United States General Accounting Office

GAO

Report to Congressional Requesters

February 1993

NEW CHICAGO-AREA AIRPORT

Site Comparison, Selection Process, and Federal Funding

GAO/RCED-93-105

GAO

United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-251946

February 22, 1993

The Honorable George E. Sangmeister
House of Representatives

The Honorable Bob Carr
House of Representatives

In recent years, a major new airport in the Chicago area has been the subject of much analysis and debate. In 1986 the states of Illinois, Indiana, and Wisconsin sponsored a study to determine the need for a new airport and identify potential sites for further examination. The study, which was completed in 1988, concluded that a supplemental airport was needed and that four sites merited further consideration: Bi-State on the Illinois and Indiana border; Kankakee County, Illinois; Peotone, Illinois; and Gary Regional Airport, Indiana. In 1989 the states of Illinois and Indiana hired TAMS Consultants, Inc., to prepare a report analyzing the advantages and disadvantages of the potential sites. They also created a policy committee consisting of four members from each state to review the TAMS study and select a site. During the following year, at the request of the U.S. Secretary of Transportation and the mayor of Chicago, the sponsors asked TAMS to include another site (the Lake Calumet site in the city of Chicago) in its analysis and added three Chicago members to the policy committee.

The TAMS study, issued in November 1991, compared the five sites on the basis of nine factors: airspace and air traffic control, costs, financial feasibility, aviation demand forecasts, airport facilities, human resources, natural environment and cultural resources, ground access, and collateral development costs. In February 1992, the policy committee selected the Lake Calumet site. In its spring 1992 session, the Illinois state legislature rejected a bill to create an authority that would develop and operate the Lake Calumet airport. The mayor of Chicago subsequently withdrew his support for the airport. The governor of Illinois is currently supporting a plan to build a new airport at the Peotone site, about 35 miles southwest of center-city Chicago.

In response to your request, this report provides information on three issues regarding a new Chicago-area airport: (1) how the five candidate sites compare on the basis of the nine factors in the TAMS site selection study, (2) how the policy committee used the TAMS study in selecting a site for the new airport, and (3) to what extent each of the five sites would

affect the federal Airport Improvement Program (AIP). [1] As agreed, we did not attempt to identify a "best" site or to analyze the extent to which a new airport would affect the capacity of the national airspace system.

Results in Brief

The analysis of the factors in the TAMS study does not indicate a clear-cut choice for the location of a new Chicago-area airport. For two of the nine factors—airspace and air traffic control, and construction cost—particular sites had advantages over the others. TAMS estimated that the rural sites (Bi-State, Kankakee, and Peotone) would have the fewest airspace and air traffic control delays and would incur significantly lower costs than the urban sites (Gary and Lake Calumet). For another factor—collateral development costs for utilities and highways and rail lines to access a new airport—TAMS did not provide cost data for comparing the sites. Accessibility is a key ingredient for an airport's success, and plans for a new airport would necessarily factor in any collateral development costs.

The remaining six factors identified advantages and disadvantages for each site but did not strongly favor any particular one. For the environmental factor, the urban sites, especially Lake Calumet, would result in the cleanup of the most hazardous waste but would substantially increase the cost of the airport. They would affect the most wetlands but no farmland. In terms of ground access, the urban sites, particularly Lake Calumet, are closest to center-city Chicago and therefore more convenient for passengers doing business downtown. The Lake Calumet, Gary, Peotone, and Bi-State sites would all have about 2.5 million people living within a 45-minute drive and the Kankakee site would have about 900,000 people living within a 45-minute drive. The rural sites would have about the same level of total enplanements. The Lake Calumet site would have a much higher level of total enplanements but TAMS assumed the closure of Midway Airport if an airport were built at Lake Calumet, so the enplanement data reflect the shift of passengers from Midway to Lake Calumet.

The site selection was a policy decision based on the policy committee's interpretation of the TAMS study and other considerations. All 10 policy committee members we interviewed said that they considered the TAMS data in their decision-making. They also used data from other studies, including those sponsored by the city of Chicago and the state of Indiana. The committee members' votes indicated that Illinois members favored

[1]The Federal Aviation Administration makes grants to airport operators for improvement projects and new airports through the Airport Improvement Program.

the Illinois sites, while Indiana members supported the Indiana site. Seven of the 11 committee members were from Illinois, and a majority-rule process was used to select a site. On the first vote, the choices were narrowed to Lake Calumet and Gary, and on the second vote, the Lake Calumet site was selected.

The TAMS study assumed that federal AIP funds would be used to pay for 20 percent of the eligible construction costs of a new Chicago-area airport—although a higher or lower funding level is also possible. The 20-percent level would amount to about $440 million for the Kankakee and Peotone sites, $490 million for the Bi-State site, $1.5 billion for the Gary site, and $3.1 billion for the Lake Calumet site. By comparison, the new Denver airport, which is the only major airport to be built since 1974, will receive $498 million in AIP funds. FAA officials expressed concern over all funding estimates, especially for the more expensive urban sites. They said that to fund a new airport at these levels would seriously affect the ability of the AIP to fund other airport projects throughout the country.

Background

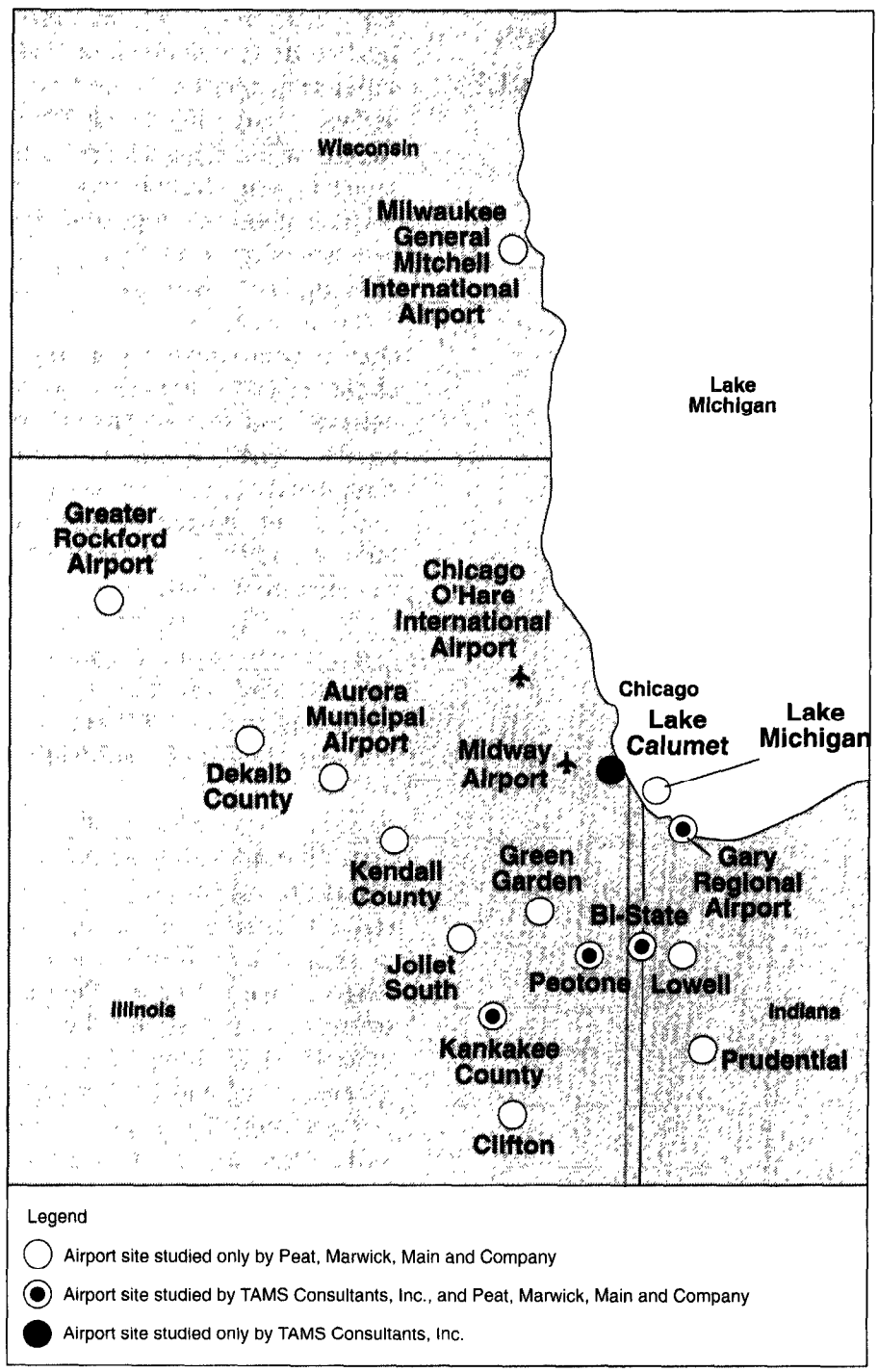
The Federal Aviation Administration (FAA) funded two studies to determine the need for a supplemental Chicago-area airport and to assess various sites. Peat, Marwick, Main, and Company used $713,000 in AIP funds to issue the Chicago Airport Capacity Study in 1988 for the states of Illinois, Indiana, and Wisconsin. This study concluded that a supplemental airport was needed, perhaps as soon as 2000. Of the 15 sites evaluated as candidates for the supplemental airport, the study concluded that 4 sites merited further evaluation: (1) Bi-State on the Illinois and Indiana border; (2) Kankakee County, Illinois; (3) Peotone, Illinois; and (4) Gary Regional Airport, Indiana. The reasons for excluding sites from further consideration included the lack of originating passengers, critical environmental problems, and poor opportunities for economic enhancement or expansion.

In 1991, using $7.3 million in AIP funds, TAMS Consultants, Inc., published a follow-up report for the states of Illinois and Indiana and the city of Chicago. Initially, the 1991 TAMS study was sponsored by the states of Illinois and Indiana and was expected to analyze the advantages and disadvantages of the four sites suggested by the Chicago Airport Capacity Study and a "no-build" alternative and recommend a preferred alternative. The policy committee included eight voting members (four from Illinois and four from Indiana) and three nonvoting members (one from FAA, one from the Air Transport Association, and one from the state of Wisconsin).

Subsequently, the sponsors agreed to also study the Lake Calumet site and add three Chicago voting representatives to the policy committee, bringing the number of voting members to 11. They also agreed to analyze environmental benefits as well as impacts for each site. In addition, the sponsors decided that the TAMS consultants should not recommend a preferred airport site in the final report. A map of the 16 sites considered by the site selection studies is shown in figure 1. (See p. 5.)

Each of the nine overall factors cited in the TAMS study contains various subfactors. For example, the natural environment and cultural resources factor has 112 subfactors, including the prime farmland (acres) affected and number of waste sites requiring remediation. In total, the TAMS study includes 259 subfactors.

Figure 1: Map of 16 Sites Considered by Site Selection Studies



Comparison of Sites Using the TAMS Data

We ranked the sites from highest to lowest for 146 subfactors in the TAMS 1991 study for which an objective ranking was possible. The remaining 113 subfactors had data limitations or required value judgments that precluded us from comparing the sites for these subfactors. An example of a subfactor requiring a value judgment was the number of waste sites requiring remediation. One point of view was that cleaning up hazardous waste is good. An opposing view was that such cleanup would not be the best use of airport development funds and would delay the airport's opening by many years.

Our analysis showed that only two of the nine factors supported the choice of particular sites. These factors were "airspace and air traffic control" and "costs." The other seven factors either lacked data, did not have a majority of subfactors for which sites could be ranked, or had rankings that did not strongly favor any one site. Appendix II shows the ranked and nonranked subfactors. Appendix III shows which sites ranked highest and lowest for each of the 146 subfactors for which we were able to compare the sites. [2]

A discussion of our analyses of the TAMS data for each of the factors follows. While ranking the sites from highest to lowest on the subfactors, we recognized any difference in the data. Sometimes the differences between the data for subfactors were small.

Airspace and Air Traffic Control - The airspace and air traffic control factor includes eight subfactors related to air traffic control delay for major Chicago airports and total air traffic control system delay. We ranked the sites on the six subfactors where an objective ranking was possible. The Peotone site ranked highest or tied for highest all six times. TAMS estimated that the Peotone site would provide the least total air traffic control system delay (11.25 minutes, on average, per aircraft operation)—although the delays for Bi-State and Kankakee were not much greater (11.92 and 12.37 minutes, on average, per aircraft operation, respectively). The Lake Calumet site ranked lowest for four of the subfactors, and the Gary site ranked lowest for two of the subfactors. TAMS estimated that the Lake Calumet site would provide the most total air traffic control delay (19.49 minutes, on average, per aircraft operation) and the Gary site would provide the second most total delay (14.77 minutes, on average, per aircraft operation). The rural sites such as Peotone had considerably lower delays because their air traffic would be less likely to

[2]The totals for the highest and lowest ranked sites may exceed the total number of subfactors in order to account for multiple sites with the same data.

experience airspace conflicts with traffic around existing airports such as O'Hare International Airport.

Costs - The construction costs factor includes 16 subfactors. Examples of the subfactors are the costs for demolition, site preparation, land acquisitions and relocations, wetlands mitigation, and hazardous and solid waste cleanup. We ranked the sites on 14 of the 16 subfactors. The total costs of the rural sites were considerably lower than those of the urban sites. The November 1991 TAMS abstract identified the following total costs for each site: $18.5 billion for the Lake Calumet site, $10.3 billion for Gary, $4.5 billion for Bi-State, $4.4 billion for Kankakee, and $4.4 billion for Peotone. Under alternate assumptions, a supplemental TAMS analysis identified total costs to be $9.2 billion for Lake Calumet, $8.6 billion for Gary, and $4.1 billion for Peotone as a representative rural site. [3] For the total costs subfactor, Lake Calumet remains the costliest site regardless of which TAMS analysis is used. Lake Calumet had the highest total cost primarily because of higher land acquisition and relocation, hazardous waste cleanup, and other costs.

Financial Feasibility - The financial feasibility factor includes 25 subfactors that address the availability of funding and estimates of potential revenues generated by operations. We ranked the sites on each of 19 subfactors. Peotone ranked highest most often—nine times—but also had seven lowest rankings. In contrast, Lake Calumet, with 8 highest rankings, had 10 lowest rankings, the most for any location. The Lake Calumet site had the highest airline cost per enplanement and therefore ranked the lowest on this subfactor. The Peotone site had the lowest cost and ranked highest. Lake Calumet would have the greatest need for AIP funding, and the Kankakee and Peotone sites would have the least.

Aviation Demand Forecasts - The aviation demand forecast factor has 19 subfactors which assessed the amount of passenger and aircraft traffic for each site and the impact of the traffic on other airports. An objective ranking of the sites could be done for 10 of the subfactors, but the results were mixed. Lake Calumet ranked highest on five of these subfactors, the most of any site, but also had four lowest rankings. In contrast, Kankakee had four highest rankings and five lowest rankings, the most of all the sites. For example, the Lake Calumet site would have the highest level of

[3]The supplemental TAMS analysis, completed in August 1992, used different assumptions to calculate the cost and other impacts of a new airport at the Lake Calumet, Gary, and Peotone sites. For example, assuming the use of airport layouts that would not require the relocation or major modification of hazardous waste sites, the supplemental TAMS analysis found that airline cost per enplanement would be lower.

total enplanements in 2020 (37.1 million). However, the Lake Calumet enplanement data are based on TAMS' assumption that Midway Airport will close only if an airport were built at Lake Calumet; the enplanement data reflect the shift of passengers from Midway to Lake Calumet. The Kankakee site would have the lowest level (28.8 million), slightly below that for the Peotone site (29.3 million). For all the sites but Lake Calumet, TAMS assumed that about 70 percent of the enplanements would be passengers making connections and about 30 percent would be passengers whose trips were originating or ending at the new airport. TAMS assumed that Lake Calumet would have a higher proportion—42 percent—of the more profitable origination/destination passengers.

Airport Facilities - The airport facilities factor has six subfactors. These include the earliest opening date, development boundary in acres, and number of runways. Only one subfactor—earliest opening date—permits an objective ranking of the sites. We considered an earlier operational date to be better. The rural sites ranked highest under this subfactor, since TAMS assumes that their operational date is 2000. The Lake Calumet site ranked lowest under this subfactor, since an airport there would not open until 2010. An airport at Gary would open in 2004. The other subfactors call for a value judgment about the merit of development versus environmental concerns and hence, do not lend themselves to an objective ranking. For example, some people may favor the largest possible facility for economic development purposes, while others may favor a smaller facility to limit the environmental impacts.

Human Resources - The human resources factor has 52 subfactors that assess the sites in areas such as the number of jobs created and number of people to be relocated. Seventeen of the subfactors permit an objective ranking of the sites. Kankakee and Lake Calumet ranked the highest the most times—seven each. But Kankakee and Lake Calumet also had the most lowest rankings—eight and nine, respectively. We believe that many of the subfactors call for value judgments about whether development and the resulting problems such as relocating people and noise are worth the benefits of a new airport.

The Lake Calumet site would displace the communities of Burnham and Hegewisch, which makes it the lowest-ranking site for the "wholly displaced community" subfactor. None of the other sites would wholly displace any communities. For net regional employment gain, the data are very comparable among the five sites.

Natural Environment and Cultural Resources - The natural environment and cultural resources factor has 112 subfactors. An objective ranking of the sites is possible for 73 of the subfactors. Kankakee had most of the highest rankings (46) and the least of the lowest rankings (10). Lake Calumet ranked highest the least number of times (19) and lowest the most number of times (35). For the total acreage of wetlands subfactor, we considered a smaller number of affected acres to be better. The rural sites ranked higher under this subfactor, with Kankakee affecting the least number of wetlands (107 acres), compared with Lake Calumet (1,478 acres) and Gary (1,074 acres). On the other hand, the Lake Calumet and Gary sites would have no impact on prime farmland, while the Kankakee site would affect the most acres.

Many of the subfactors that we classified as requiring value judgments are related to contamination and hazardous waste. Specifically, the high cost of cleaning up hazardous waste and concerns about whether that is the best use of AIP funds must be weighed against the environmental benefit. The issues surrounding hazardous waste cleanup and the cost of doing so are most pronounced at the urban sites, especially Lake Calumet.

Ground Access - The ground access factor has 18 subfactors, of which 6 permit an objective ranking of the sites. The Lake Calumet site would have the most access by passenger rail, with three types of service available. The Bi-State site would be accessible by only one passenger rail service. The Bi-State site would have the most people living within a 45-minute drive of the airport. But its accessibility is not much higher than the other sites, which all have about 2.5 million, except for Kankakee, which has about 900,000 people within a 45-minute drive. The subfactors that require value judgments—such as the length of an intra-airport rail system—all involve a trade-off between a larger, more efficient airport infrastructure and a smaller airport infrastructure that would limit urban sprawl.

Collateral Development Costs - For this factor, TAMS intended to assess the additional costs for highways, rail, public services, and utilities required to support a new airport. However, the TAMS study did not include such cost data as planned. We believe these costs could be significant and vary considerably for the different sites.

A discussion of our analysis of the TAMS data for each of the five sites and the no-build option follows. Our analysis does not rank the five potential airport sites overall, but does rank the sites for selected subfactors that

permit an objective ranking. For the 146 subfactors that permitted ranking of sites, the rural sites rank the highest more often than the urban sites.

Lake Calumet. The Lake Calumet site ranks the highest under 42 subfactors and lowest under 75 subfactors. TAMS projects that the Lake Calumet site would have the highest total enplanements at the supplemental airport and the highest level of total air traffic control system delay. It would have the latest opening date and cause the most number of wholly displaced communities and the second most number of partially displaced communities. It would affect the most number of acres of wetlands, but would not affect any prime farmland. With three rail lines, the Lake Calumet site would have the best access by passenger rail. It would be the most expensive site to build because it has such high estimated costs for land acquisitions and relocations, hazardous waste clean-up, and other costs. The Lake Calumet site would also require the most AIP funds by far.

Peotone. The Peotone site ranks highest under 64 subfactors and lowest under 23 subfactors. TAMS projects that the Peotone site would rank in the middle for total enplanements and have the lowest level of total air traffic control system delay. It would share the earliest opening date with the other rural sites and would partially displace rural communities. It would affect the second lowest number of acres of wetlands, but the second most acres of prime farmland. With two rail lines, the Peotone site would rank in the middle for rail passenger services. It would be the second lowest in cost to build and is tied with Kankakee for requiring the least amount of AIP funds.

Kankakee. The Kankakee site ranks highest under 74 subfactors and lowest under 29 subfactors. TAMS projects that the Kankakee site, like the other rural sites, would have lower levels of total enplanements and total air traffic control system delay. It would share the earliest opening date with the other rural sites and partially displace rural communities. It would affect the least number of acres of wetlands but the most acres of prime farmland. With two rail lines, it would rank in the middle for rail passenger services. It would also cost slightly less than Peotone and is tied with Peotone for requiring the least amount of AIP funds.

Gary. The Gary site ranks highest under 26 subfactors and lowest under 42 subfactors. TAMS projects that the Gary site would have the second highest total enplanements and result in the second highest air traffic control system delay. It has the second latest opening date. The Gary site would

wholly displace no communities, but partially displace the most number of communities. It would affect the second most number of acres of wetlands, but would not affect any prime farmland. With two rail lines, Gary would rank in the middle for rail passenger services. It would be the second most expensive site for building an airport and would require the second most amount of AIP funds.

Bi-State. The Bi-State site ranks highest under 49 subfactors and lowest under 20 subfactors. TAMS projects that the Bi-State site would have the second lowest number of total enplanements and would provide the second lowest air traffic control system delay. It would share the earliest opening date with the other rural sites and partially displace rural communities. It would rank in the middle for affecting acres of wetland and acres of prime farmland, although it would not differ much from the other rural sites under these subfactors. For passenger rail services, Bi-State ranks lowest, with only one rail line. Its cost to build and need for AIP funds are slightly higher than the other rural sites.

No-Build. TAMS provides information on a limited number of subfactors for the no-build alternative. The no-build alternative assumes that no new air carrier facilities are built in the Chicago region, and that O'Hare International Airport and Midway Airport are improved to their ultimate capacity. With the improvements that were planned to these airports as of November 1991, the total enplanements for the region would be about 62 million per year for the no-build alternative compared with 90 million if any new airport were built.

Chicago-Area Airport Site Selection Process

The 10 voting members of the policy committee that we interviewed told us that the TAMS study was one of several sources of data that they considered in selecting the site for a new airport. [4] We found the site selection process to be strongly influenced by the predominance of voting policy committee members from the state of Illinois, the use of majority rule, and local concerns.

Use of TAMS Data

All 10 policy committee members we interviewed said that they were familiar with the TAMS report and used it as a primary data source during the airport site selection process. The policy committee members also said that the TAMS consultants did a thorough and professional job that

[4]We made numerous attempts to schedule a meeting with one member of the policy committee from the state of Illinois but were unsuccessful.

facilitated the process. A majority said that the technical interpretations and briefings by TAMS and the study sponsor representatives were critical to their ability to assimilate and use the voluminous site selection information.

During the site selection process, the policy committee members also considered other studies, such as the Lake Calumet feasibility study prepared by the city of Chicago and the state of Indiana's study of the Gary site. They cited factors that were included in these studies but not in the TAMS study as central to their decision. For example, the creation of jobs in Chicago and Gary were important to Chicago and Indiana members, respectively.

Although each member identified data in the TAMS study that influenced his vote, there was no quantitative analysis of the data that explicitly connected the TAMS study to the site selection process. The original statement of work for the TAMS study indicates that TAMS planned to rank the sites on the basis of numerical scores. The policy committee members were to be consulted on a weighing scheme for the subfactors and the weights were to be applied to the TAMS data to determine the best site. However, the scope of work was amended to eliminate the weighing of values and ranking of sites when the Lake Calumet site was added to the site selection process.

Influences on the Site Selection Process

The policy committee's decision-making process, including the use of majority rule, and the predominance of voting policy committee members from Illinois, influenced the site selection. The decision was based on a majority vote. The policy committee consisted of four voting state of Indiana representatives, four voting state of Illinois representatives, and three voting Chicago representatives. Thus, seven voting policy committee members were from Illinois. The representatives tended to vote for sites in their states. In the first site selection vote, all three Chicago members voted for Lake Calumet; of the four Illinois members, one voted for Peotone, one for Kankakee, and two abstained; and all four Indiana members voted for Gary. The committee then approved a second vote that was limited to Gary and Lake Calumet, over the objections of the two Illinois members who had voted for rural sites. In the second, final vote, all three Chicago members and three of the Illinois members voted for Lake Calumet. The four Indiana members voted for Gary, and one Illinois member abstained.

In their support for the Lake Calumet site, the Chicago delegates emphasized the importance of job creation for southeast Chicago and the environmental cleanup of industrial wastes. They also emphasized the close proximity of the airport to the population it would serve and the city of Chicago's ability to use revenues generated from a passenger facility charge levied at O'Hare and Midway airports to service the debt on an airport at Lake Calumet. [5]

An Illinois policy committee member cited the availability of passenger facility charges from O'Hare and Midway as contributing to his support for the Lake Calumet site. He stated that infrastructure costs were also a factor in his decision to support Lake Calumet. He explained that, unlike the rural sites, Lake Calumet was served by existing roads, bridges, and sewer systems, so it would not need funds for these items. Another Illinois member supported Kankakee initially because he considered the site to be more environmentally sound and the most economical. He was concerned about the potential disruption to southeast Chicago that would be caused by Lake Calumet. The remaining Illinois member that we interviewed said that the only negative factor about the rural sites was their distance to Chicago's central business district.

All policy committee members from Indiana stated that the economic benefits to northwestern Indiana was one of the key factors in their decision to support the Gary site. Two Indiana members also said that they had serious doubts about whether a rural airport would be used, so they considered an urban site to be best. They also said that, between the two urban sites, the communities that would have been affected by the Gary site (including those families that would be displaced) offered the least political resistance.

Gaining regional consensus or agreeing on a site so that an airport could be developed despite preferences for different sites was also cited as important by most of the policy committee members. All but one of the policy committee members said that achieving regional consensus among the states of Illinois and Indiana and the city of Chicago was a key factor throughout the site selection process. The Illinois and Chicago members who voted for the Lake Calumet site stressed the importance of regional consensus. Although the Indiana members said that regional consensus was important, they did not change their votes to the Lake Calumet site which a majority of the members supported. However, regional consensus

[5]Passenger facility charges are charges levied on enplaned passengers. The charges may range up to $3 and were authorized by the Aviation Safety and Capacity Expansion Act of 1990.

was reached, in effect, when the two governors and the mayor of Chicago signed a memorandum of understanding on June 17, 1992, that pledged their commitment to develop the Lake Calumet site.

As mentioned previously, legislation to create an airport authority for Lake Calumet failed to pass the Illinois legislature; subsequently, the mayor of Chicago withdrew his support for Lake Calumet. The governor of Illinois is currently supporting a plan to build a new airport at the Peotone site. Also, the mayor of Chicago is considering improvements at O'Hare airport.

Impact of New Chicago-Area Airport on the AIP

The TAMS study assumed that FAA would fund 20 percent of the eligible costs of building a new Chicago-area airport, regardless of which site was selected. A higher or lower percentage could be funded. Using the TAMS assumption, the level of AIP funding would range from a low of $440 million for the Peotone and Kankakee sites to a high of $3.1 billion for the Lake Calumet site. However, FAA faces several constraints to providing funding to the sites, especially the more expensive urban sites.

The Congress authorizes AIP funds to FAA from the Airport and Airway Trust Fund. FAA distributes, by statutory formula, up to 62 percent of the AIP funds as entitlements, another 27.75 percent of the AIP funds as set-asides for noise mitigation and other projects, and the remaining 10.25 percent for discretionary projects. Discretionary funds could be used as a major source of funding for large, new airports.

Estimated Costs of a New Chicago-Area Airport

The TAMS study estimated that the total cost of a third Chicago-area airport through 2020 would range from $4.4 billion for the Kankakee and Peotone sites to $18.5 billion for the Lake Calumet site. Planned sources of funding for the new airport include General Airport Revenue Bonds, Special Facility Financing Bonds, and AIP funds. As requested, we focused on the AIP portion of the financing.

Table 1 shows various levels of AIP funding for each of the five sites. The 20-percent level assumed by TAMS is contrasted with lower levels that we calculated. It will be up to FAA to decide the actual funding level. AIP

funding levels are based on AIP eligible project costs rather than total project costs. [6]

Table 1: Total Cost Estimates and Possible AIP Funding Levels for the Proposed Airport Sites

Dollars in millions

Airport sites	Total projects costs	Eligible project costs	AIP funding level 20%	10%	5%
Bi-State	$ 4,548	$ 2,440	$ 490	$ 245	$ 123
Gary	10,329	7,427	1,480	740	370
Kankakee	4,398	2,213	440	220	110
Lake Calumet	18,521	15,560	3,110	1,555	778
Peotone	4,403	2,200	440	220	110

Note: All of the costs are in 1991 dollars. A supplemental TAMS analysis dated August 1992 estimated that the total project cost, also in 1991 dollars, of the Lake Calumet site would be $9.2 billion for the same time period. The main reasons for the cost decrease are changes in the planned runway lengths and layout that require less relocation or major modification of landfills, hazardous waste sites, waterways, and major industries. The total project costs of the Gary and Peotone sites were also recalculated by the August 1992 analysis to $8.6 billion and $4.1 billion, respectively.

Sources: Site Selection Report Abstract/Illinois-Indiana Regional Airport, TAMS Consultants, and GAO calculations.

Constraints on FAA Funding for a New Chicago-Area Airport

FAA officials expressed concern about providing AIP funding for a new Chicago airport in the amounts assumed by the TAMS study, particularly for the urban sites. According to an official from FAA's Office of Airport Planning and Programming, using significant levels of AIP funds to build another new airport would sharply reduce federal financial support for other airport projects.

The new Denver airport, which is the only major airport to be built since 1974, will receive $498 million in AIP funds. This level of funding is comparable to the level of funding that TAMS assumes for Peotone, Kankakee, and Bi-State, but is far below the AIP funding level assumed for both Lake Calumet ($3.1 billion) and Gary ($1.5 billion). Furthermore, the impact on the AIP fund for the new Denver airport is less significant than the potential impact of a new Chicago-area airport. The Denver Stapleton International Airport will close when the new airport opens, so the AIP

[6]The TAMS report includes the following in its total cost estimates: land acquisition, relocation assistance, demolition of existing facilities, removal of hazardous and solid wastes, construction of airport facilities, collateral facilities construction, mitigation expenses, design fees, administrative costs, management fees, and contingencies. TAMS reviewed the eligibility of each cost item on the basis of FAA guidelines. For primary airports, AIP grants cannot exceed 75 percent of most eligible costs.

commitments for one airport will be replaced by commitments for another. In contrast, because a new Chicago-area airport will be a supplemental rather than a replacement airport, O'Hare and possibly Midway would continue to require AIP funds.

In the Great Lakes Region, the expected demand for discretionary funds in the next 5 years about equals the amount of discretionary funds available over the last 5 years, not including a new Chicago-area airport. The projects needing discretionary funds in the Great Lakes Region's capital improvement program total $574 million between 1993 and 1997, which would require average annual AIP funding of $115 million. [7] This total includes only estimated land acquisition costs for a new Chicago-area airport, which account for less than 1 percent of the total AIP funding needed for any of the sites. In contrast, the Great Lakes Region received an average of $120 million of the discretionary AIP funds distributed to regions in fiscal years 1987 through 1992. If total airport construction costs are included, the Great Lakes Region would need a major increase in annual funding beyond $120 million. According to the TAMS study, annual AIP grants for airport construction between 1995 and 1999 would average from a low of $110 million for Peotone to a high of $318 million for Lake Calumet.

Conclusions

Ultimately, the construction of a new Chicago-area airport is a political and economic decision. Regardless of the site selected, the airport will have a significant impact on people, the environment, and the national aviation system. Building a new airport will also require a significant investment. The more expensive the selection, the greater the strain on already limited resources, including AIP funds for the nation and the Great Lakes Region.

In determining whether and where to build the airport, decisionmakers will have to weigh numerous factors. The TAMS study sheds light on many of these. Before making a final determination, decisionmakers must also take into account other issues, such as what ground access will be required and the associated costs, whether O'Hare airport will be expanded, and how changing economic conditions may affect aviation demand.

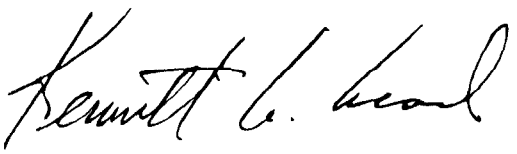
[7] FAA generally uses the capital improvement program developed by airports as a basis for AIP funding decisions.

We conducted our work from July 1992 through January 1993 in accordance with generally accepted government auditing standards. We discussed selected portions of the draft report with officials representing FAA's Assistant Administrator for Airports and the Assistant Secretary for Policy and International Affairs in the Office of the Secretary of Transportation and revised the report as appropriate. A detailed description of our scope and methodology is contained in appendix I.

As arranged with your offices, we plan no further distribution of this report until 10 days from the date of this letter. At that time, we will send copies of this report to interested congressional committees; the Secretary of Transportation; the Administrator, FAA; the governors of Illinois and Indiana; and the mayor of Chicago. We will also make copies available to other interested parties upon request.

If you have any questions about this report, please contact me at (202) 275-1000. Major contributors to this report are listed in appendix IV.

Sincerely yours,



Kenneth M. Mead
Director, Transportation Issues

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Abbreviations

AIP	Airport Improvement Program
FAA	Federal Aviation Administration
GAO	General Accounting Office
TAMS	TAMS Consultants, Inc.

Objectives, Scope, and Methodology

In a June 22, 1992 letter, and in subsequent discussions with their offices, Representatives George E. Sangmeister and Bob Carr asked us to undertake the following:

- Conduct a review of the TAMS data and assess the relative position of the candidate sites on the basis of the nine factors used in the TAMS study, considering such elements as the size of the relocation problem, the cost of cleaning up the hazardous waste sites, the financial feasibility of the selected site, and the impact on flight delays in the aviation system.
- To the extent practicable, determine how the TAMS report was used by the site selection commission to select the site for the new airport.
- Determine how the choice of different sites affects the overall commitment of Airport Improvement Funds to a new Chicago airport and how it might affect the Federal Aviation Administration's (FAA) ability to fund other airport development, both nationally and in FAA's Great Lakes Region.

As agreed with the Representatives' offices, we did not analyze the economic feasibility of the Lake Calumet proposal because the mayor of Chicago withdrew his support for that airport. Also, we deferred our analysis of the extent to which a third Chicago-area airport would affect the capacity of the national airspace system, given the uncertainty in plans for building a new airport and expanding Chicago O'Hare International Airport.

To address the first objective, we determined whether the 259 subfactors within the 9 overall factors in the TAMS study could be ranked or not. For each of the subfactors that could be ranked, we determined which of the five potential airport sites ranked highest and lowest according to the TAMS data. We then summarized this information by site and by overall factor. The data we used was from table 6-1, Site Selection Evaluation Matrix, TAMS Site Selection Report Abstract on the Illinois-Indiana Regional Airport, November 1991. We also met with sponsor representatives to learn their positions on the candidate sites. We met with representatives from TAMS Consultants, Price Waterhouse, and the al Chalabi Group, which worked on the site selection study, regarding the TAMS data. We also spoke with representatives from several Illinois groups that had an interest in the location of a new Chicago-area airport.

To address the second objective, we interviewed 10 of the 11 voting members of the policy committee responsible for site selection. All but one voting policy committee member from the state of Illinois were able to

meet with us. We asked these members which factors were most important in their site selection. We discussed the extent of FAA's involvement in the site selection process with officials in FAA's Offices of Airport Planning and Programming and System Capacity and Requirements and officials in the Department of Transportation's Office of Economics. We also discussed FAA's involvement with the Regional Administrator of FAA's Great Lakes Region and an official from the Supplemental Airport Program in the Great Lakes Region.

To address the third objective, we analyzed FAA data on the discretionary program, the Great Lakes Region's Capital Improvement Program, and the data base on the National Plan of Integrated Airport Systems to determine the size of the AIP program and the demand for AIP funds. We interviewed officials from FAA's Office of Airport Planning and Programming, Chicago Airports District Office, and the Regional Administrator for the Great Lakes Region to determine the funding that a new Chicago-area airport was likely to receive.

We performed our work at FAA's Washington, D.C., headquarters and its regional office in Des Plaines, Illinois. We also performed work in the city of Chicago, at the Illinois Department of Transportation in Schaumburg and Chicago, Illinois; at the Indiana State House in Indianapolis, Indiana; and the Department of Transportation in Washington, D.C.

Analysis of the TAMS Subfactors

Categories Used for Data Analysis

To compare the sites, we analyzed each of the 259 subfactors in the TAMS November 1991 Abstract. For 146 subfactors, we objectively ranked the sites from highest to lowest. For the remaining 113 subfactors, we did not assess the relative position of the candidate sites for two reasons. First, some of the subfactors had data limitations that prevented ranking the sites. These limitations were incomplete data, different units of measurement that were not comparable, or equivalent data for the five sites. These are designated by an "N" in this appendix. Second, some of the subfactors required value judgments. In other words, whether a particular attribute was negative or positive was subjective, depending on one's personal philosophy. These subfactors are designated by a "V" in this appendix.

For all the financial feasibility subfactors, the TAMS data for date of beneficial occupancy plus 5 years was used. Similarly, for subfactors with data for both 2010 and 2020, we used the data for 2020 because we viewed that data as more comparable for the sites. All the sites would be open and operating for at least 10 years in 2020, whereas the Lake Calumet site would just be opening in 2010.

Examples of Data Analyzed

- An example of a subfactor that objectively indicated a highest-or lowest-ranked site was "total acreage of wetlands or regulated waters impacted." We considered a lower level of this subfactor to be clearly good.
- An example of a subfactor that was incomplete was "State Implementation Plan consistency" because the air quality analysis was ongoing at the time the TAMS abstract was written.
- An example of data that were not comparable among the sites was "lost recreation opportunities." The data for this subfactor included bird-watching/fishing, some hunting/fishing and one hunt club, and hunting/fishing/bird-watching and state conservation area.
- An example of a subfactor with equivalent data was the "capacity of regional landfills," which TAMS rated as limited for all five sites.
- An example of a subfactor requiring a value judgment was the "number of listed waste sites requiring remediation." One point of view is that cleaning up hazardous waste is good. An opposing view is that such cleanup would not be the best use of airport development funds and would delay the airport's opening by many years.

Table II.1: Analysis of the TAMS Subfactors

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
I. Aviation Demand Forecasts			
Regional passenger demand (annual)			
O&D[a] enplanements (millions)	N		
Connecting enplanements (millions)	N		
International enplanements (millions)	N		
Total enplanements (millions)	**N**		
O'Hare		Bi-State/Kankakee	Gary/Peotone
Midway	N		
Milwaukee		Kankakee	Lake Calumet
Supplemental airport		Lake Calumet	Kankakee
Percentage connecting			
O'Hare		All others	Gary/Lake Calumet
Midway	N		
Milwaukee		Bi-State/Kankakee	Lake Calumet
Supplemental airport		Lake Calumet	Kankakee
Aircraft operations (annual)			
O'Hare	N		
Midway	N		
Milwaukee	N		
Supplemental airport			
Air carrier/commuter		Lake Calumet	Kankakee
Cargo/general aviation/other		Lake Calumet	Kankakee/ Bi-State
Total supplemental airport		**Lake Calumet**	**Kankakee**
Region total		Gary	Lake Calumet
II. Airspace and Air Traffic Control			
Aircraft arrival delay (average minutes/operation)			
O'Hare		Peotone	Gary
Midway	N		
Supplemental airport		Peotone	Lake Calumet
Aircraft departure delay (average minutes/operation			
O'Hare		Peotone	Lake Calumet
Midway	N		
Supplemental airport		Peotone	Gary
Total ATC system delay (average minutes/operation)		**Peotone**	**Lake Calumet**
Meteorology		Rural	Lake Calumet
III. Airport Facilities			
Earliest operational date		Rural	Lake Calumet

(continued)

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
Development boundary (acres)	V		
Area between development boundary and 70 DNL[b] (acres)	V		
Area Between 70 and 65 DNL[b] (acres)	V		
Number of runways	V		
Terminal area (million square feet)	V		
IV. Human Resources			
Social impacts			
Impacted land uses and populations			
Households within development boundary	V		
Households within 70 DNL[b] acquisition limits	V		
Households within 65 DNL[b] noise impact area	V		
Households within environmental mitigation area	N		
Population within development boundary	V		
Population within 70 DNL[b] acquisition limits	V		
Population within 65 DNL[b] noise impact area	V		
Population within environmental mitigation area	N		
Businesses within acquisition limits	V		
Farm operations within acquisition limits	V		
Churches within acquisition limits	V		
Hospitals within acquisition limits	V		
Schools within acquisition limits	V		
Other facilities within acquisition limits	V		
Mitigation of relocations			
New or replacement housing availability		Rural	Urban
New or replacement of business opportunities	N		
Replacement farmland availability	N		
Property available for lease back (acres)	N		
Community disruption			
Wholly displaced communities		All others	Lake Calumet
Partially displaced communities		Rural	Urban
Land use compatibility			
Existing land use plans for development area			
Counties	N		
Municipalities	V		
Existing zoning for development area			
Counties	N		
Municipalities	V		
Existing land use plans for DNL[b] 65 area			
Counties	N		

(continued)

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
Municipalities	N		
Existing zoning for DNL[b] 65 area			
Counties	N		
Municipalities	N		
General areas of greatest incompatibility		Kankakee	All Others
Induced socioeconomic impacts			
Regional population gain	V		
Regional households gain	V		
Regional employment gain			
Direct		Lake Calumet	Kankakee
Indirect		Lake Calumet	Kankakee
Induced		Lake Calumet	Kankakee
Total		**Lake Calumet**	**Kankakee**
Regional employment displacement			
Direct		Kankakee	Lake Calumet
Indirect	N		
Induced		Kankakee	Lake Calumet
Total		**Kankakee**	**Lake Calumet**
Catalytic employment (redistributed jobs)	N		
Net regional employment gain		Peotone	Lake Calumet
Business opportunities			
Market access	N		
Service area population		Bi-State	Kankakee
Expenditure forecasts (billions of 1991 dollars)			
Net wages		Lake Calumet	Kankakee
Net visitor expenditures		Lake Calumet	Kankakee
Net total output		Lake Calumet	Kankakee
Housing		Peotone	Lake Calumet
Adjacent land development			
New opportunities	N		
Redevelopment opportunities	V		
Constraints	V		
Magnitude	V		
Future government services requirements	N		
V. Natural Environment and Cultural Resources			
On-airport air quality			
Attainment status			
Carbon monoxide	N		
Ozone		Kankakee/Peotone	Urban

(continued)

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
Nitrogen dioxide	N		
Sulfur dioxide		All others	Gary
Particulates (TSP)[c]		Kankakee	All Others
Emission burden (tons/year) (net increase)			
Carbon monoxide	N		
Hydrocarbons/VOC[d]	N		
Nitrogen dioxide	N		
Sulfur dioxide	N		
Particulates (pm[e] 10)	N		
NAAQS[f] (Percentage of standard)			
Carbon monoxide			
1-hour		Rural	Lake Calumet
8-hour		Rural	Lake Calumet
Nitrogen dioxide (annual)		Rural	Lake Calumet
Sulfur dioxide			
3-hour		Gary	Lake Calumet
24-hour		Kankakee	Gary
Annual		Kankakee	Bi-State/ Peotone
Particulates (pm[e] 10)			
24-hour		Gary	Lake Calumet
Annual		Kankakee	Lake Calumet
SIP[g] consistency	N		
Water quality			
Existing water supply	V		
Water supply/demand		Urban	Rural
Existing sewage capacity		Urban	Rural
Sewage capacity/demand		Urban	Rural
Permits required	N		
U.S. DOT section 4(f) lands			
Number and type of properties acquired (wholly or partially)		Rural	Lake Calumet
Number of properties impacted (noise, infrastructure)		Bi-State/Kankakee	Gary
Number of properties with section 6(f) land and water conservation funds		Rural	Gary
Mitigation potential		Rural	Lake Calumet
Biotic communities			
Cover type impacted (acres)			
Forest		Lake Calumet	Peotone
Prairie		All others	Lake Calumet
Inland dune and swale		All others	Gary

(continued)

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
Savanna		Gary/Kankakee/ Peotone	Bi-State
Active cropland		Lake Calumet	Kankakee
Inactive cropland		Urban	Peotone
Residential or developed land		Urban	Bi-State
Residential neighborhood		Rural	Gary
Business and industry		Rural	Gary
Urban, vegetated		Rural	Lake Calumet
Urban, unvegetated		Rural	Gary
Plants and animals (number of species)			
Mammals		Gary	Kankakee
Birds		Kankakee	Lake Calumet
Reptiles and amphibians		Kankakee	Bi-State
Fish		Gary	Bi-State
Benthic macroinvertebrates		Lake Calumet	Peotone
Plants		Kankakee	Gary
Unique assemblages of animals		Kankakee/Peotone	All Others
Existing trends Water course relocations (linear feet)	N	Lake Calumet	Kankakee
Nature preserve impacts		Bi-State/Kankakee	All Others
Lost recreation opportunities	N		
Habitat mitigation potential		Rural	Urban
Bird hazard potential		Rural	Lake Calumet
Endangered and/or threatened species impacted			
Number of resident animal and plant species			
Federal (LE,[h] LT,[i] C2[j])		All others	Gary
State (SE,[k] ST[l])		Rural	Urban
Number of migrant animal species			
Federal (LE,[h] LT,[i] C2[j])		All others	Lake Calumet
State (SE,[k] ST[l])		Gary	Lake Calumet
Critical/essential habitat (acres)		Rural	Gary
Mitigation potential		Peotone	Urban
Floodplains impacted			
Acreage of 100-year floodplain filled		Gary	Kankakee
Mitigation potential		Rural	Urban
Coastal zone management	N		
Wild and scenic rivers	N		
Wetlands or regulated waters impacted (acres by classification)			
Lacustrine		Rural	Lake Calumet
Palustrine aquatic bed		Rural	Gary

(continued)

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
Palustrine emergent		Kankakee	Gary
Palustrine forested		Bi-State	Gary
Palustrine scrub shrub		Kankakee/Peotone	Lake Calumet
Palustrine unconsolidated bottom		Kankakee/Peotone	Gary
Palustrine open water		Bi-State/Gary	Lake Calumet
Riverine		Bi-State	Lake Calumet
Total acreage		**Kankakee**	**Lake Calumet**
Mitigation potential		Rural	Urban
Prime and important farmland impacted			
Total, including mitigation (acres)		**Urban**	**Kankakee**
Prime farmland (acres)		Urban	Kankakee
Important farmland (acres)		Urban	Peotone
Other farmland (acres)		Urban	Bi-State
Estimated farm units		Urban	Bi-State
Estimated farm operations		Urban	Peotone
Landlocked parcels	N		
Farm residences	V		
Mitigation potential	N		
Energy and natural resources	N		
Light emissions			
Identification of unusual problems	N		
Proposed mitigation method	N		
Contamination and hazardous waste			
Number of listed waste sites requiring remediation	V		
Number of other major areas of concern	V		
Approximate total area of remediation sites	N		
Soils, sludges and landfill materials (total tons)	V		
Water treatment (total gallons)	V		
Landfill capping (total acres)	V		
Total number of underground storage tanks to be removed	**V**		
Significant problems		Rural	Urban
Remedial investigation, feasibility study, and design requirements		Rural	Urban
Remediation requirements of no-build	N		
Solid waste			
Airport operation generated waste (ton/year)		Bi-State	Lake Calumet
Alteration of existing landfills	V		
Capacity of regional landfills	N		
Construction impacts			
Noise	N		

(continued)

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
Air quality		Rural	Urban
Water quality	N		
Soil erosion		Urban	Rural
Temporary disruptions of habitat	N		
Traffic disruptions		Rural	Urban
Mitigation potential		Rural	Urban
Noise			
Residences within 70 DNL[b]	V		
Other sensitive uses within 70 DNL[b]	N		
Residences within 65 DNL[b]	V		
Other sensitive uses within 65 DNL[b]	N		
Mitigation within 65 DNL[b]	N		
Historic and architectural/archeological resources			
Number and type impacted			
Airport construction		Rural	Lake Calumet
Noise		Kankakee/Peotone	Gary
Mitigation potential	N		
VI. Ground Access			
Off-Airport access system			
Existing access system			
Major highways	N		
Local street/arterial system	N		
Rail services availability			
CTA		Lake Calumet	All Others
Metra		Rural	Urban
South Shore Line		Urban	Rural
Amtrak		All others	Bi-State
Freight	N		
Demand/capacity of access system	N		
Airport accessibility			
Population within 45 minutes of site		Bi-State	Kankakee
Employment within 45 minutes of site		Bi-State	Kankakee
On-airport access			
Curbfronts/recirculation (length in feet)	V		
Airside service roads (2 lanes, length in feet)	V		
Intra-airport rail system (length in feet)	V		
Rail center	N		
Other ground access facilities			
Employee parking (spaces)	V		

(continued)

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
Public parking (spaces)	V		
Rental car area (spaces)	V		
Commercial vehicle staging area (spaces)	N		
VII. Costs (1991 dollars in millions)			
Structure demolition		Kankakee	Lake Calumet
Infrastructure demolition		Peotone/Kankakee	Gary
Site preparation		Kankakee	Lake Calumet
New infrastructure		Bi-State	Gary
New airport facilities		Peotone	Lake Calumet
Wetland mitigation		Peotone	Gary
Land acquisitions and relocations		Kankakee	Lake Calumet
Hazardous waste		Kankakee	Lake Calumet
Solid waste	N		
Utility relocations	N		
Subtotal		**Kankakee**	**Lake Calumet**
Engineering		Kankakee	Lake Calumet
Administration		Kankakee/Peotone	Lake Calumet
Management		Kankakee	Lake Calumet
Contingency		Kankakee	Lake Calumet
Total		**Kankakee**	**Lake Calumet**
VIII. Collateral Development Costs			
Infrastructure additions			
Roadways	N		
Rail	N		
Public services and utility additions	N		
IX. Financial feasibility			
Airline cost/enplanement (in 1991 dollars)		Peotone	Lake Calumet
Fund deficit (1991 dollars in millions)		Peotone	Lake Calumet
Fund deficit/cost as a percent of cost		Peotone	Lake Calumet
Phase I construction cost (1991 dollars in millions)		Peotone	Lake Calumet
Cost sensitivity		Lake Calumet	Peotone
AIP eligibility (1991 dollars in millions)	V		
AIP funding (1991 dollars in millions)		Kankakee/Peotone	Lake Calumet
Other funding (1991 dollars in millions)	N		
State and local funding (1991 dollars in millions)	N		
Return on state and local investment		Peotone	Lake Calumet
To be financed (1991 dollars in millions)		Peotone	Lake Calumet
Financed ratio		Lake Calumet	Rural
Funding sensitivity		Bi-State	Peotone

(continued)

Factors/Subfactors	Type	Highest Ranked	Lowest Ranked
Debt issued (1991 dollars in millions)		Peotone	Lake Calumet
GARB[m] interest rate	N		
SFF[n] interest rate	N		
Interest rate sensitivity	N		
Annual enplanements		Lake Calumet	Kankakee
Enplanement sensitivity		Lake Calumet	Peotone
Operating cost/enplanement (in 1991 dollars)		Kankakee	Lake Calumet
Gross margin		Lake Calumet	Peotone
Operating cost sensitivity		Lake Calumet	Bi-State
Airline revenue/enplanement (in 1991 dollars)		Peotone	Lake Calumet
Other revenue/enplanement (in 1991 dollars)		Lake Calumet	Peotone
Sensitivity to airline revenue		Lake Calumet	Peotone

[a]O&D. Origination and Destination.

[b]DNL. Day-Night Level.

[c]TSP. Total Suspended Particulates.

[d]VOC. Volatile Organic Compound.

[e]pm. micron.

[f]NAAQS. National Ambient Air Quality Standards.

[g]SIP. State Implementation Plan.

[h]LE. Federal endangered.

[i]LT. Federal threatened.

[j]C2. Category 2.

[k]SE. State endangered.

[l]ST. State threatened.

[m]GARB. General Airport Revenue Bond.

[n]SFF. Special Facility Financing.

Note:

N=Not ranked because data is equivalent, incomplete, or not comparable.
V=Not ranked because a value judgment is necessary.

Summary of TAMS Data by Factor

Table III.1: Airspace and Air Traffic Control Subfactors

Airport site	Ranked subfactors		Subfactors not ranked	
	Highest site	Lowest site	Limited data	Value judgment required
Bi-State	1	0		
Gary	0	2		
Kankakee	1	0	2	0
Lake Calumet	0	4		
Peotone	6	0		

Note: For tables III.1 through III.8, the subfactor totals for best and worst site may exceed the number of ranked subfactors to account for ties in the ranking.

Table III. 2: Costs Subfactors

Airport site	Ranked subfactors		Subfactors not ranked	
	Highest site	Lowest site	Limited data	Value judgment required
Bi-State	1	0		
Gary	0	3		
Kankakee	11	0	2	0
Lake Calumet	0	11		
Peotone	4	0		

Table III.3: Aviation Demand Forecasts Subfactors

Airport site	Ranked subfactors		Subfactors not ranked	
	Highest site	Lowest site	Limited data	Value judgment required
Bi-State	3	1		
Gary	1	2		
Kankakee	4	5	9	0
Lake Calumet	5	4		
Peotone	1	1		

Table III.4: Airport Facilities Subfactors

Airport site	Ranked subfactors		Subfactors not ranked	
	Highest site	Lowest site	Limited data	Value judgment required
Bi-State	1	0		
Gary	0	0		
Kankakee	1	0	0	5
Lake Calumet	0	1		
Peotone	1	0		

Table III.5: Human Resources Subfactors

Airport site	Ranked subfactors		Subfactors not ranked	
	Highest site	Lowest site	Limited data	Value judgment required
Bi-State	4	1		
Gary	1	3		
Kankakee	7	8	16	19
Lake Calumet	7	9		
Peotone	5	1		

Table III.6: Natural Environment and Cultural Resources Subfactors

Airport site	Ranked subfactors		Subfactors not ranked	
	Highest site	Lowest site	Limited data	Value judgment required
Bi-State	35	13		
Gary	22	30		
Kankakee	46	10	28	11
Lake Calumet	19	35		
Peotone	36	12		

Table III.7: Ground Access Subfactors

Airport site	Ranked subfactors		Subfactors not ranked	
	Highest site	Lowest site	Limited data	Value judgment required
Bi-State	3	3		
Gary	2	2		
Kankakee	2	4	6	6
Lake Calumet	3	1		
Peotone	2	2		

Table III.8: Financial Feasibility Subfactors

	Ranked subfactors		Subfactors not ranked	
Airport site	Highest site	Lowest site	Limited data	Value judgment required
Bi-State	1	2		
Gary	0	0		
Kankakee	2	2	5	1
Lake Calumet	8	10		
Peotone	9	7		

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