their inclusion of multi-modal transportation planning:

Process of development. The process for developing the plans and programs shall provide for consideration of all modes of transportation and shall be continuing, cooperative, and comprehensive to the degree appropriate, based on the complexity of the transportation problems to be addressed (23 USC Part134, paragraph a.4).

This MPO planning process may get to be even more specifically coordinated with airport operators according to a 1997 United States Department of Transportation policy proposal which states, in part the following guidelines.

1. The regional airport system should be planned and operated to provide the public with the safest and most efficient air transportation service possible and to ensure adequate capacity to accommodate current and forecasted aviation demand.
2. Airport planning and development within a metropolitan region should be conducted in cooperation with the metropolitan transportation planning process to ensure the best use of resources compatible with land use, general development, and surface transportation plans for the region.
3. Metropolitan planning organizations should develop and maintain organizational capacity in aviation planning including forecasting, demand analysis, environmental impact, ground transportation requirements, and economic impact.
4. Airport operators should be active and influential participants in the metropolitan transportation planning process through such mechanisms as technical advisory committees and metropolitan planning organization policy boards to ensure maximum consistency between surface and aviation plans.
5. Local governments and airport operators are encouraged to make optimal use of exiting regional airport and aviation facilities and capacity in meeting current and future air transportation demand, and to plan for additional airport and aviation facilities and capacity as, when and where future transportation demand warrants. (p. 3)

## METHODOLOGY

The Survey was suggested by a study completed by the Committee for the Study of Long-Term Airport Capacity Needs of the Transportation Research Board entitled *Airport System Capacity: Strategic Choices* (1992). Survey participants included those Metropolitan Planning Organizations where the twenty-three most congested airports are located as identified by the TRB study (See Figure 1). Of those twenty-three airports, twenty metropolitan planning organizations (MPOs) were identified from a list provided the Association of Metropolitan Planning Organizations on the World Wide Web ([www.narc.org/ampo/](http://www.narc.org/ampo/)). The addresses for possible MPOs in the Charlotte, Orlando and Pittsburgh regions were not accessible to the researchers at the onset of the study. Therefore, only twenty MPOs were surveyed out of twenty-three identified by the TRB study.

A survey instrument was composed of twelve questions. The first three questions inventoried the MPO name, region covered, and in what year the airport

system plan for the MPO was updated. The second section of the questionnaire had three main objectives. The first objective was to find out if the airport system plan for the MPO's region recommended that a new primary airport be built within the next twenty years. The second objective was to determine what alternative the system plan had recommended instead of building a new primary airport. The third objective was to ask the participants to rank certain factors in the order of importance to their respective region in selecting a new primary airport site regardless if such an airport is included in their twenty-year plan. The final objective was to ask the participants to list any new primary airports that have been opened in their region since 1970 and to list any additional comments they might have.

The questionnaire was mailed to twenty Metropolitan Planning Organizations. However, if airports were not part of the local MPOs planning functions, the questionnaire was then passed on to the respective planning authority responsible for airports in that area (Honolulu - Hawaii DOT, Boston - Massachusetts Port Authority, and Miami - Miami International Airports Planning Office). The addresses of the MPOs were obtained from the Association of Metropolitan Planning Organization's web page. The first mailing produced ten responses for a response rate of 50 percent. A second mailing was then conducted resulting in eight more responses for a total of eighteen responses, an overall response rate of 90 percent.

## RESULTS

Of the twenty metropolitan areas sent a questionnaire, only two (North New Jersey Transportation Planning Association and San Diego Association of Governments) did not respond. Of those responding, the majority (60 percent) reported that the airport system plan for their respective metropolitan area had been updated in the last five years. Of these, three (Detroit, Honolulu, and New York) updated this year. At the other end of the spectrum, two metropolitan areas (Chicago and Washington-Baltimore) had not updated their airport system plan since 1984 and 1988, respectively (See Figure 5 and Table 1).

In response to one of the key questions in the survey, "Does your airport system plan recommend that a new primary airport be built within the next twenty years?" two responded yes. Those responses came from the Southern California Association of Governments representing all of Southern California except San Diego County, and the Atlanta Regional Commission, representing the City of Atlanta and the ten surrounding counties (See Figure 6). Both MPOs responded that the time frame for implementing this recommendation would be in the range of five to ten years from now (2003-2008 timeframe). The Southern California Association of Governments states that the primary reason for the new primary airport is passenger demand/terminal - gate capacity. In the case of the Atlanta Regional Commission, the reason is aircraft operations demand/capacity. When asked if the sponsoring agency would be the same for the new primary airport as

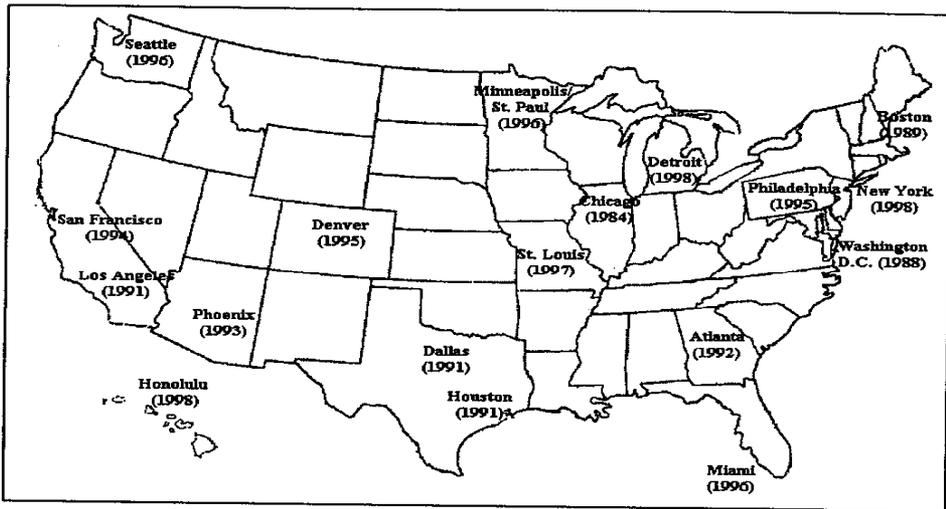


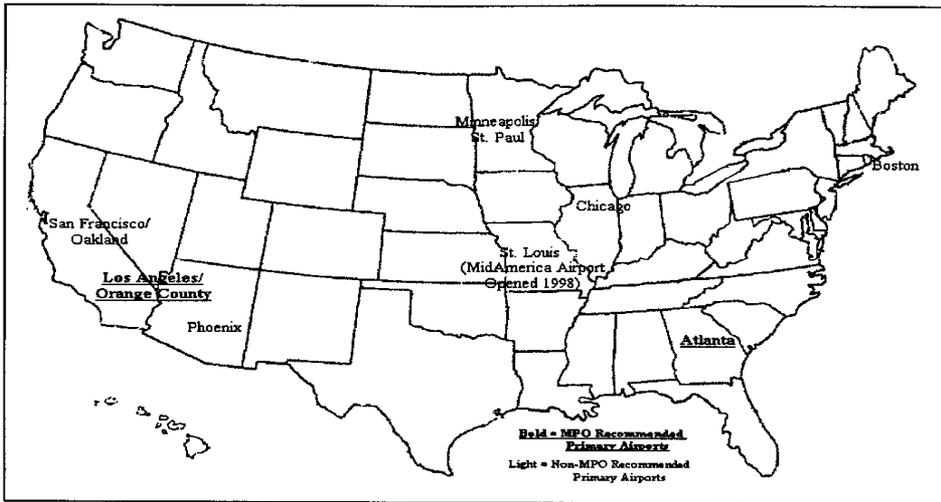
Figure 5. The year in which the MPO Based Airport System Plan was last completed, by respondent (N = 18)

Table 1  
Year current MPO Airport System Plan was Complete  
(N = 18)

	<i>Number</i>	<i>Percent</i>
1990 or before	3	17
1991	3	17
1992	1	5
1993	1	5
1994	1	5
1995	2	12
1996	3	17
1997	1	5
1998	3	17
Total	18	100

for the existing primary airport only the Southern California Association of Governments answered yes.

A total of eight MPOs indicated that new primary airport studies were conducted by agencies **other than the MPO** since 1990. The MPO areas affected by these studies, are Atlanta, Boston, Chicago, Los Angeles/Orange County, Minneapolis-St. Paul, Phoenix, St. Louis, and San Francisco/Oakland (See Figure 6). The Boston MPO indicated that a study of a new primary airport conducted in the early 1990s concluded that no new primary airport was needed. The Chicago area MPO indicated that extreme controversy exists related to



**Figure 6. New primary airports studies in MPO areas conducted by non-MPO agencies and MPO-recommended new primary airports**

planning for new primary airports in the Chicago area due to policy differences between the Governor of Illinois and the Mayor of the City of Chicago. The Illinois Department of Transportation has proposed a new primary airport in the far southern suburbs but the City of Chicago opposes this airport. Note also that two of the metropolitan areas (Atlanta and Los Angeles) with studies by agencies other than an MPO also were identified in MPO-sponsored airport plans as areas needing a new primary airport.

If a composite of the four sources of new primary airports in metropolitan area is created from the list of primary airports under study, those recommended by MPOs, those in the NPIAS, and those identified as potential by TRB are put into one table, the result is as shown in Table 2. As can be seen in this table, there is little or no agreement among all four lists. Only three areas (Atlanta, Chicago, and Los Angeles) are mentioned in three of the four lists. Finally, two of the four lists mention Boston, Phoenix, and San Francisco-Oakland / Bay area.

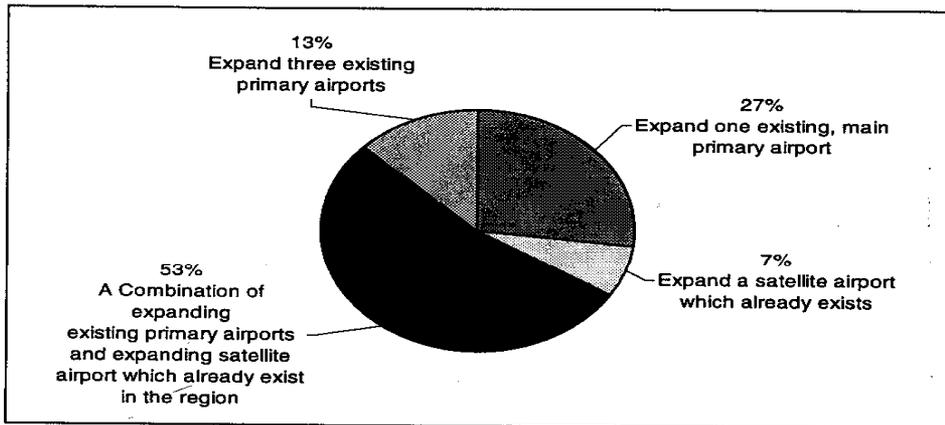
The next question on the survey instrument asked the MPOs that did not recommend a new primary airport what was recommended **instead** of a new primary airport. The results, as noted in Figure 7, note that four MPO's (27 percent) answered Expand one existing, main primary airport.

This response goes along with the parallel federal policy to invest heavily in the **existing** primary airports. This policy is reflected in both the FAA's *Aviation Capacity Enhancement Plan*, which is exclusively focused on **existing** primary airports and the in the FAA's National Plan of Integrated Airports (NPIAS). Another MPO (Detroit area) indicated they would expand one existing satellite airport in their region. A total of eight MPOs or 53 percent of respondents com-

**Table 2**  
**New Primary Airports List**

<i>1990 TRB List of Ten Metro Areas with Primary Airport Potential</i>	<i>1995 NPIAS New Primary Airport List</i>	<i>Survey Results: New Primary Airports Actively Under Study By non MPO Agencies</i>	<i>1984-1997 MPO-Sponsored Airport System Plans with New Primary Airports</i>
Atlanta	-	Atlanta	Atlanta
Boston	-	Boston	-
Chicago	New supplemental	Chicago	-
Dallas - Ft. Worth	-	-	-
Denver	(DIA Opened)	(DIA Opened)	-
Los Angeles Basin	-	Los Angeles/Orange County	Los Angeles Basin
Miami	-	-	-
New York	-	-	-
Phoenix - Tucson	-	Phoenix	-
San Francisco Bay Area	-	San Francisco-Oakland	-
<i>Others:</i>	<i>Others:</i>	<i>Others:</i>	<i>Others:</i>
None	Birmingham	St. Louis, MO (Mid-America opened)	None
	Fayetteville, AR	Minneapolis - St. Paul, MN	
	San Diego, CA		
	Austin, TX		
	Seattle, WA		
(See Figure 2)	(See Figure 4)	(See Figure 6)	(See Figure 6)

bined the two previous options by answering that they would combine the expansion of exiting primary airports with the expansion of existing satellite airports. These MPOs are: East/West Gateway Coordinating Council (St. Louis area), Maricopa Association of Governments (Phoenix area), Metropolitan Council (Minneapolis/St. Paul area), Metropolitan Transportation Commission (San Francisco/San Jose/Oakland area), Miami-Dade Aviation Department (on behalf of Miami Region), North Central Texas Council of Governments (Dallas/Ft. Worth area), New York Metropolitan Transportation Council and Oahu MPO (Honolulu area). Finally, two other MPOs (Houston area and Washington D.C. area) responding to the survey indicated that they would each expand **three** airports to meet future primary airport needs.



**Figure 7. Alternatives to building new primary airports**

So, why are so few MPOs stepping up to the challenge to build all-new primary airports? One answer would be the significant barriers that face the planners of a new primary airport within a busy, congested metropolitan area. Sixteen of the eighteen respondents ranked a number of important factors in selecting a new primary airport site. Four factors, access to customers, suitable site/topography, land use/noise compatibility and airspace, were ranked significantly above all of the other factors (See Figure 8).

## CONCLUSIONS

One of the key conclusions to be made from the data collected on this study is that, while MPOs are doing significant amounts of metropolitan-wide airport system planning, only two of eighteen (11.1 percent) respondents reported that the MPO-generated airport system plan included a new primary airport. This means that nearly 90 percent of the respondent MPOs - representing nearly 80 percent of the top 23 busiest primary airports in the nation - are NOT planning for a new primary airport. The reasons for this are revealed in the data concerning the most important factors in selecting a new primary airport site. A total of 90 percent to 95 percent of MPO respondents, identified the following as the top three such factors:

- Access to Customers/Passengers (90 percent)
- Compatible Land Use (90 percent)
- Suitable Site in Terms of Topography (95 percent)

These three reasons point to the difficulty of finding a large land area for a primary airport that is accessible to customers, suitable to build a primary airport on, and in a location that would be compatible to its neighbors.

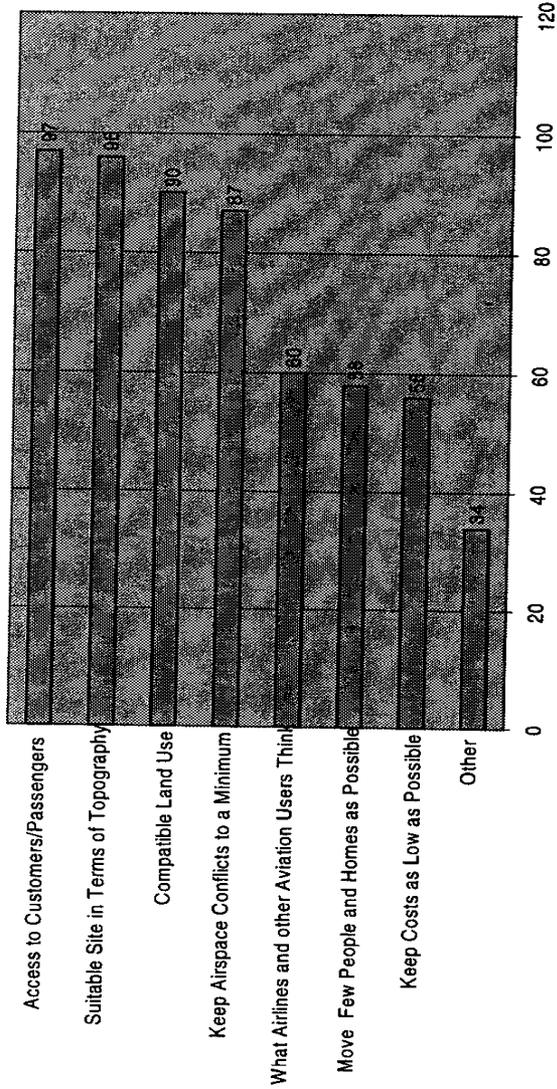


Figure 8. Most important factors in selecting a new primary airport site

The data from the survey also show that, even though most MPOs have not included a new primary airport in their most recent airport system plan, eight **other** entities have included primary airports in MPO areas in their plans. This indicates two likely scenarios: (1) There is a need for, and the possibility of, **greater numbers of new primary airports** in major metropolitan areas than is reflected in MPO-generated airport system plan; and/or, (2) It is difficult for MPOs to tackle large issues like a new primary airport in their airport system plans unless there is consensus on the topic.

Another interesting conclusion reached after receiving the survey data and comparing them to the FAA's NPIAS is that the only MPO area with a recommended primary airport common between the survey results and the NPIAS is Chicago. And, in the instance of Chicago, it is an entity **other than the** MPO which is recommending the new primary airport. Another way to put it is that the two MPO-recommended new primary airports (Atlanta and the Los Angeles Basin) do **not** appear on the latest NPIAS as recommended new primary airports. Technically, this means that, until the NPIAS is amended, the new primary airports in Atlanta and Los Angeles are **not** eligible for Federal AIP funding. However, the two MPO-recommended primary airports **do** match to the 1990 TRB list of metropolitan areas with primary airport potential.

An interesting and unexpected aspect of the data generated by this study is the data regarding the somewhat dated nature of MPO-based airport system planning in general in the U.S. For example, there are three existing airport system plans that are nine years old, or older:

<i>MPO Name</i>	<i>Year MPO Airport System Plan was Updated</i>
Boston MPO	1989
Chicago Area Transportation Study	1984
Metropolitan Washington (D.C.) Council of Governments	1988

There are an additional five MPO-based Airport System Plans which are five years old or older. These means 44.4 percent of the respondent's plans are five years old or older. One of the MPOs in this later group alluded to one of the issues facing some MPOs in the process of trying to do MPO-based airport system plans:

After many attempts to secure additional planning funds from the FAA to do Aviation planning in the region since 1991, we have decided to quit wasting our time. There is an individual in the regional office of FAA who does not believe in planning and is the principal stumbling block to any MPO in Texas receiving planning funds. In the meantime, the State DOT provides an adequate job in serving the general aviation community and the primary airports deal directly with the FAA.

Finally, it is not always possible for an MPO to create an MPO-generated airport system plan for a metropolitan area. For example, it was obvious that airport system planning is handled vastly differently from one MPO to another based on the way in which the survey instruments from several MPOs were forwarded to non-MPO agencies for a response. These included Boston, New York-New Jersey, Honolulu, and Miami. The MPOs in these areas believed that the MPO did not have the expertise or manpower to complete a survey related to MPO airport system planning, and, therefore the questionnaire was forwarded to another agency with the expertise or manpower.

Overall, it is clear that MPO-based airport system planning provides an important vehicle for airport planning at the sub-state level, especially in densely populated metropolitan areas. However, it is also clear that MPO-based airport system planning can not be considered to be a significant original source of plans for all-new primary airports in metropolitan areas. Plans for new primary airports in metropolitan areas seem to be generated first at other levels and, once the plans are clarified and obtain broad-based support, they can be expected to be included in MPO-based airport system plans.

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