MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT REUSE STUDY

TECHNICAL APPENDIX

December 1992

METROPOLITAN COUNCIL
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St. Paul, MN 55101
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METROPOLITAN COUNCIL
Mears Park Centre, 230 East Fifth Street, St. Paul, Minnesota 55101
612 291-6359 TDD 612 291-0904

DATE: September 26, 1991

TO: Metropolitan Council

FROM: Mary E. Anderson, Chair

SUBJECT: Charge and Membership of MSP Reuse Task Force

INTRODUCTION

As part of the 1989 Metropolitan Airport Planning Act (dual-track strategy), the Legislature directed the Council to develop policies for the potential reuse of Minneapolis-St. Paul International Airport (MSP) if the decision is made to move to a new airport. This study is to be completed by January 1, 1993. This study will also provide information that the Council and MAC can use when making recommendations to the Legislature at the conclusion of the dual-track studies.

As the Council has done with previous airport studies we will use a task force to assist in the development of reuse policies. The charge to the Reuse Task Force would be to:

- Advise the Metropolitan Council on the development of policies for the reuse of Minneapolis-St. Paul (MSP) International Airport should a new major replacement airport be developed to serve the Twin Cities Metropolitan Area.
- Provide a forum for the discussion of issues and concerns regarding the MSP reuse study and the development of reuse scenarios and policies.
- Review, comment and make recommendations on draft planning and technical reports prepared as a part of the MSP reuse study or by other public and private organizations relevant to the reuse study.
- Develop a set of recommendations regarding the reuse of MSP and report to the Metropolitan Council by October 1992 for Council consideration in its report to the Legislature required by Jan. 1, 1993.

Because of the importance of the study in the dual-track strategy, the membership needs to be broadly representative of the community and regional interests. Suggestions from Council members and others for task force membership has help us put together an excellent roster which should represent the broader regional community well. Council members Liz Anderson and Margaret Schreiner have indicated their interest in serving on the task force. Joe Gasper will represent the Metropolitan Airport Commission. In addition, I sent letters to the mayors of the six adjacent communities--Bloomington, Richfield, Minneapolis, St. Paul, Mendota Heights, and Eagan--requesting official local representation on the task force. The proposed membership for Council approval is attached.

RECOMMENDATIONS

That the Council approve the charge to the MSP Reuse Task Force and the membership roster membership.

That the Council approve the appointment of Edward Gutzmann as Chair and Roberta Opheim as Vice-Chair.

MSP RE-USE PHASE I STUDY: WORKING PAPERS

JANUARY 1992

DRAFT

Introduction

The Metropolitan Council has embarked on a two-phase study for the re-use of the existing Minneapolis St. Paul Airport (MSP), in tandem with the study for a new airport location.

Phase I of the MSP Re-Use Study is intended to outline the key issues to be studied and to prepare a study design for Phase II.

Phase II will be the in-depth analysis of the data base, study of alternatives, and development of a master plan for re-use should a new airport be constructed.

Consultants for Phase I were appointed earlier this year in the following areas:

1. UDA Architects - Architecture, Urban Design, Planning
2. Hammer Siler George Associates - Economics and Feasibility
3. Siemon, Larsen & Marsh - Legal and Development Implementation
4. Hoyle, Tanner & Associates, Inc. - Aviation Planning
5. Enviroscience - Engineering

In order for Phase I to be completed efficiently and effectively, it was determined that two expert development panels (aviation and non-aviation) be convened for a half day each to work with the consultant team and the Metropolitan Council staff to explore the issues and to brainstorm possible re-use scenarios.

In support of those workshops, the consultant team has prepared the attached background working papers for review:

I. Comparable Projects
   - A. Greater Pittsburgh International Airport
   - B. Denver Stapleton International Airport
   - C. Greater Southwest Airport (Fort Worth)
   - D. Hartsfield Atlanta International Airport
   - E. Norfolk 2000, Virginia
   - F. Princeton Forestal Village

II. Overview Working Papers
   - A. Minneapolis St. Paul Airport (MSP)
   - B. Socio-Economic Profile
   - C. A Physical Planning Framework

I. Comparable Projects

A. Greater Pittsburgh International Airport

1. History of the Project

The Greater Pittsburgh International Airport is situated on 12,000 acres 15 miles west of downtown Pittsburgh. The airport parkway serves as the principal access to the airport. The original terminal, operated by the County of Allegheny, opened in 1952 and was the first commercial aviation terminal of its kind in the United States. Over the years, many modifications and additions were added to the original building.

The Air National Guard and Air Force Reserves maintain active operations at the airport.

In 1987, the County Commissioners received State and Federal funding for a new Midfield Terminal 1½ miles west of the existing terminal. Total cost is $630 million. An operating agreement and lease with USAir (the major carrier) was also negotiated.

In addition to the new Midfield Terminal construction on site, the County also developed plans for a new expressway access to service the new terminal complex. The total construction cost is projected to be $190,000,000.

A new master plan for the airport was also developed, which provides for future runway development and terminal expansion.

The existing terminal (by agreement) would no longer be used for commercial aviation. If a viable use was not found prior to the completion of the new Terminal (1992), the existing terminal must be demolished.

In 1990 the County Commissioners awarded a study contract to UDA Architects (plus market consultant, engineers, and attorneys) to present a re-use plan for the existing 709,000 sq. ft. terminal and 200 acres of adjacent surface parking and ramp space.

The re-use plan final draft has been submitted to the County for review and comment. It is anticipated that the report will be made public in November 1991.

2. Before Situation

a. Operations

The Airport is operated by the Department of Aviation, a department of the County of Allegheny.

b. Total scheduled enplanements in 1990 were 8,534,457, broken down as follows:

(1)	Major and National Carriers	7,908,215
(2)	Other Certified and International Carriers	52,203
(3)	Commuter Carriers	574,039

c. Scheduled carriers operating were (% enplanements):

(1)	USAir and USAir Express	(87.26%)
(2)	American	(2.58%)
(3)	Delta	(1.89%)
(4)	United	(1.47%)
(5)	All others	(6.8%)

d. The capacity of the existing passenger terminal is 52 gates, handling an average of 503 scheduled flights per day. The terminal building is in sound structural condition, but the mechanical and electrical systems are outdated. Major additions made after 1971 were of a "temporary" nature and are obsolete. Approximately 156,000 sq. ft. will be demolished, leaving 553,000 for re-use. There is asbestos in the building and the under-building subsurface material (slag from the steel-making process) emits a persistent gas which is noxious.

The surrounding 200 acres of land are flat and paved either as parking (asphalt) or taxiway and ramps (concrete). The fuel farm and underground hydrant fuel are hazardous material areas which will require mitigation and clean up.

3. Development Plans

a. Adopted Plans

The adopted plan is to shift all scheduled passenger service to the new Terminal in 1992. New cargo facilities have been built recently as well.

b. Plans in Progress

The two major plans in progress are:

(1) Updated Master Plan

The master plan study is projecting future runway locations, expanded new Terminal, expanded cargo, new highway access, commercial and hotel development, and environmentally protected areas.

(2) Existing Terminal Re-Use Study

Although the draft results cannot be released at this time, it can be stated generally that the physical analysis, the market study, and the legal analysis support the feasibility of commercial office development in the existing terminal and office/flex industrial development on the parking lots and abandoned ramp space. Other uses studied were World Trade Center, aviation museum, and retail shopping.

4. Lessons Learned for MSP Re-Use Study

The study for the re-use of the existing terminal was conducted concurrently with the updated airport master plan process. The focus of the re-use study was to identify a highest and best use redevelopment strategy for the terminal building and 200 acres of adjacent

parking and terminal ramp area that would generate tax revenue for local communities and provide a viable income-producing asset for the County. This potential would be weighed against the projected aviation re-use strategies proposed by the airport master plan team. The planning process required nine months.

a. Planning Process

Input was important from elected officials (County and local municipal), USAir, the hub airline, Pennsylvania Department of Transportation, FAA, and the various County departments (Aviation, Planning, Development). Interim presentations to the County Commissioners were made to keep them informed of the work in progress. The council and manager of the municipality in which the site was located were also consulted. The process was directed by the County Department of Aviation. There were no public meetings.

b. Matrix of Options Considered

Options for re-use had to be considered within a five year time frame, since it was necessary to have a strategy in place by the 1992 opening of the Midfield Terminal.

Re-use options were, in general, defined by local market trends rather than potential national or international users who were not currently in the region. The uniqueness of the building and the site is their adjacency to a major airport complex with access to the ramp and runway system.

The long-term options of international cargo or specialized aviation maintenance and servicing facilities were examined. All long-term options required retention of access to the runways and ramp areas for specialized operations as well as interim re-use scenarios of the existing building until the long-term strategy could be implemented. These strategies would require a new marketing and implementing entity to promote, manage, and coordinate the effort.

Other options outside the local market were considered in the context of establishing a unique draw to the site for the region. These included an aviation museum as well as an exhibition and conferencing facility linked to a world trade center complex. The catalyst for development under these scenarios required considerable public reinvestment.

The primary markets for the site were projected to be generated by local demand. The options included office, retail industrial/distribution, government, general aviation, and research and development. Uses that have compatible needs to that of a working airport appear to be related to distribution. Airports are usually well served by regional highways that also make adjacent sites attractive to land-based distribution operations. The sensitivity to noise levels is an additional factor that encourages compatibility of use.

The physical planning options focused on the development of the site as an extension of the existing employment core that had developed in the local municipality adjacent to

the existing terminal. The low-density suburban nature of the surrounding communities as well as the absence of adequate infrastructure capacity were serious limitations for any options considered.

The potential to develop a high-density employment core with good access to the region and adequate local circulation for both cars and pedestrians was explored with County and local officials. This would, in effect, create a downtown business and cultural district that could provide a framework for the development of both public service and cultural facilities as well as private development that could be serviced by public transportation. A major public open space was proposed as the organizing element for development of the site.

A major issue in the re-use scenario is the character and function of the road system. Originally, the system was designed to carry large volumes of traffic through the adjacent communities to the airport. The integration of surplus aviation property with the existing community will require modification of "expressway" systems to systems that service local businesses and pedestrians.

c. Timing/Status

There is a drop-dead deadline tied to final completion of the new Terminal, after which the existing terminal must either have new committed non-commercial aviation uses or be demolished.

The status is that a draft report is being reviewed by the Department of Aviation and the County Commissioners.

The next step will be to publish the Final Re-Use Plan and to advertise nationally for a private master developer to redevelop the existing building and surrounding 200 acres on a long term lease basis.

d. Public/Private Costs

The Re-Use Plan is not published, but generally, public costs will include a write down in the cost of leasing the existing terminal building, removal of hazardous waste, and off-site road and utility infrastructure improvements.

Private costs will include rehabilitation of the existing terminal, construction of on-site roads and parking and utility infrastructure, and new office and flex building construction.

e. Governance

The building and land will remain in public ownership, but will be leased long term to the developer, thus creating tax revenue for the County, local school board, and local municipality.

The developer selection process will be by the County. Local municipal zoning and building codes will apply to the development.

f. Financing Mechanisms

The County is considering several interrelated strategies for financing the project, including: direct financial support (infrastructure, demolition, and hazardous waste removal); creative financing techniques (special assessment districts, tax increment financing, and industrial bonds); and flexible leasehold terms, including participation-rent leases.

B. Stapleton International Airport, Denver

1. History of the Project

Stapleton opened in 1929 on 640 acres as "Union Station of the Air"; Mayor Stapleton's name was given to the facility in 1944. The project was originally nicknamed (by some) "Stapleton's Folly" since it was so far from development. It has since grown to 4,700 acres and is nearly surrounded by urban development.

After years of planning, political maneuvering, several votes and law suits by impacted neighborhood groups, Denver began construction of the new Denver International Airport, which is scheduled for completion in 1993. The agreements among the jurisdictions and the FAA call for all aviation operations to cease at Stapleton once the new airport opens. Also per agreement, all net proceeds from sale or lease of the Stapleton land and/or buildings will be used for the new airport's construction.

Planning for the re-use of Stapleton began in 1989 with the appointment of a 35-member task force, called "Stapleton Tomorrow", composed of neighborhood, civic, and business leaders. The process was administered by the Mayor's Gateway/Stapleton Development Office. The resulting concept plan for redevelopment was adopted by the City Council in the spring of 1991. Decisions still need to be made regarding the mechanism and funding for implementation of the plan, but a change of administration has clouded the process.

2. Before Situation

Stapleton is the fifth busiest airport in the United States with a total 484,000 operations in 1990. Facilities on the site include the 2,500,000 square foot terminal building and 2,100,000 square feet of outlying space in hangers, FBOs, flight kitchens, etc. The terminal is in excellent condition with virtually a new HVAC system and a nearly complete asbestos-removal project. The remaining buildings vary in condition and utility, but most are suitable for industrial or warehouse usage. There is a 5,000 space parking garage adjacent to the main terminal. United Airlines has a major Flight Training Center on the site which will remain and possibly expand.

The site is well served by a network of interstate highways, rail lines, and utilities which cross or run along side the property.

3. Development Plans

a. Adopted Plans

The concept plan developed by Stapleton Tomorrow and the Gateway/Stapleton Development Office has been adopted by the City Council as an amendment to the City's Comprehensive Plan. The plan recommends a range of uses that support Stapleton's role as a regional employment center.

b. Plans in Progress

The plan continues to move forward although under a new administration that has not yet formed a clear plan of action. Implementation plans in progress include:

(1) Selecting the mechanism that will be used to put the site "into play"--most likely a semi-autonomous public development authority.

(2) Identifying and working with "champions" for the various project components, such as the local non-profit organization that is spearheading the effort to attract the Smithsonian Air and Space Annex.

(3) Capital improvements programming to identify infrastructure needs, funding sources, and appropriate phasing.

4. Lessons Learned for MSP Re-Use Study

a. Planning Process

The plan development encompasses 18 months of active public participation. The Stapleton Tomorrow group of 35 officially appointed members subdivided into four task forces, which were essentially open to all comers. Over 650 different people participated in the task force meetings.

Mailings, "town meetings", a student contest, and extensive coverage by the local media kept the planning process in the public eye. A slide show summarizing the plan recommendations was presented to over 90 organized civic and business organizations. As a result of this broad involvement, the plan was adopted virtually without dissent.

b. Matrix of Options Considered

The goals for the redevelopment of Stapleton placed a high priority on job creation and economic development, and that became the focus of the analysis. Given the site's location, character, and resource of existing buildings, that is the most marketable use. Residential development would not likely be viable until later in the development program, and the development of the site as an employment center was seen as a positive influence on the existing adjacent neighborhoods.

Public-oriented uses were emphasized as necessary to change the image of the site and development momentum.

c. Timing/Status

All air operations at Stapleton will cease when the new airport opens in fall 1993, and the site will be available for development at that time, although it is accepted that development of 4,700 acres will be a long-term proposition. There is concern, however, that some successes must occur early to avoid an image of abandonment. Active discussions are underway concerning the Air and Space Museum and higher education facilities for the terminal, itself, a United Airlines reservations center, and an auto racing complex as new facilities on the site.

d. Public/Private Costs

Information not available.

e. Governance

Information not available.

f. Financing Mechanisms

Information not available.

C. Greater Southwest Airport (Fort Worth)

1. History of the Project

The 1,300 acre Greater Southwest Airport served as the Fort Worth municipal airport until it was closed in 1974 to accommodate construction of the new Dallas/Fort Worth Airport. At the time of its closing, the FAA required that the City of Fort Worth pay back all federal funds previously awarded to the facility. After closure, the facility was heavily vandalized and used as a garbage dump. Four years later, the City decided to sell the site as quickly as possible to a private developer because of its vandalized state and to get whatever proceeds they could from the sale in order to pay back the FAA.

In 1980, the City of Fort Worth awarded a long-term purchase option on the site for $14.8 million to Centre Development Company. Construction commenced in 1981. Center Development Company initially invested an additional $60 million to clear and landscape the site and to provide roads, utilities, and other needed improvements. To date, approximately 700 acres of land have been put back on the tax rolls. Over 1,400 housing units have been completed as well as distribution facilities for companies such as American Airlines and Mercedes Benz.

The site's excellent location between Dallas and Fort Worth, near the Dallas/Fort Worth Airport, which offers convenient access to major highways and to rail facilities, has contributed to its marketing success.

2. Development Plans

a. Adopted Plans

When the facility was closed, no redevelopment plan was in place. A concept plan for redevelopment of the site was prepared by Centre Development Company and subsequently approved by the Fort Worth Planning Commission.

3. Lessons Learned for MSP Re-Use Study

a. Planning Process

Since there was no plan in place when the facility closed, it was allowed to deteriorate and become a City liability rather than an asset. The deterioration caused image problems which had to be corrected through massive clearance of the property and through a concerted marketing campaign that included personal outreach and well-conceived promotional materials. Because of the strong competition and rivalry between Dallas and Fort Worth, the Dallas developer hired staff and consultants from the Fort Worth area to achieve a sense of mutual cooperation throughout the planning and development process.

b. Matrix of Options Considered

The project was conceived early on as a high-quality, mixed-use development. Because of the vandalized condition of the facility and its distance from residential neighborhoods, however, all uses were considered as possible. The final concept calls

for 90 percent of the 1,300 acre parcel to be developed with light industrial and office uses and the remaining 10 percent to be used for housing. Amenities have not been given sufficient emphasis; to date, there is very little public open space and parks.

c. Timing/Status

The long-term purchase option was signed in 1980 and will be fully realized by 1998.

d. Public/Private Costs

Public costs for this development have been minimal. The developer paid all clearance, infrastructure, and building construction costs. In addition to an up front payment of $1.5 million by Centre Development Company to the City of Fort Worth for the land, the development company pays the City $1.4 million per year for a total purchase price of $57 million including interest. The development company saves taxes and carrying costs on the unacquired land.

e. Governance

In 1998, all of the property will be owned by the development company.

f. Financing Mechanisms

Centre Development Company initially had a publicly traded corporation as a partner in development of the property. The financial partner pressured Centre Development to show early profits through quick deals and lowering the quality standards originally conceived for the park. Recently, Centre Development was able to buy out its financial partner and to take complete control of the project's schedule and standards.

D. Hartsfield Atlanta International Airport

1. History of the Project

Hartsfield Atlanta International Airport is the latest in a series of airports that have served Atlanta in the same location since 1925. The current Hartsfield Airport, which was completed September 21, 1980, is situated on 3,750 acres of land located in Fulton and Clayton Counties. The airport is operated by the City of Atlanta, Department of Aviation.

The Central Passenger Terminal Complex (CPTC) (2.2 million square feet) currently includes two landside terminal buildings, four airside concourses, and an international concourse attached to the landside terminal buildings with a capacity of up to 150 aircraft parking positions, public parking for 19,400 automobiles, the Automated Guided Transit System (AGTS) for moving people between the Central Terminal Support area concourses and the landside terminal buildings, and auxiliary support buildings and facilities. The CTSA facilities are located in an 118 acre area east of both the CPTC and the air traffic control tower. The CTSA facilities serve air cargo, in-flight catering, commissary, warehousing, and other activities that support passenger terminal operations.

The airport has four parallel east-west runways interconnected by a system of taxiways. Each runway is equipped with high-intensity lighting and have instrument landing systems to permit all weather operation. The runways are 9,000, 9,000, 10,000 and 11,889 feet long and 150 feet wide. The configuration of the runways permits simultaneous takeoffs and landings. All runway approaches meet or exceed the clearance criteria of the FAA. The runways are constructed on a firm foundation of compacted base and are of sufficient strength to permit the operation of the largest existing commercial aircraft.

2. Before Situation

a. Operations

The airport is operated by the Department of Aviation, a department of the City of Atlanta.

b. Total air operations in 1990 were 790,000 broken down as follows:

(1)	Scheduled Carriers/Commuters	96%
(2)	General Aviation/Other	3
(3)	Cargo	1
	Total	100%

c. Passenger carriers operating were (percent of passenger emplacements)

(1)	Delta	81.0%
(2)	Atlanta southeast (Delta Commuter)	4.5
(3)	American	2.4
(4)	All Others	12.1
	Total	100%

d. The existing terminal has the capacity to handle 55 million passengers annually. In 1990, over 48 million passengers passed through Hartsfield Airport, 96 percent were on domestic flights. An average of 2,166 flights arrive or depart Hartsfield Airport each day.

In 1990, nearly 610,500 metric tons of freight/express mail passed through the Hartsfield Atlanta Airport; 84 percent of the air cargo is of domestic origin.

3. Development Plans

a. Adopted Plans

The construction of Concourse E (fifth concourse) which includes approximately 1.2 million square feet of total space on three levels, is scheduled to begin in late fall of 1991, with completion scheduled for spring of 1994. The total cost of Concourse E is estimated at nearly $230 million. When completed, Concourse E will become the new international concourse. The current international concourse will be leased to domestic carriers.

The City plans to develop a new 6,000 foot commuter runway along the southern boundary of the airport. The City is presently in the process of preparing an environmental assessment of the project. The environmental assessment will form the basis for an Environmental Impact Statement (EIS) to be prepared by the FAA. The City estimates the cost of the commuter runway to be $143 million.

b. Public/Private Costs

All of the costs are borne by the Department of Aviation.

c. Governance

Direct supervision of airport operations is exercised by the Department of Aviation. The management of the airport is under the Commissioner of Aviation, who is appointed for a four-year term by the Mayor. The Department of Aviation is responsible for (i) managing, operating and developing the Airport and any other airfields which the City may control, (ii) negotiating leases, agreements and contracts, (iii) computing and supervising the collection of revenues generated by the airport, and (iv) coordinating aviation activities under the FAA.

The Department of Finance, Bureau of Financial Analysis and Auditing, is responsible for overseeing the issuance of revenue bonds for the Airport and preparation of long-term financial feasibility studies for airport development. Airport police and fire protection is provided by the City through the Department of Police Services and the Department of Fire Services. The City Council Transportation Committee, consisting of seven City Council members, makes policy and legislative recommendations to the full City Council regarding airport operations. The FAA has regulatory authority over equipment, air traffic control and operating standards at the airport.

As of August 31, 1990, approximately 200 persons were employed by the Department of Aviation; approximately 116 persons were employed by the Department of Police Services; approximately 143 persons were employed by Department of Fire Services at the airport.

d. Financing Mechanisms

The costs of construction of Concourse E and related improvements (the commuter runway is not included) will be financed with series 1990 Bonds, together with the series 1977 Bonds, the series 1979 Bonds, the series 1982 Bonds, the series 1983 Bonds and any additional bonds issued on a priority therewith under the bond ordinance, and are limited obligations secured by a pledge of a lien upon "net airport revenues." "Net airport revenues" include all revenues generated from airport operations, after payment of reasonable and necessary operation, maintenance and repair cost (excluding depreciation), determined on a cash basis.

E. Norfolk 2000, Virginia

1. History of the Project and Plans

The City of Norfolk and the Norfolk Redevelopment and Housing Authority have been pursuing an aggressive program of redevelopment in Norfolk since the 1950's. Although a major focus of this effort has been the Downtown, other areas include large amounts of City or Authority owned land throughout the City.

The basic strategy continues to be coordinating public investments in infrastructure, and amenity with private development. The Downtown has been the most challenging part of the program. At the end of World War II, Downtown Norfolk's physical condition was deplorable and it had a terrible national image. Its location, because of the configuration of tidewater inlets and bays, was never well connected to its region. It has taken 40 years of coordinated planning effort and civic leadership to create the infrastructure needed for Downtown to function as the center of the region. It has taken that same time to assemble and clear land in order to rebuild the Downtown.

The Downtown 2000 Plan, the fifth and most recent chapter in this history, was begun in 1989. It built on previous plans, but is more comprehensive in scope. The plan was completed in 1990. Since that time a number of significant objectives have been achieved:

a. The development of a 17 acre urban renewal site in the center of Downtown as a retail complex is underway with the plan serving as a basis for creative negotiation with the developer.

b. The completion of the waterfront in a combination of private and public developments is in active development.

c. The successful financing of a conference center and hotel as a key element in the development of the office core area.

d. The relocation of the baseball stadium from a suburban location to Downtown's east waterfront.

e. Negotiations which broke a decade long impasse with the State Department of Transportation on the location and design of a Downtown bypass.

f. Support for a series of small scale residential developments at the edge of Downtown.

g. Consensus by a number of city agencies on standards for improving the quality of pedestrian environment in the design (in some cases, the redesign) of Downtown streets and boulevards.

The planning process has included the following publicly owned properties not located in Downtown:

a. The present baseball stadium site, vacant adjacent land, and a 120 acre golf course, which is being developed as a corporate office complex with an improved golf course as its focus. This complex is immediately adjacent to the city owned airport.

b. NRHA owned property in the Oceanview neighborhoods, including a former amusement park, all being redeveloped as residential development to stabilize these waterfront neighborhoods.

c. The development of a major medical center.

d. The redevelopment of former public housing sites.

2. Lessons for MSP

a. Planning Process

The key to this success and to the ongoing implementation of the plan was the broad based consensus achieved for the vision and the images of the plan.

The nine month process of the plan itself actively involved a wide range of business leaders, city departments, politicians, and citizens. The committee structure which supervised the plan has continued to guide the implementation of the vision. There is a technical advisory committee which includes the department heads of the various agencies, and the Mayor's Downtown Development Committee which includes business leaders, community representatives, and political leaders. The first deals with technical matters of the plan and the latter guides public policy.

Two organizations were critical: The Downtown Norfolk Council has in its membership community organizations and Downtown merchants. The Greater Norfolk Council includes some of the same organizations but also includes the heads of banks and corporations. Both were represented on the Mayor's Committee, but the full organizations were involved through meetings and presentations. All of these groups were actively involved in each step of the planning process as it moved from collecting data and perceptions (using a combination of interviews and meetings), analyzing and identifying issues, exploring design alternatives, and selecting preferred strategies.

The focus of the process was a series of analysis and design drawings which enabled all participants to understand key issues and participate in the evolution of design concepts. All members of the consultant team (economists, traffic planner, urban designers, and planners) participated in preparing these materials.

The products of this process were published both as a full color illustrated book and a poster. These were conceived as public relations documents and they have served as a framework within which decisions have been made on a wide range of issues. The same documents continue to be used as the basis for complex inter-agency negotiations and financing strategies.

b. Options Considered

There were two categories of options:

(1) Street and Highway Network

The design of local streets, changes to the grid system, the design and location of a series of boulevards, and the completion of the expressway system--options for each were developed and tested in terms of their impact on existing patterns of development and their capacity to support future development.

(2) Development Programs for a Number of Key Sites

Options covered a wide range of types of use in response to the interests of the wide range of participants in the process. For example, one site was illustrated as a single family residential neighborhood, a one million sq. ft. retail complex, a corporate office center, and a high density mixed use zone of offices and housing. Each of these were tested with alternative road and boulevard configurations.

Both sets of options were tested together, in order to evaluate the impact of one on the other. The selected options were based on the amount of developer interest in a given direction, the amount of community support for it, and its role in fulfilling the emerging vision for Downtown. In general, the plan endorsed a wide range of small scale and large scale efforts and provides a framework to encourage them. In some cases the Plan did not identify a preferred option for a given site but indicated some options and development criteria.

c. Timing/Status

As described in A above, the plan was completed in March 1990. It continues to be modified as new developments are considered. As of summer 1991, three development projects have been completed, five are under construction, seven are in active development, and five public works projects are in active development.

Within the next year, the plan documents will be revised to reflect these developments.

d. Public/Private Costs

All of these developments are on publicly owned land. In some cases, such as the new stadium or the Maritime Museum, the land will remain in public ownership. For private development, the land is sold to the developer at a price based on the project's pro forma. The stadium will be leased to the baseball team for a guaranteed annual amount and the City will build the stadium. In most cases, however, the City or the NRHA provides that land at a reasonable cost, provides streets and public space improvements, and provides parking either in garages or surface parking.

In addition, there are tax abatements and in some cases guarantees for some of the financing.

e. Governance

The committees described above have led the planning process. Decisions are made and presented to both City Council and the NRHA Board. Approvals are obtained by the relevant local, state, or federal agencies. Usually, there is one agency responsible for leading an individual project through these processes.

It has been essential that members of the governing bodies have participated in the planning process. Therefore, all proposals already have consensus by the time they reach the Council or Board.

F. Princeton Forestal Village

1. History of the Project

Princeton University purchased an 850 acre tract of land located adjacent to the town of Princeton, New Jersey, from the Rockefeller Institute of Medical Research in 1951. By 1973, with additional land purchases, the University owned a 1,750 acre site, one of the largest undeveloped tracts of land between New York and Philadelphia. At that time, the University hired a team of consultants, including Hammer Siler George Associates, to prepare a development plan for the site.

The resultant development plan emphasized the three primary goals of the University:

a. Preservation of the rural character of the area.

b. Prevention of growth pressures from impacting the University campus and nearby areas.

c. Maximization of the University's profit.

The plan called for the development of a high quality mixed-use project composed of educational, residential, retail, office, hotel, and research and development uses with an abundance of open space. An east coast development firm was employed to manage the development of the site.

The site's excellent location served by both major highways and the Amtrak main line, the University's high profile image, and an effective marketing plan have all contributed to the project's success.

2. Development Plans

a. Adopted Plan

A development plan was prepared by the consultant team and subsequently adopted by the University. The plan called for over 600 residential units (townhouses, duplexes, and garden apartments), 6 million square feet of office and research space, a 600-room hotel and conference center, 225,000 square feet of retail space, and approximately 500 acres of open space.

b. Plans in Progress

There are no plans in progress.

3. Lessons Learned For MSP Re-Use Study

a. Planning Process

Because such a large mixed-use project was unprecedented in the area and the university was inexperienced in the development process, the formulation of a master plan for the project was thought to be essential as was the hiring of an experienced

development firm. While the Board of Regents had the final say on all major decisions and deals, the development company was afforded the authority to initially negotiate deals and secure financing.

Overall, the goals of the University were fulfilled with a high quality aesthetic development that complies with the master plan. The project is a financial success, the best performing asset of the University.

b. Matrix of Options Considered

All uses appropriate for a suburban, large mixed-use development were considered. The conference center and retail have been particularly noteworthy for contributing to the quality image of the project.

c. Timing/Status

The project is approaching build-out. Only 150 acres remain to be developed.

d. Public/Private Costs

The site development costs for the project have been borne by the University which built roads and provided all utilities in order to attract developers and tenants. Marketing sites with infrastructure and approvals in place accelerated the site absorption process.

e. Governance

University officials were determined to keep control of the land. To date, almost all land transactions have been ground leases to private developers or large corporations with the University retaining ownership of the land. While the project is managed by an outside development firm, the University still has the final say on all deals. The employment of an experienced developer, however, allowed the project to achieve a fast start and to maintain its momentum.

f. Financing Mechanism

The project was totally financed by the University. The general fund paid for all costs until development profits were realized.

A. Minneapolis St. Paul Airport (MSP)

1. History

The Minneapolis St. Paul Airport (MSP), Wold Chamberlain Field, is situated on a plateau of 3,100 acres just above the confluence of the Minnesota and Mississippi Rivers. Wold Chamberlain Field flying activities date back to the formation of the Aero Club of Minneapolis in 1920. Military activity has been present since 1921. In 1926, airmail service was established between Chicago and the Twin Cities. Northwest Airways received the contract and occupied the hanger built for the Aero Club. In 1928, the airport was taken over by the Minneapolis Park Board. The facility then comprised 325 acres and 8 hangars. In 1929, Northwest Airways began passenger service to Chicago. In 1943, Wold Chamberlain became a regional air carrier airport. The Legislature created the Metropolitan Airports Commission (MAC) to eliminate costly rivalry between Minneapolis and St. Paul. In 1948, the facility was designated Minneapolis-St. Paul International Airport - Wold Chamberlain Field.

The Lindbergh Terminal was built in 1961 and has been expanded and modernized several times since. The Hubert H. Humphrey Terminal handles international passengers.

The Air National Guard and Air Force Reserves maintain active operations at the airport. There is also a small naval air facility on the airport grounds.

Northwest Airlines (NWA), the hub airline at MSP, has a major maintenance facility on site. In addition, there are air cargo and overnight mail facilities on the property and limited general aviation facilities.

2. Current Situation

a. Operations

The airport is operated by Metropolitan Airports Commission (MAC), a regional commission created by the Minnesota Legislature. Capital improvements and land use decisions on airport property are controlled by MAC. Sewer and water facilities are provided by local and regional authorities.

b. Total scheduled passenger enplanements in 1990 were 9,207,750 with Northwest Airlines (NWA) handling 75% of the traffic.

c. The existing terminal has 67 gates with a 1991 average of 1130 operations per day (air carrier 650 or 58%; regional/commuter 250 or 22%; general aviation 160 or 14%; military 10 or 1%; and cargo 60 or 5%).

3. Recent Planning Efforts

The Metropolitan Council conducted studies in 1987 and 1988 of the future adequacy of the Minneapolis St. Paul International Airport (MSP), concluding that by the year 2008 the capacity of the airport to handle the growing demands of air travel to support the region's economy will be exceeded.

In 1989 the Minnesota Legislature established the 1989 Metropolitan Airport Planning Act, which mandated a planning process and assigned roles to the Metropolitan Council and the Metropolitan Airports Commission (MAC).

A "dual-track" comprehensive planning process was established which will be concluded with recommendations to the Legislature no later than 1996. Track A of the process, conducted primarily by MAC, is focusing on possible ways to improve the capacity of the existing airport to a horizon of the year 2020.

Track B, conducted primarily by the Metropolitan Council, is focusing on finding search areas for a new airport. After a search area has been selected, the MAC will select a site within it. Track B also includes a study element to determine the re-use of MSP if the Legislature elects in 1996 to build a new international airport at a new location.

The MSP Re-Use Study will be conducted by the Metropolitan Council in two phases. Phase I (to be completed by January 1, 1992) is a preliminary assessment of the issues and the preparation of a Study Design for Phase II, which will be the detailed study of the MSP re-use. Phase II is to be completed by January 1, 1993.

4. The MSP Site and Environs

a. Transportation

The site is well served by the regional expressway system. Interstate I-494, Highway 77, Highway 5, and Crosstown Highway form a ring around the MSP property. This network provides good access to both metropolitan centers and the surrounding region.

b. Land Use

Within the expressway ring are the airport itself, the Air Force, Air National Guard, and Naval Air facilities, the Fort Snelling National Cemetery, the historic Fort Snelling Officers' Row Housing and golf course, two small residential enclaves, Rich Acres Golf Course (leased from MAC to the town of Richfield), General Services Administration (GSA) facilities, and private air cargo carriers.

Outside the expressway ring are the VA Hospital Complex, the historic fort interpretive center of Fort Snelling, Fort Snelling State Park, the National Wildlife Refuge, and the commercial strip of I-494, including the Mall of America in Bloomington now under construction.

B. Socio-Economic Profile

This section highlights the demographics and markets that impact the re-use of the Minneapolis St. Paul Airport. First, population and employment trends for the metropolitan area and airport vicinity are delineated. Then, the current status of the regional markets for office, industrial, retail, and housing are analyzed. Lastly, non-aviation uses that could be marketable at such a large redevelopment site and that would create an innovative and strong image are described.

1. Area Economy and Demographics

Between 1980 and 1990, the Minneapolis St. Paul economy grew by approximately 26 percent or 284,500 jobs to a total of almost 1.4 million jobs by 1990. All industry sectors experienced growth during the decade. The fastest growing sector was services (a 5.4 percent annual growth rate) followed by finance, insurance, and real estate (a 3.4 percent annual growth rate). The largest number of job gains were in the services sector (132,500 jobs) and in retail and wholesale trade (66,800 jobs). Together, these two sectors comprised 70 percent of the metropolitan job growth during the 1980s. Although manufacturing experienced some growth over the 10-year period, it fell from its first place position int he Twin Cities employment base (23 percent in 1980) to the third rank (19 percent in 1990).

Table 1. Non-Agricultural Employment by Industry, Minneapolis-St. Paul Metropolitan Statistical Area (11-County Area)
1980 November 1990

			1980-1990 Change	
Industry	1980	1990	Number	Percent
Construction	46,000	52,900	6,900	15.0%
Manufacturing	249,200	258,000	8,800	3.5%
T.C.U.	64,800	78,300	13,500	20.8%
Trade	273,400	340,200	66,800	24.4%
F.I.R.E.	70,800	95,100	24,300	34.3%
Services	245,100	377,600	132,500	54.0%
Government	161,200	192,900	31,700	19.7%
Total	1,110,500	1,395,000	284,500	25.6%

Note: T.C.U. includes transportation, communications, and utilities; F.I.R.E. includes finance, insurance, and utilities; and service includes mining employment.

Source: Metropolitan Council and Hammer Siler George Associates.

Health services employment is currently the largest component of the services industry followed by business services. All areas within the service industry expanded from 1980 through 1990, except private education. Similarly, all areas of F.I.R.E. grew from 1980 through 1990 with finance and insurance as the largest sectors.

Durable goods manufacturing employs a larger number of persons than non-durable; however, employment in durable goods has been declining, similar to national trends, while non-durable manufacturing employment has actually increased slightly in Minneapolis St. Paul. Finally, retail and wholesale trade have been increasing. Retail trade is a larger component of trade employment, but wholesale trade has been increasing at a slightly faster pace over the past few years.

As Table 2 illustrates, both the Metropolitan Area and Hennepin County (where the Minneapolis St. Paul Airport is currently located) gained population between 1980 and 1990. Hennepin County's 9.7 percent increase, although not matching the 15.3 percent Metropolitan Area increase, is a reversal from the population decline the County experienced during the previous decade. By 1990, Hennepin County accounted for 45 percent of the metropolitan area's population.

Table 2. Population Growth, Minneapolis-St. Paul Metropolitan Area (7 County) and Hennepin County, 1980-1990

			1980-1990 Change	
Area	1980	1990	Number	Percent
Metropolitan Area	1,985,700	2,288,700	303,000	15.3%
Hennepin County	941,400	1,032,400	91,000	9.7%

Source: Metropolitan Council

2. Area Markets

Similar to most areas of the United States, Minneapolis St. Paul real estate markets are substantially over built. The current inventory characteristics and occupancy rate by type of space for the metropolitan area and the airport submarket (the southwest submarket) follow.

3. Office Market

The Minneapolis St. Paul office market is at the end of a construction boom that more than doubled the total inventory during the 1980s to just over 49 million square feet by 1990. A slow down in absorption attributable to a number of factors, including reduced growth in the service industry and the downsizing of many local corporations, has kept the vacancy rate around 20 percent over the last few years. Although very little new space is planned, the recent annual net absorption of 1.3 million square feet translates into an 8 to 10 years supply of vacant space.

Table 3. Office Inventory, Minneapolis-St. Paul Metropolitan Area (7 County) and Southwest Sector, 1990			
	1990		
	Square Footage		Vacancy
Area	Total	Vacant	Rate
Metropolitan Area	48,920,300	9,546,000	19.5%
Southwest Sector	12,304,200	2,629,500	21.4%
Source: Towle Real Estate Company and Hammer Siler George Associates			

The southwest office submarket where the airport is located is one of the most over built in the metropolitan area and has experienced vacancy rates above 20 percent for most of the 1980s. Overall, the submarket comprises approximately 25 percent of the region's office inventory and 27 percent of its vacant space. The prognosis for the area is not optimistic for the near term with a number of major tenants planning to relocate out of the submarket or to downsize. The recent net absorption pace of 270,700 square feet annually could result in an 8 to 10 year overhang of available space.

4. Office/Showroom Market

Office/showroom space is defined by local realtors as one-story, multi-tenant space with 30 percent or more finished office space and clear ceiling heights of 12 to 16 feet. It is attractive to research and development and other types of tenants because of its flexibility (office, R&D, production, and distribution activities can all be accommodated), its cost (much lower than pure office or R&D space) and its visibility and image (most of this space is located near freeways and has been built within the last few years).

As shown in Table 4, the Metropolitan Area currently contains a total of 14.4 million square feet of office/showroom space, of which 2.4 million square feet are vacant. The office/showroom vacancy rate had declined for the precious three years but increased over the last year by a little less than one percent to the current rate of 16.7 percent. Decreasing absorption pace has contributed to this vacancy rate increase as only 512,300 square feet of office/showroom space was absorbed in 1990 compared to 1.3 million square feet in 1989 and 1.0 million square feet in 1988.

Table 4. Office/Showroom Inventory, Minneapolis St. Paul Metropolitan Area and Southwest Sector (7 County), 1990			
	1990		
	Square Footage		Vacancy
Area	Total	Vacant	Rate
Metropolitan Area	14,405,000	2,410,100	16.7%
Southwest	5,905,200	883,800	15.0%

Source: Towle Real Estate Company and Hammer Siler George Associates

The southwest submarket is the largest submarket in the region for this type of space and accounts for 41 percent of the metropolitan area inventory. The submarket's vacancy rate is slightly lower than the metropolitan area's as a whole, but the submarket recent absorption pace of only 115,600 square feet is only 25 percent of what it was two years ago. For the most part, the leasing activity in the submarket has been tenants lured by lower rents and newer space relocating within the market area. The current absorption pace also translates into a 6 to 8 year overhang.

5. Warehouse Market

Most of the warehouse space in the metropolitan area is located in the more urbanized Hennepin County and Southwest. As shown in Table 5, there was a total of 19.3 million square feet of warehouse space in the two counties in 1990, of which 3.4 million square feet or 17.6 percent was vacant. Vacancy rates increased considerably in both counties over the last year as the built-to-suit market attracted expanding companies out of multi-tenant buildings, particularly bulk warehouse buildings.

Table 5. Warehouse Inventory, Hennepin County and Southwest, 1990

	1990		
	Square Footage		Vacancy
County	Total	Vacant	Rate
Hennepin County	14,729,500	2,240,200	15.2%
Southwest	4,546,500	1,150,700	25.3%
Total	19,276,000	3,390,900	17.6%

Source: Towle Real Estate Company and Hammer Siler George Associates

Hennepin County, where the existing airport is located, contains most of the region's warehouse inventory and two-thirds of its vacant space. Overall, Hennepin's warehouse market appears to be much healthier than that of Ramsey County which has a much higher vacancy rate and a much smaller supply.

Local realtors predict the metropolitan area warehouse construction will also continue to decline over the short term due to the existing oversupply of space and the scarcity of financing. The built-to-suit market will become more dominant, however, due to increased demand and the availability of money.

6. Retail Market

Unlike the other commercial markets in the Metropolitan Area, the retail market continues to be strong with almost 2.5 million square feet of space completed in 1990 and another four million square feet under construction. This high level of construction brought the total metropolitan area retail inventory to 34.3 million square feet in 1990 and the vacancy rate to 8.9 percent. Area absorption increased by 13 percent over the 1990 rate to 1.8 million square feet. The area's retail inventory is composed of four

types of centers--neighborhood (35.7 percent of the total inventory), community (27.5 percent), regional (33.1 percent), and specialty (3.7 percent). The metropolitan vacancy rate is highest at specialty centers (20.1 percent) and lowest at regional centers (4.3 percent).

Table 6. Retail Inventory, Minneapolis-St. Paul Metropolitan Area (7 County) and Southwest Sector, 1990

	1990		
	Square Footage		Vacancy
Area	Total	Vacant	Rate
Metropolitan Area	34,275,900	3,043,200	8.9%
Southwest Sector	5,497,900	266,500	4.8%

Source: Towle Real Estate Company and Hammer Siler George Associates

The southwest sector contains almost 6 million square feet of retail space or 16 percent of the metropolitan inventory. It exhibits the lowest vacancy rate (4.8 percent) of all of the metropolitan area retail submarkets. The upcoming opening of the 2.6 million square foot Mall of America in the southwest submarket will greatly impact sales and occupancy rates at nearby centers. Hopefully, over the long term, this new center will attract tourist dollars to the metropolitan area.

7. Apartment Market

The apartment market also appears to be stronger than the majority of the commercial markets in the metropolitan area. Because of a decrease in new construction, the are vacancy rate declined to a low of 5.7 percent in late 1990 from a high of 7.4 percent in 1989. The area currently contains a total of 127,400 units.

Table 7. Apartment Inventory, Minneapolis St. Paul Metropolitan Area and Southwest Sector (7 County), 1990

	1990		
	Units		Vacancy
Area	Total	Vacant	Rate
Metropolitan Area	127,359	7,259	5.7%
Southwest Sector	18,674	952	5.1%

Source: Towle Real Estate Company and Hammer Siler George Associates

The southwest submarket has one of the lowest apartment vacancy rates (5.1 percent) in the metropolitan area and 15 percent of the area inventory. It also has one of the highest average rents ($556.89 versus $509.47 for the metropolitan area). Because no new construction is planned, the apartment market may tighten in the southwest sector, but financing may still be difficult to obtain over the short term.

C. A Physical Planning Framework

The team has prepared a series of graphic representations of the physical planning contexts within which the future of the MSP site can be discussed. They include three scales of observation--the region, the sub-region, and the site in its context.

a. Regional Patterns

The relationship of the site to the two metropolitan centers, current areas of development and growth, the future airport site, and regional transportation networks provide a context for the testing of potential re-use scenarios.

b. Sub-regional Patterns

The relationship of the site to the two downtowns, and adjacent communities will help define its future role in terms of the various urban systems:

(1) Natural Features: River Valleys, bluffs, lakes, streambeds, and wetlands have provided an armature on which development patterns have been structured. How can these be related to the flat, somewhat separated MSP site?

(2) Railroads and Traditional Industries: The role of the extensive rail system on the development of traditional industries is clear. The MSP site is removed from this network. What is the future generator of economic development?

(3) Settlement Patterns: Traditional settlement patterns flank the site on two sides, with the other two sides much less developed and more removed from it. How will future development affect these established areas?

(4) Commercial Development: Traditional districts and strips serve the region, with the world's largest shopping center being developed adjacent to the site. What is the commercial potential of the site in this constellation of commercial development?

(5) Expressway and Arterial Systems: An irregular grid serves the metropolitan area, with the MSP site surrounded by expressways. What is the future capacity of this network for the site?

(6) The Local Street Grid: The networks stop short of the site, with one small exception. How can the site be served with network of streets and development patterns?

c. The Site in its Immediate Context

The series of graphics listed above, describe the larger scale contexts within which the site's future will evolve.

The site is an island containing a range of different land uses within an expressway ring that separates it from adjacent areas. Therefore, it is instructive to think of the site relative to uses inside the expressways and uses outside the expressways.

(1) Uses Within the Ring of Expressways

Uses adjacent to the airport property within the ring of roads will have the most impact on the development of the site and be the most affected by it. Decisions need to be made about acquiring these properties, relocating the uses, working with users to jointly develop the area, or accept them as fixed elements. They include:

(a) Fort Snelling National Cemetery
(b) US Military Reservation
(c) Historic Officer Housing
(d) Golf Course and Recreation area
(e) Schools
(f) Residential Uses
(g) Parts of Richfield
(h) Commercial Development
(i) Wetlands and Conservation Areas
(j) Airforce, National Guard, Naval Air Station
(k) Industrial Uses
(l) The Airport Property Itself

(2) Land Uses Outside the Ring of Expressways

Although separated from the site by the expressways, the adjacent areas will be affected by traffic generated by the future uses of the site, by environmental impacts, and by the economic effects of the development on land values and uses. Adjacent uses include:

(a) The VA Hospital Complex
(b) Snelling Lake and Recreation Areas
(c) Wild Life Refuge
(d) Residential Areas in Minneapolis and Richfield
(e) Commercial and Office Uses
(f) Mall of America
(g) Bloomington Mixed Use District

8. Airport Area Candidate Development

A redevelopment site such as the Minneapolis St. Paul Airport because of its enormous size and convenient location, proximate to two major cities and to major highways, can create a market demand that is not entirely dependent upon local market conditions. A number of these uses are being considered at Stapleton in Denver and might be appropriate for the Minneapolis St. Paul situation. These uses include:

a. Employment Center

A large, well-located site such as the airport site represents a tremendous opportunity to diversify the region's economic base and provide a wide range of jobs.

Publicly sponsored initiatives such as museums, research facilities, and cultural centers can help jump start development and stimulate market demand. Ultimately, however, the

"payoff" in long-term benefits will be in business establishments associated with research, corporate operations, distribution, assembly, repair, and others than share the requirements of freeway exposure, access, and proximity to metropolitan and regional markets. It is these functions that will create value and general revenue potential over time and lure a wide range of quality jobs. Any publicly sponsored economic development initiative must, therefore, be planned and linked closely with this "payoff" in mind.

(1) Business park/corporate reserve that can accommodate promising uses, such as telecommunications firms and back-office operations of major corporations.

(2) Aviation-related spin-off businesses, such as reservation centers, parts repair shops, and other uses that may or may not require an operating runway.

(3) Supporting residential development that will help provide a balanced range of housing close to employment centers in attractive mixed-use developments.

b. Technology and Education

By all indications, "brainpower" will be a driving force of 21st century economies throughout the United States. Research and an abundant, educated labor force will be critical to progressive local and regional economies as we move into the next century. Initiatives to capitalize on this market could include:

(1) Build the strongest possible research base by expanding existing educational, scientific, and health care institutions.

(2) Create an education and training center that will serve the community and targeted industries.

(3) Set aside a significant amount of land as a "corporate reserve" to locate large, special developments, such as regional headquarters of major employers, that the region has been unable to accommodate in the past.

c. Tourism and Cultural Center

The Minneapolis St. Paul metropolitan area currently serves as a portal for millions of tourist passing through on their way elsewhere in the state and region. The increase the area's attractiveness as a tourist destination and to help maintain the considerable tourist resources, an exciting tourism and cultural center could be developed at the airport site. This center could have several important facets:

(1) One or more nationally prominent museums to anchor the complex.

(2) A multi-cultural center.

(3) Support facilities, such as specialty retail, restaurants, high-quality lodging, and a link from the airport to downtown Minneapolis and St. Paul.

d. Parks and Open Space

The large site provides tremendous opportunities to provide parks, open spaces, and trails that can help transform the image of the land and enhance its economic value. Both passive and active uses could include a municipal golf course, a large urban park, and neighborhood and community parks linked by an extensive trail system. These parks could help meet needs for soccer, baseball, and other types of active sports.

C. Planning and Development Considerations and Issues

The focus of the workshops will be to explore possible re-use scenarios for the airport property. Two generic categories will be explored--one that projects non-aviation uses and one that explores aviation uses.

Each potential scenario will generate a range of issues. The following matrices were prepared as a framework for workshop discussions.

MSP Planning Matrix: Aviation Uses							
	Option A	**Option B**	**Option C**	**Option D**	**Option E**	**Option F**	**Option G**
Physical Framework:							
Natural Features Topography Geo-technical Wetlands Lakes and streams Woodlands Hazardous mats Views Wildlife							
Utilities Water Sewer Gas Electrical Telecommunication							
Transportation Expressways Local streets Transit							
Historic Resources							
Existing Land Uses Residential Retail Office Industrial Distribution Aviation Military Governmental Public park Recreation Cemetery Wildlife refuge Conservation							

MSP Planning Matrix: Aviation Uses							
	Option A	Option B	Option C	Option D	Option E	Option F	Option G
Future Land Use Residential Retail Office Industrial Distribution Aviation Military Governmental Public park Recreation Cemetery Wildlife refuge Conservation							
Economic Framework:							
Property Values							
Regional Market Office Retail Industrial Residential Distribution Institution Recreation Hospitality							
Employment							
Global Market Cargo Research Industrial Specialized tech							
Public Service Impact							
Governance Issues:							
Metropolitan							
Local Municipal Minneapolis Richfield Bloomington Eagan St. Paul							
State							
Federal FAA GSA Air Force Navy National Guard							
Management							
Financing							

MSP Planning Matrix: Non-Aviation Uses							
	Option A	**Option B**	**Option C**	**Option D**	**Option E**	**Option F**	**Option G**
Future Land Use Residential Retail Office Industrial Distribution Aviation Military Governmental Public park Recreation Cemetery Wildlife refuge Conservation							
Economic Framework:							
Property Values							
Regional Market Office Retail Industrial Residential Distribution Institution Recreation Hospitality							
Employment							
Global Market Cargo Research Industrial Specialized tech							
Public Service Impact							
Governance Issues:							
Metropolitan							
Local Municipal Minneapolis Richfield Bloomington Eagan St. Paul							
State							
Federal FAA GSA Air Force Navy National Guard							
Management							
Financing							

DISCUSSION DRAFT

MSP RE-USE THEMES

RE-USE STUDY OF THE
MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT

March 1992

These themes can be used singly or in combination to develop a re-use scenario for MSP 2005-2020.

THEME 1: INTERNATIONAL CORPORATE CENTER

- *Description*

  A concentration of one or more corporate headquarter buildings, complexes or campuses for firms engaged in international business. Uses could include headquarter office, research and development facilities, and manufacturing.

- *Discussion Points and Issues*

  - Existing scale of international activities and relationships between the Twin Cities region and the World, Pacific Rim, North America (Canada and Mexico), European Economic Community, Eastern Europe and former USSR countries.
  - Identify future markets; what types of firms would be candidates.
  - Locational advantages and disadvantages.
  - Impact of Twin Cities region's business climate on domestic or foreign business location (taxes, government spending, regulation).
  - Impact of Twin Cities region's "quality of life" (government services, education, culture, natural environment).
  - Role in maintaining and enhancing the regional "quality of life".
  - Relationship of new airport to MSP site.
  - Design standards and criteria for development/operation.
  - Impact of the changing role of telecommunications on corporate business operations and functioning in the 21st Century.
  - Role of housing and residential scale services.

THEME 2: BIO-MEDICAL AND HEALTH CARE CENTER

- *Description*

  Minnesota has an established bio-medical industry and has hosted several "world med" trade shows. The Twin Cities and Rochester have established Minnesota as a major national and international health care and health care technology center. A bio-medical and health care center theme would provide a new focus to highlight this growing industry. Uses could include headquarter office, research and development facilities, university research and applied applications facilities, and manufacturing.

- *Discussion Points and Issues*

  - Centralization vs. decentralization. What components of the industry or aspects of the industry would it make sense to have part of the center (research, technology transfer, marketing, trade shows, office).

  - Location advantages/disadvantages?

  - What is the bio-medical and health base? What are the national and international trends -- for the industry in general, specific components, technology, costs, information/management, investment -- in relationship to the local base?

  - Who would be the market for center? What is their market?

  - Design standards and criteria for development/operation.

  - Public/private investment: share, mechanism, governance.

  - Role of housing and residential scale services.

THEME 3: MAJOR RESEARCH COMPLEX

- *Description*

  The Twin Cities region has major public and private research and development activities. The University of Minnesota is a nationally recognized research institution. A multi-disciplinary research complex which could include both public (university, state and federal laboratories) and private research facilities could be co-located and share a support infrastructure.

- *Discussion Points and Issues*

  - What is the history of other major research complexes (Research Triangle Park, Natural Resource Recovery Institute in Duluth, Sanford Research Institute).

  - What are the locational advantages and disadvantages of the site -- within the

Twin Cities area, within the Upper Midwest and nation?

- What are the infrastructure needs for a multi-disciplinary research complex?
- What is the market need for a research complex? Would the existing research environment use and/or benefit from a new complex?
- Are there potential funding sources (federal, private, state)?
- Maintain Twin Cities quality of life.
- Design standards and criteria for development/operation.
- Role of housing and residential scale services.

THEME 4: ENTERTAINMENT/MAJOR OUTDOOR-INDOOR RECREATIONAL CENTER

- *Description*

The central location of the site and adjacent natural areas (Mississippi and Minnesota River valleys, Fort Snelling, Minneapolis Parkway System) provide some very strong advantages for the use of the area as a major entertainment and outdoor-indoor recreational center. A wide-range of possibilities exist given the natural site advantages. The possibilities include a Disneyland of the north, a winter garden on a grand scale that would attract winter vacationers, an olympic park with consolidated sports facilities, a multi-media production site for film, video, commercials, recording.

- *Discussion Points and Issues*

  - Northern environment -- too cold for year-round outdoor entertainment events without climate control.
  - What is the market? Is there a niche in the national or international market to be filled?
  - Focus for attracting tourism? Consolidation of facilities? Local support or competition?
  - How best to capitalize on the Mississippi and Minnesota River Valleys, Minneapolis Parkway System, Fort Snelling?
  - Role of housing and residential scale services.

THEME 5: HIGH TECH MANUFACTURING

- *Description*

Minnesota and the Twin Cities are recognized nationally for high technology

companies. The presence of these companies and major research/university facilities present an opportunity to expand and diversify the high-tech manufacturing base of the region. A high tech manufacturing center could offer co-location advantages and shared support infrastructure.

- *Discussion Points and Issues*

  - Minnesota business climate -- tax (property, sales, corporate, income), regulation, and government spending.

  - Twin Cities competitive edge -- "quality of life", education, work force, infrastructure.

  - Location advantages/disadvantages?

  - What is the high tech industrial structure today and where are the national and international trends going to take us? What local industries are likely to grow?

  - What type of infrastructure do high tech firms need and how could they be met at the site?

  - Marketing strategy, decision-making/governance process (public or private; combination) and staging of implementation for the site.

  - Design standards and criteria for development/operation.

  - Role of housing and residential scale services.

THEME 6: TRANSPORTATION CENTER

- *Description*

  Given MSP's location within the Twin Cities region and as an intervening opportunity between a new airport in Dakota County and the two downtowns, the re-use of the site should capitalize on the potential to become a multi-modal hub transportation center. The transportation center theme would influence the mix of uses and density of development. Multi-modal hub functions may include transit, light rail transit (LRT), mag-lev rail connections to areas outside the region, remote air passenger terminal and/or parking/transfer, and pedestrian circulation. A central hub for goods movement collection and distribution (letter, small package, freight) could be integrated into the site.

- *Discussion Points and Issues*

  - Relationship to metropolitan highway and transit networks and to the adjacent highway links and uses -- I-494 Corridor, Mall of Americas, Cedar Avenue/62nd Crosstown, Hwy 55 and Hwy 5.

- Metropolitan transportation system future plans and development concepts -- use for economic development and shaping development patterns and investment.

- Experience elsewhere with multi-modal transportation hubs.

- Economic development advantages and opportunities provided by a transportation hub.

- Role of housing and residential scale services.

- Competition of development of a new airport.

THEME 7: AVIATION RE-USE

- *Description*

  The scheduled air passenger service for the Twin Cities region would move to the new airport. The non-commercial aviation activities at MSP would be operated to complement the new airport. In this regard the airport re-use strategy would assume that only one major runway would be maintained and it would serve primarily a range of uses on-site (military, air-related manufacturing, aircraft maintenance, corporate aircraft).

- *Discussion Points and Issues*

  - Impact on new airport (function and financial feasibility) and metropolitan airport system.

  - Compatibility with other development themes and marketability of the non-aviation portions of the site.

  - Management and governance (legal issues) of the site and airport operation.

  - General environmental impact and compatibility with adjacent land uses and development plan.

  - Support services and infrastructure requirements.

METROPOLITAN COUNCIL
Mears Park Centre, 230 East Fifth Street, St. Paul, Minnesota 55101
612 291-6359 TDD 612 291-0904

DATE: July 20, 1992

TO: MSP Re-Use Task Force

FROM: John Kari, Transportation
UDA Architects

SUBJECT: Summary of June 19, 1992 Meeting

INTRODUCTION

The purpose of the June Task Force meeting was to review five **development scenarios** for the MSP site and the analyses of **regional contexts** and **MSP contexts** as a means of developing performance criteria for the potential re-use of the site. Each of the scenarios represented a single "community value" taken to its maximum potential on the site. The **development scenarios** are:

- MAXIMUM ECONOMIC BENEFIT TO THE REGION,
- MAXIMUM PUBLIC OPEN SPACE,
- MAXIMUM PUBLIC PURPOSE,
- MAXIMUM BENEFIT FOR ADJACENT COMMUNITIES, AND
- AVIATION USE

Each scenario was discussed by the Task Force and tested for its impact on the MSP contexts and evaluated in terms of strengths and weaknesses. From this testing process, a series of performance criteria for the re-use will be developed and presented at the July meeting. Task Force members discussed the relative merits of the "community values" expressed by the development scenarios. This information will be used to produce "**hybrid re-use scenarios**" which combine elements of the scenarios to present a balanced set of policies for the site.

REGIONAL CONTEXTS

A series of maps of the Twin Cities Region have been developed. These maps are "regional x-rays" that illustrate historical development patterns, current and projected development patterns, regional road network, and regional patterns of open space. The Task Force used the "x-rays" to develop the initial set of re-use themes (see attachment A). The themes and "x-rays" provided the material for discussions with various interest groups. Focus groups meetings with elements of the business and development community, meetings with various federal, state and regional agencies/institutions, and meetings with communities were conducted in May.

HISTORIC DEVELOPMENT CONTEXT

From studying the historic evolution of the Twin City Region, it is apparent that the presence of Fort Snelling and the MSP Airport have been significant factors influencing the regional development pattern. The development pattern shows are a strong east-west and Minneapolis-southwest orientation. Fort Snelling and MSP could be seen as the "cork-in-the-bottle" that has inhibited development in the southeast. Once the airport use is moved to another location, the site will no longer have this strong effect. What happens to development patterns will depend largely on public policy, the configuration of the new airport area, and the infrastructure serving it. However, the re-uses proposed for the MSP site will also have a significant effect. The site will become more centrally located as development patterns change around it. It will become an even more remarkable asset and opportunity than it is today.

REGIONAL EMPLOYMENT & ECONOMIC ACTIVITY CENTER CONTEXT

Regional land use patterns reveal a series of nearly continuous, linear zones of economic and employment uses. The MSP site is part of one of the major "loops" of linear economic development. This economic loop encompasses an area from Downtown Minneapolis along the Hiawatha Corridor to MSP then along I-494 through Bloomington, Eden Prairie, Minnetonka and Plymouth and then back to Downtown Minneapolis along I-394 through Golden Valley and St. Louis Park.

TRANSPORTATION CONTEXT

The transportation network is usually discussed in terms of the expressway network. As the urban portion of the region expands, the transportation network also expands. The MSP site has and will continue to have a central position in that network. It is extremely well served by that network, but is constrained by the current heavy volumes of regional traffic that run past it. The major arterials, secondary roads, and parkways create another network that is also a significant and should be considered in the re-use scenarios.

ENVIRONMENTAL CONTEXT

The geographic form of the Minnesotan and Mississippi river valleys gives the region its basic form. This physical form makes the site a very prominent center of the region. The relationship between the MSP site and the Minnesota River Valley together with the historic resource of Fort Snelling provide a significant environmental context for re-use options. The Twin Cities have a tradition of strongly-designed and continuous networks of open space related to natural features. The MSP site and Fort Snelling have blocked the relationship between these systems and the River Valley.

MSP CONTEXTS

The development scenarios need to tested also in the context of the MSP environs. A series of "x-ray" examinations of the MSP context provides significant influences for re-use options.

LAND USE CONTEXT

The existing land use patterns in the adjacent communities include a mix of residential, commercial, institutional, and employment uses. Commercial and employment uses tend to follow the transportation corridors. The largest consumer of land is residential. The residential neighborhoods are relatively stable and well served by institutions and amenities. As the neighborhoods continue to age, they offer many opportunities for affordable and life-cycle housing. The removal of the airport will be a benefit in terms of noise and traffic. New uses could serve to support their continuing stability. South Minneapolis is lacking some convenience retail, Richfield is interested in increasing the commercial and office uses along its eastern edges, and Bloomington is concerned about the impact of the MSP site on traffic and the new Mall of America.

TRANSPORTATION NETWORK CONTEXT

Traffic projections indicate that with the removal of the airport, the expressway system around the around the site will have an unused capacity of approximately 131,000 vehicle trips per day. Translated into land use, that represents 2,000 acres or 18.0 million square feet of typical industrial park uses; 5,000 acres or 13,000 units of single family housing; 2800 acres or 17,000 units of planned-unit development residential uses; 900 acres or 13.0 million square feet of corporate office park development; 2000 acres or 12.0 million square feet of research center development; or 163,000 acres of State Park.

There principle movements are along the I-494 and Highway 77/Cedar Avenue corridors. The 62nd Crosstown volumes decrease dramatically east of Highway 77/Cedar Avenue. There is less traffic volume on Highway 5, but it is a critical and historic corridor between St. Paul and Bloomington and the southwest. The Hiawatha-Mendota Bridge corridor (northwest-southeast) is also a significant one. Preliminary analysis would indicate that the turning movements at the Mendota Bridge intersections are less critical than the two through movements (northeast-southwest and northwest-southeast), if the airport is removed.

OPEN SPACE SYSTEM CONTEXT

The networks of public open space in the region do not extend through the MSP site. The Historic Fort Snelling, its chapel, and visitor center are isolated by the expressway system. Access to the Minnesota river valley is currently difficult. The new Minnesota River Valley nature center south of I-494 is cut off from other parts of the area. The major open space network to the north, the Minneapolis parkway system, offers a potential for open space connections.

THE DEVELOPMENT SCENARIOS

At the March Task Force meeting, the consultants presented a planning process used in Holland to develop a plan for the nation for the year 2050. They used a "scenario" technique in which four sets of alternative community values were expressed and organized around the four major political groupings: 1. pro-economic development, 2. pro-traditional development patterns, especially agriculture, 3. pro-social services and 4. controlled development. The benefit of this scenario method is to be able to visualize the implications of policies in three dimensional terms as a means of furthering understanding of those policies. It also emphasizes the fact that long range plan drawings cannot be firm plans, but simply a method of exploring important issues.

We have explored various types of development scenarios for the MSP site focusing on initially on themes. These were developed in the fall of 1991 in a series of workshops and task force meetings. The first set were based on potential uses such as bio-tech research, entertainment complex, etc (see Attachment A). The second set of themes were based on "urban forms", such as "island", "corridor", "nodes" and "continuous growth". Both of these were sets were used as a basis for more in-depth and focused discussions in April-May 1992 (see Attachment B). The development scenarios presented below set a return to the Dutch model of alternative scenarios and are based on "community values".

The premise of these "community value-based" development scenarios is that with the moving of the airport, the residents of the Twin Cities Region will have a unique opportunity -- the site is very large, well serviced, and strategically located. What is the greatest value to be gained by the community from this resource?

To help explore these issues, five scenarios have been developed, each representing one set of community values and pushes the re-use to maximize that single value. These scenarios should be viewed as the starting point not as an end-use plan.

1. Maximum Economic Benefit to the Region

This scenario assumes that a combination of research parks, telecommunication complex, business park, and distribution center would provide maximum economic benefit. It could include a federally funded research center, a conference center, an incubator component and technology transfer component. The scenario provides the maximum number of accessible sites. A new expressway would run through the center of the site connecting the Hiawatha corridor with I-494 at the Mall of America intersection. Major roads connect all other expressway exits to this point. The traffic system will have an impact on local streets around the site as well as the network. Region serving retail is located along the I-494 corridor.

Open space on the site provides a quality environment. The two existing golf courses are expanded to provide amenities for the development. The plan indicates 2100 acres used as one of the several types of employment use. This represents somewhere between 19.0 and 38.0 million square feet of development.

2. Maximum Public Open Space

Under this scenario, the entire site is devoted to recreation facilities and institutions which focus on the environment. The major physical feature is "mountain" created by the landfill, both a commercial landfill and using the land acquired by creating several large lakes on the site. It would include year round recreation activities, especially cross-country and downhill skiing in the winter months. It would be served by several lodges and hotels. The entire site will be served by a series of hiking and nature trails.

The Twin Cities region has a great deal of passive open space. The site is therefore developed with active recreation facilities, including indoor tennis using the existing hangar buildings. The golf course is extended.

Historic Fort Snelling is re-integrated with the site by changing the road pattern. The turning movements are eliminated at the Mendota Bridge and the roads put in tunnel. In this way, the Fort can become the focus of a district on the site. It also makes it possible to link the site with networks of open space to the north and south of the site, as well as to the west.

The Fort Snelling General Services Administration (GSA) area is developed as an environmental center. A Native American cultural center and research facility could be developed as well. The area along the bluffs would be restored to its original prairie state providing a major new open space amenity.

3. Maximum Public Purpose

Under this scenario a "campus of campuses" is proposed on the assumption that the institutional support infrastructure, public and private, required for the region must continue to improve and expand. This scenario suggests that by concentrating research, higher education, health, and economic development in this complex, a new synergy among various disciplines would create new opportunities and achievements.

The site is serve primarily from peripheral roads. Through traffic would be discouraged. There are internal links between the various campuses.

The existing terminal could be used for a community college, continuing education, and trades training function. It would relate to a series of lab and research buildings which could use the existing parking structure. A "campus" of proto-type manufacturing buildings could be incorporated and complement other campuses for built for various public and non-profit institutions and corporations.

The shared focus of all of the campuses would be a major public open space with trails and recreational facilities.

4. Maximum Benefit for Adjacent Communities
(Extend Traditional Urban Patterns Into MSP Site)

The traditional form surrounding MSP is a series of well-defined neighborhoods and mixed-use districts. Under this scenario this traditional pattern would be extended throughout the site. The north and west districts would be primarily residential in character with schools, institutions, and amenities. The district along I-494 would be a business district with transit stops and major parking facilities. The existing terminal and parking structure could be used as institutional and business uses which become the focus of a mixed residential district. The GSA area would become a business district.

Historic Fort Snelling would be restored in the same manner as the Open Space scenario and would become a residential community as well as an historic site.

These districts would be joined by a continuous network of open space modeled on the Twin Cities tradition of parkways. A new parkway through the center of the site would connect Hiawatha to I-494. This parkway would run through a major open space area located in the middle of the site and would be directly connected to the parkway along the bluff. The local networks would discourage through traffic from flowing into adjacent communities.

The public open space network is extended through the site and connects with the river valleys.

5. Aviation Use

An aviation re-use of MSP assumes that the scheduled passenger commercial service is moved entirely to a new site. This would include air cargo uses, but not necessarily general aviation activities which could remain along with the military uses. One runway and a potentially a crosswind runway would be retained, the balance of the site would be available for development as a business park, primarily in office, flex, and distribution facilities. There would be no change to the external road system and the internal roads would be changed to only serve the new uses. Many of the existing structures could be temporarily or permanently converted to commercial and industrial uses.

INITIAL PERFORMANCE CRITERIA

Using the five development scenarios, the following are an initial set of performance criteria statements reflecting community values:

MAXIMUM ECONOMIC BENEFIT TO THE REGION

- optimize and leverage economic asset -- tax revenues and private investment
- complement economic connections to existing development centers (I-494 Strip, Downtown Minneapolis) -- horizontal, less intensive development density
- optimize attractiveness for high tech research/manufacture
- re-use of area as a premier urban/suburban office, research, and headquarters center
- job development integrated with emerging economic structures of the region
- complement residential areas around the site -- positive impact on neighborhood value

MAXIMUM PUBLIC OPEN SPACE

- major public land resource in middle of the region
- related to open space networks -- Mississippi and Minnesota river valleys, regional parkway system (Mpls Parkway/Chain of Lakes)
- need regional park with active recreation component in this part of the region
- prairie experience in the urban core
- open space accessibility to urban core
- accent the cultural and historic roots of the region/state

MAXIMUM PUBLIC PURPOSE

- balance variety of needs/objectives -- jobs, open space, research, research based technology, housing for on-site activities
- target economic incentives -- enterprise zone
- optimize central location in the region
- complement existing research (University of Minnesota, private)
- research and development to assist economic development in Greater Minnesota
- public and private research to re-assert Minnesota leadership in public/private partnerships
- ties to regional economy and changing nature of the regional economy
- integrate research & development with prototype manufacturing
- recognize high risk/long term nature of "campus of campuses"
- challenge educational institutions to be on cutting edge and related to local economy and job creation
- recognize need for fast transportation connections to new airport, Downtown Minneapolis/St. Paul, University of Minnesota

MAXIMUM BENEFIT FOR ADJACENT COMMUNITIES

- practical, pragmatic integration with surrounding communities and easier implementation
- diversity of uses -- commercial, industrial, residential, open space
- downplay regional context and accentuate the subregional context
- maximize and protect adjacent communities

AVIATION USE

- maintain and utilize existing infrastructure
- maintain military uses and retain job/economic benefits
- provide convenient corporate general aviation airport
- relate aviation functions with re-use activities -- manufacture, research & technology
- minimize re-use activities competition with existing commercial/industrial developments and economic activity centers

PERFORMANCE CRITERIA FOR "HYBRID" RE-USE SCENARIOS

- **Job Opportunities**

  Discussion topics:

  - nature of jobs (high paying, jobs with a future, jobs for the future, research & technology, prototype manufacture, corporate)
  - synergy
  - diversity
  - new technology
  - research
  - complementary to other economic centers but regionally significant

  Performance criteria:

  Re-use strategies should focus on leveraging special, high quality of opportunities that are diverse and are new to the region. This strategy should be focused on public/private partnerships.

- **Open Space/Environment/Cultural**

  Discussion topics:

  - historic nature and role of the site
  - confluence of the Mississippi and Minnesota rivers
  - regional networks of parks and parkways

Performance criteria:

Provide major open space amenity that complements and connects the existing regional open space networks. The open space should provide active recreation and should incorporate environmental and cultural heritage of the area.

- **Community Context**

Discussion topics:

- complement/blend in with adjacent neighborhoods
- respect and build on development patterns and context

Performance criteria:

Respect and sensitivity for the adjacent communities.

- **Regional Transportation System**

Discussion topics:

- complement regional highway and transit system
- separate local movements from regional movements

Performance criteria:

Re-use structured to balance transportation constraints and capacity.

- **Residential**

Discussion topics:

- incorporate diversity of housing types and costs
- complement adjacent neighborhoods
- provide neighborhood/community retail services

Performance criteria:

Re-use should incorporate housing opportunities that are both affordable and complementary to the surrounding communities.

ATTACHMENT A

MSP RE-USE THEMES

RE-USE STUDY OF THE MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT

March 1992

These themes can be used singly or in combination to develop a re-use scenario for MSP 2005-2020.

THEME 1: INTERNATIONAL CORPORATE CENTER

- *Description*

  A concentration of one or more corporate headquarter buildings, complexes or campuses for firms engaged in international business. Uses could include headquarter office, research and development facilities, and manufacturing.

- *Discussion Points and Issues*

  - Existing scale of international activities and relationships between the Twin Cities region and the World, Pacific Rim, North America (Canada and Mexico), European Economic Community, Eastern Europe and former USSR countries.
  - Identify future markets; what types of firms would be candidates.
  - Locational advantages and disadvantages.
  - Impact of Twin Cities region's business climate on domestic or foreign business location (taxes, government spending, regulation).
  - Impact of Twin Cities region's "quality of life" (government services, education, culture, natural environment).
  - Role in maintaining and enhancing the regional "quality of life".
  - Relationship of new airport to MSP site.
  - Design standards and criteria for development/operation.
  - Impact of the changing role of telecommunications on corporate business operations and functioning in the 21st Century.
  - Role of housing and residential scale services.

THEME 2: BIO-MEDICAL AND HEALTH CARE CENTER

- *Description*

  Minnesota has an established bio-medical industry and has hosted several "world med" trade shows. The Twin Cities and Rochester have established Minnesota as a major national and international health care and health care technology center. A bio-medical and health care center theme would provide a new focus to highlight this growing industry. Uses could include headquarter office, research and development facilities, university research and applied applications facilities, and manufacturing.

- *Discussion Points and Issues*

  - Centralization vs. decentralization. What components of the industry or aspects of the industry would it make sense to have part of the center (research, technology transfer, marketing, trade shows, office).

  - Location advantages/disadvantages?

  - What is the bio-medical and health base? What are the national and international trends -- for the industry in general, specific components, technology, costs, information/management, investment -- in relationship to the local base?

  - Who would be the market for center? What is their market?

  - Design standards and criteria for development/operation.

  - Public/private investment: share, mechanism, governance.

  - Role of housing and residential scale services.

THEME 3: MAJOR RESEARCH COMPLEX

- *Description*

  The Twin Cities region has major public and private research and development activities. The University of Minnesota is a nationally recognized research institution. A multi-disciplinary research complex which could include both public (university, state and federal laboratories) and private research facilities could be co-located and share a support infrastructure.

- *Discussion Points and Issues*

  - What is the history of other major research complexes (Research Triangle Park, Natural Resource Recovery Institute in Duluth, Sanford Research Institute).

  - What are the locational advantages and disadvantages of the site -- within the Twin Cities area, within the Upper Midwest and nation?

  - What are the infrastructure needs for a multi-disciplinary research complex?

- What is the market need for a research complex? Would the existing research environment use and/or benefit from a new complex?
- Are there potential funding sources (federal, private, state)?
- Maintain Twin Cities quality of life.
- Design standards and criteria for development/operation.
- Role of housing and residential scale services.

THEME 4: ENTERTAINMENT/MAJOR OUTDOOR-INDOOR RECREATIONAL CENTER

- *Description*

The central location of the site and adjacent natural areas (Mississippi and Minnesota River valleys, Fort Snelling, Minneapolis Parkway System) provide some very strong advantages for the use of the area as a major entertainment and outdoor-indoor recreational center. A wide-range of possibilities exist given the natural site advantages. The possibilities include a Disneyland of the north, a winter garden on a grand scale that would attract winter vacationers, an olympic park with consolidated sports facilities, a multi-media production site for film, video, commercials, recording.

- *Discussion Points and Issues*
  - Northern environment -- too cold for year-round outdoor entertainment events without climate control.
  - What is the market? Is there a niche in the national or international market to be filled?
  - Focus for attracting tourism? Consolidation of facilities? Local support or competition?
  - How best to capitalize on the Mississippi and Minnesota River Valleys, Minneapolis Parkway System, Fort Snelling?
  - Role of housing and residential scale services.

THEME 5: HIGH TECH MANUFACTURING

- *Description*

Minnesota and the Twin Cities are recognized nationally for high technology companies. The presence of these companies and major research/university facilities present an opportunity to expand and diversify the high-tech manufacturing base of the region. A high tech manufacturing center could offer co-location advantages and shared support infrastructure.

- *Discussion Points and Issues*

  - Minnesota business climate -- tax (property, sales, corporate, income), regulation, and government spending.

  - Twin Cities competitive edge -- "quality of life", education, work force, infrastructure.

  - Location advantages/disadvantages?

  - What is the high tech industrial structure today and where are the national and international trends going to take us? What local industries are likely to grow?

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  - Relationship to metropolitan highway and transit networks and to the adjacent highway links and uses -- I-494 Corridor, Mall of Americas, Cedar Avenue/62nd Crosstown, Hwy 55 and Hwy 5.

  - Metropolitan transportation system future plans and development concepts -- use for economic development and shaping development patterns and investment.

  - Experience elsewhere with multi-modal transportation hubs.

  - Economic development advantages and opportunities provided by a transportation hub.

  - Role of housing and residential scale services.

- Competition of development of a new airport.

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  The scheduled air passenger service for the Twin Cities region would move to the new airport. The non-commercial aviation activities at MSP would be operated to complement the new airport. In this regard the airport re-use strategy would assume that only one major runway would be maintained and it would serve primarily a range of uses on-site (military, air-related manufacturing, aircraft maintenance, corporate aircraft).

- *Discussion Points and Issues*

  - Impact on new airport (function and financial feasibility) and metropolitan airport system.
  - Compatibility with other development themes and marketability of the non-aviation portions of the site.
  - Management and governance (legal issues) of the site and airport operation.
  - General environmental impact and compatibility with adjacent land uses and development plan.
  - Support services and infrastructure requirements.

ATTACHMENT B

SUMMARY OF DISCUSSION AND FOCUS GROUPS -- APRIL/MAY 1992

Corporate, Bio-Tech & High-Tech, Open Space & Environmental, Urban Design, Historic Resources Transportation (Transit and Highways), and Aviation

CORPORATE

- Twin Cities Locational Decision Factors:
  - Customers
  - Rail/highway access
  - Land costs
  - Property taxes
  - CEO residence is the **key locational factor.**
  - MSP is centrally located (not a current factor except for access/time conscious who are few).
  - Headquarters function likely to stay in Minnesota but not manufacturing due to business climate (taxes, workers comp, regulations).
  -
- Twin Cities Corporate Development
  - Research facilities must be will designed to attract and retain good staff.
  - Good support facilities: hotels, restaurants, retail, daycare, open space amenities.
  - Fiber optics technology growing; need good telecommunications links.
  - Concentrations of talent are very attractive; need to support the U of M and research and development activities by private business.
- MSP Re-Use & Corporate Development Issues
  - Contamination of the site; need to be indemnified or corporate entities will be to "green field" sites.
  - Corporate cultures (some companies are culturally and historically tied to certain places like the Downtowns, Metro East, Minneapolis West, I-494 Strip)
  - Many businesses and key decision-makers are oriented to West and Southwest.
  - Location of employees becomes more important as the firm size increases.
  - Suburban, "country feel" important for corporate campuses.
  - Single government entity for Re-Use site very important.
  - Access to new airport and Downtowns will be very important for Re-Use.
  - Need to overcome business climate -- enterprise zone.
  - Mix of commercial-residential-open space very important to establish different niche in corporate campus developments.
  - What different things will the Re-Use site offer?
  - Highway congestion around the site will be a problem.
  - Cost of Re-Use may hinder certain types of development without incentives (manufacturing/processing).

- Minnesota Business Climate and MSP Re-Use

    - Minnesota does not attract new headquarters or businesses because of high personal, business and property taxes.
    - Small businesses are being hurt by taxes, workers compensation rates, and regulations.
    - Bio-tech research may leave Minnesota if additional onerous regulations are enacted.
    - Manufacturing is very likely to leave; corporate offices will likely stay because of their roots.

BIO-TECH & HIGH TECH

- Twin Cities Locational Decision Factors:

    - Location determined by residence of founder/principals or near another company which spun it off.
    - After start-up, location becomes a matter of incentives and factors such as finance, quality of life, and political considerations (regulations).
    - Proximity to similar or complementary industries is important.
    - Proximity to University of Minnesota not a key.
    - Employee residence location not as important as job satisfaction.

- Twin Cities Corporate Development

    - University of Minnesota is major reason for bio-tech activity; professor/researcher/scientist consultations to companies is a major asset.
    - Political climate is causing a slowdown of innovation and research.
    - New products need to be introduced outside Minnesota and U.S.
    - Business climate is a prime issue.
    - Quality of airport service for passengers and air cargo is important (direct flights to a great number of cities).

- MSP Re-Use & Bio-Tech Development Issues

    - University of Minnesota is inextricably linked to bio-tech development (financial support for university research pays huge dividends).
    - Need to put together a research triangle like North Carolina; the critical mass is here but the incentives are not.
    - Leasehold improvements and "build to suit" incentives would be attractive (shared facilities less attractive).
    - Business climate major issue for attracting, retaining or expanding bio-tech companies.
    - Research Institute as a part of Re-Use is attractive; university research activities could be relocated to the site.
    - Strategic vision for bio-tech industry and its role in the state is needed.
    - Marketing the state and its potential is needed.

- Minnesota Business Climate and MSP Re-Use

    - Minnesota does not attract new headquarters or businesses because of high personal, business and property taxes.

- Small businesses are being hurt by taxes, workers compensation rates, and regulations.
- Bio-tech research may leave Minnesota if additional onerous regulations are enacted.
- Manufacturing is very likely to leave; corporate offices will likely stay because of their roots.

OPEN SPACE & ENVIRONMENTAL
HISTORIC RESOURCES
URBAN DESIGN

- The development of networks of open space is an important performance criterion for the re-use of MSP. The historic development of the region shows the power of the physical configuration of open space and natural features in shaping development.

- There is a tradition of creating continuous networks of open space based on natural features. The systems incomplete and the MSP site, located at the confluence of the Mississippi and Minnesota River valleys can be a key in completing this system.

- Connect existing open space networks outside the site to new amenities inside.

- Connect to the Minnesota River Valley and the confluence of the Mississippi and Minnesota Rivers.

- Expressway network is a major obstacle. Need to consider the full range of types of roads in accommodating traffic: parkways, boulevards, collectors, arterials, local streets and expressways.

- The "emerald necklace" concept was developed in the Twin Cities in a series of interconnected parks, boulevards and recreational areas. Schools, colleges, and other institutions were developed along them. The quality and stability of the neighborhoods indicates their importance. Many of the connections are incomplete. It would be and important public policy to bridge the remaining gaps to extend this network.

- The river valleys are a major open space feature and they are connected to the land on either side by streambeds flowing into them. The parks and open space program in the region, particularly early this century, took advantage of these streambeds to physically link development to the river.

- Fort Snelling has been a prime factor in the development of the region.

- The physical form of the region has been defined by the major rivers suggests that the site of Fort Snelling is in many ways the center of the region. The Downtowns are the center of the region -- with Minneapolis being the geographic center of the urbanized/developed portion of the region.

- Fort Snelling was a large military reservation extending as far north as the southern edge of the current Minneapolis Downtown and as far east as Downtown St. Paul. When the first non-military settlements were established they were located just outside the reservation. As the reservation was sold off, the cities expanded into the territory. Fort Snelling remained a major facility through the Second World War. The urban growth of the region avoided the military base and developed generally along an east-west axis and along the Mississippi River to the north of St. Anthony Falls. Much of this was developed on wetlands in spite of the fact that the land around Fort Snelling was prairie and easier to develop.

- The southeast quadrant of the region is much less densely developed. Fort Snelling and later MSP could be seen as creating a "cork-in-the-bottle" blocking a concentric pattern of development.

TRANSPORTATION

- Regional transportation system provides excellent region-wide access for the site.
- Capacity limits and congestion on the regional system will limit or shape the development potential of the site.
- Re-Use site does not have an internal system nor does it connect well to the surrounding communities.
- Natural features, the river valleys, form a significant boundary for additional transportation links.
- Movements from St. Paul to Bloomington and from Minneapolis to northern Dakota County need to be accommodated.

AVIATION RE-USE

- Need to insure that no passenger service will be allowed at MSP; difficult to do and passenger airlines will demand a single airport for passenger service.
- Military (Air Force Reserve, Minnesota Air National Guard) users would like to remain at MSP. Cost of new facilities might prevent continuation of military functions. Would need someone to pay for new facilities. Consolidation of facilities are difficult at MSP without some new facilities due to dispersed current locations at MSP. USAF could exercise reversion rights at MSP to get a 5000 foot runway and its own land effectively becoming an Air Force base; however, operation economics would be difficult.
- One runway only would be needed for military operations (7,500 feet).
- Corporate/General Aviation (GA) users would rather stay at MSP; St. Paul Downtown or new airport would not be as attractive for current corporate users at MSP.
- One runway and a crosswind would be optimum for corporate/GA.
- Reliever airports are subsidized by MSP revenue; a corporate/GA facility at MSP would also require subsidy.
- Corporate CEO residence/office location determines location of corporate jet facility.
- Industrial park in conjunction with corporate/GA facility.
- A commercial helicopter or vertical take-off and landing facility is not seen needed or economically viable.
- Air cargo will need to be a new airport but MSP is centrally located. Split operations not economical. Cost sensitive industry and facilities at new airport would be a important item. Would like 24-hour operation option (noise a current issue with night flights).
- Runway requirements for air cargo depend on aircraft, largest currently (DC-10's and 747's) need 10,000 to 12,000 foot runways.

ATTACHMENT C

DEVELOPER PERSPECTIVES ON MSP RE-USE
A Panel Discussion Concerning:
- Market Potential--Office, Retail, Industrial, Residential
- Fit in the Urban Fabric
- Locational Merits and Issues

Panel Discusssion Purpose: To Assist the Task Force Develop Frameworks to Guide the Re-Use of MSP

OFFICE MARKET COMMENTS

- Current Office Space Market in the Twin Cities
  - Minneapolis - 19 million sq. ft.; 4 million vacant (21%)
  - St. Paul - 5.7 million sq. ft.; 1 million vacant (17.5%)
  - Suburban - 22.7 million sq. ft.; 4.3 million vacant (18.9%)
- I-494 Strip
  - The largest submarket in the Suburban area; 13 million sq. ft. from MSP to Eden Prairie, 2.5 million vacant (19.2%).
  - Development started in the 1960's with Metro Office Park in eastern Bloomington, now 550,000 sq. ft. and with Pentagon Office Park in Edina, now with 700,000 sq. ft.
  - Three main areas: MSP-35W - 2.5 million sq. ft.; 35W-Bush Lake Road - 6.8 million sq. ft.; and Bush Lake Road-Eden Prairie 3.8 million sq. ft.
- Executive housing location
  - It is the overriding consideration for location decision of small/medium sized tenants; many suburban office tower and office park tenants are within sight of the homes of the manager or "local decision-maker".
  - Key executive housing areas: West Bloomington, Edina, Minnetonka, Wayzata.
  - In Atlanta the executive housing is north and the airport is south; office development is north.
- Suburban Office Absorption Rates
  - Current figures from CB Commercial: Average annual rate over last 6-7 years is about 520.000 sq ft.
  - Comparable figures from NAIOP: 460,000 sq ft.
  - With today's vacancy rate it will take 5 years to work off the inventory.
  - In 1991 there was an negative absorption indicating that for the short term we might not be able to match the annual average; however, over the long term we should be able to do it.
- Employment Growth
  - Employment growth is a key indicator.
  - Employment growth in non-ag sectors is expected to average 1.4% per year over the next 20 years.

- Using office employment shares of that growth, plus average area per employee, the long-term absorption rates look realistic.

- Available Sites on the I-494 Strip

  - From Mendota Heights/Eagan to Eden Prairie an additional 6 to 8 million sq ft of office space could be built.
  - This would be a 14 to 16 year supply for this suburban area without MSP land area being used.

- MSP Re-Use Office Market

  - Larger Users need larger, campus-like surroundings and space; not many of this type of land area left.
  - Corporate Office Relocation is a potential market.
  - Corporate, build-to-suit market is not the same as the multi-tenant market because the housing for executives is not as key, it is housing location convenience of the employees.

INDUSTRIAL MARKET COMMENTS

- Executive Housing Location

  - Key ingredient for location decisions for manufacturing/industrial firms (mostly under $50.0 million in annual sales).
  - Southwest Quadrant of the Twin Cities -- I-394 to Highway 5.

- Tax Policy in the State of Minnesota

  - Tax policy (property, corporate, personal income, sales) are a major deterrent for industrial relocations to the Twin Cities.
  - Major distribution operations are moving out (Twin Cities property tax rate of $1 to $1.70 per sq ft compared to Sioux Falls, S.D. with $0.10 per sq ft.)

- Workers Compensation Rates

  - Major factor in the industrial area for location and operation decisions; again Minnesota is at a competitive disadvantage.

- MSP Re-Use Industrial Potential

  - There has been a positive absorption of industrial space however the market is relatively small; the MSP site of 3,000 acres is 2/3 of the all the industrial space in the Twin Cities.

RESIDENTIAL MARKET COMMENTS

- Residential Growth Factors

  - Job formation
  - Household formation
  - Population growth

- All three factors have been strong in the last five years, particularly in the Minneapolis suburbs (west, southwest and south--Eagan/Apple Valley).

- Twin Cities Residential Development

  - Single Family (Owner Occupied--Single Family, Townhouse, Condo) 2/3 of annual construction.
  - Multi-Family (Renter Occupied) 1/3 annual construction.
  - Market demand for Single Family -- 10,000 to 12,000 units annually.
  - Market demand for Multi-family -- 3,000 to 5,000 units annually.
  - Over built Multi-family in 1987-88-89; over 12,000 each year resulting in a huge imbalance.
  - Good long-term indicators for Multi-family; next 1 to 2 years might only average 1,000 units however to take up the slack. State tax policies negative for multi-family--property taxes out-of-line and anti-corporate relocations. Federal section 8 program in doubt and is needed at the lower end market.
  - Single family market is strong with lower interest rates and fed/state tax policies; construction may be in 15,000 to 18,000 units for each 1992 and 1993.
  - Executive housing areas are west of Minneapolis--Lake Minnetonka, Edina, Eden Prairie--people desire natural environmental setting.

- MSP Re-Use Potential

  - MSP Re-Use, no redeeming natural value apparent for higher end housing; residential plans should focus on moderate price. However, a successful corporate campus with "built in amenity" could change it.
  - Housing needs services; need to build them in at MSP--medical, shopping, convenience.
  - Potential for 9,000 to 50,000 units given the land area of 3,000 acres.
  - Suburban residential land pricing-- Single family $16,000 to $20,000 per acre; Multi family $30,000 to $40,000 per acre (approximately $4,000 per unit).
  - Moving the airport would have a beneficial impact on the residential areas surrounding MSP; the absence of aircraft noise would help preserve these older neighborhoods.

RETAIL MARKET COMMENTS

- Mall of America

  - Major influence (proximity and size) on any retail re-use at MSP.
  - Impact on the Twin Cities marketplace yet to be determined.
  - Estimated $800 million is first year sales will equal Southdale.

- Retail Markets

  - Generally responsive to market; few developments have created or been expansive, Southdale did, the Mall of America will need to.
  - Serve development on-site.
  - Serve residential areas around.
  - Complimentary to adjacent retail; in the case of the Mall of America this type of complimentary development may take a long time.

- Site Potential

  - River is a barrier to access; bridges and distance to residential development.
  - I-494 and the office-commercial-industrial development is a barrier to residential access.
  - Need to look at population density in 1, 3, and 5 mile radius to determine market.
  - North (Mpls is particularly under served) and East edge of MSP offer the best opportunity.

ADDITIONAL COMMENTS AND DISCUSSION

- Aircraft Noise

  - The quality of housing and neighborhoods around MSP is quite good. Over the next 10 to 25 years there will be a more difficult time marketing their quality. These are strong inner city housing areas today.

- Development Potential at a New Airport Site

  - Office development -- limited; airport is not a major locational factor; dependent on executive housing; no speculative development; owner-build and occupy possible.
  - Industrial -- limited, little impact on industrial market expected; manufacturing particularly not attracted to airports; current experience does not indicate much relationship (vacancy rate around MSP as high as elsewhere); airport low priority for location.
  - Retail -- area is remote, non-existent base.
  - Residential -- generally negative until noise impact known; airport employment may be a plus; existing Twin Cities pattern strong.

- Minnesota Business Climate

  - Major impediment to attracting relocation and expansion.
  - Corporate office park type development would be a prime re-use option but limited by business climate issues; may be addressed by the time re-use but not without change of public policy. Need to get out of the "business climate box."

- What lead to the Development of I-494 Strip? Where are its competitors?

  - Suburban residential development, particularly upper income single family.
  - Transportation advantages of the freeway.
  - Office market not driven by the airport but executive housing and amenities.
  - Major competitor is I-394 because of executive housing; secretarial/support staff housing proximity and Downtown MPLS. The airport is not a factor.
  - Downtown MPLS is strong and vibrant and a different market.

- Models or Lessons for Looking at MSP RE-Use?

  - Las Colinas - not particularly good; its residential development has been spotty, market is still north Dallas, multi-family units are for sale at 80% of cost; retail not strong; office market depends on relocations due to Texas tax climate.
  - Edinburgh in Brooklyn Park is a good example; built an amenity in an area without any natural ones; multi-family and single family markets strong even in this current economic climate.
  - Big user, corporate office park a strong possibility. How to get a big user thinking about the

site?

- The experience of DFW and Kansas City may be instructive; however there are differences of opinion to the degree of applicability.
- It will take years to bring about the re-use.
- Multi-use development concepts would help multi-family residential absorption.
- Industrial re-uses might be particularly attractive with the traffic demand management needs of the subregion.
- Industrial development would be limited to med tech and high tech not traditional manufacturers.
- University of Minnesota might need space; plan for a "U" of the 21st Century.
- Need to see a "vision" for the whole site; not necessarily all market driven.
- Park and open space may be the best option, may not have a compelling public reason to develop. At least consider a major public purpose element for the site.
- Government policy and influence may be a major problem.
- Global economy role for Twin Cities should be focus for re-use, what will move and support the evolving position? Focus on specific types of applied research from U of M or other research facilities. Build bridges for the application of research, there is a research-to-market gap.
- It will be very difficult to be market responsive; hard to know the government climate, business climate of the next 15-20 years. Focus on the infrastructure for an ever changing government-business-institutional climate. Spend energy on market expansion not market responsiveness. Provide something special and competitive.

MSP International Airport Re-Use Study:

INTERIM WORKING PAPERS

SUMMARY

August 1992

MSP INTERNATIONAL AIRPORT RE-USE TASK FORCE
METROPOLITAN COUNCIL

METROPOLITAN COUNCIL
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Dual Track Airport Planning Process

Under the Metropolitan Airport Planning Act of 1989, the Metropolitan Council and the Metropolitan Airports Commission have been charged to examine how best to meet the long-term air transportation needs of the Twin Cities Area and State of Minnesota. This planning effort is commonly called the "dual-track" strategy.

One track focuses on a new airport option. The Metropolitan Council completed the first phase of this track with the selection of the Dakota County Search Area in December 1991. The Metropolitan Airports Commission (MAC) is beginning the detailed site and airport layout planning to determine the precise location within the search area where the airport could be located. The MAC will then conduct an environmental evaluation and prepare a detailed airport development plan for the facility.

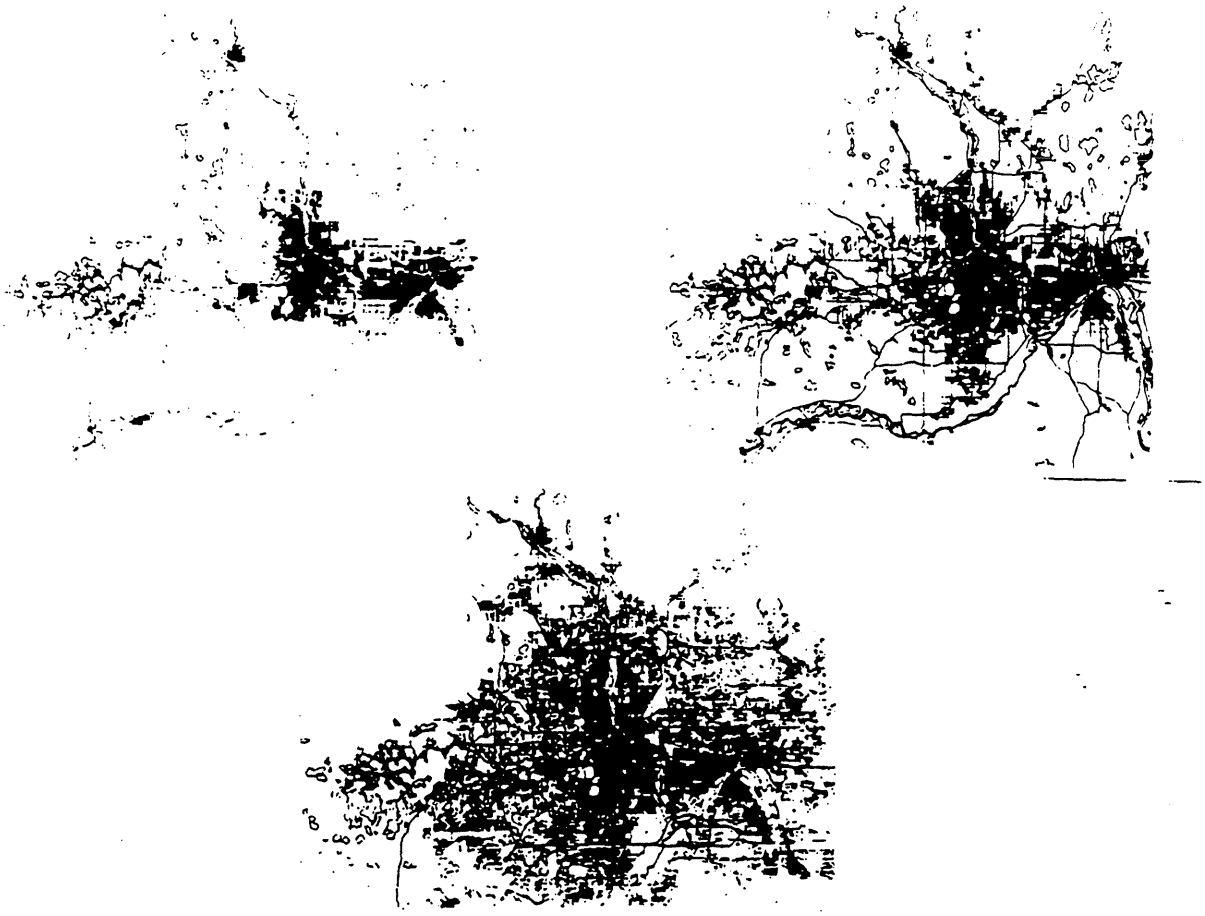
The second track focuses on possible ways to improve the capacity of MSP. The MAC is conducting this planning. In November 1991, the MAC adopted a long-term development concept for MSP which includes the construction of a new north-south runway and new west-side terminal. This concept plan will be refined over the next several years.

MSP Re-Use Study

The study of the potential re-use of Minneapolis-St. Paul International Airport (MSP) is part of the "dual-track" major airport planning process. The purpose of the re-use study is to identify policies to guide the re-use of MSP should a new major replacement airport be developed to serve the Twin Cities Metropolitan Area.

The Council has appointed a task force, broadly representative of the community of interests, to advise it on a re-use strategy. The task force, appointed in September 1991, was charged to provide a forum for the discussion and of issues and concerns regarding the MSP re-use study and the development of re-use scenarios and policies and to develop a set of recommendations for consideration by the Council. The task force is scheduled to complete its work in October 1992. The Council is required to make its report to the Legislature by 1 January 1993.

This report, *MSP Re-Use Interim Working Papers*, summarizes the work of the task force and provides the background for the concluding phase of the task force effort. In addition to this document, there is a technical appendix that includes background research and data relating to market surveys, environmental conditions and infrastructure, and governance and legal issues. The task force will use these documents to formulate a draft final report which will be discussed at the 18 September 1992 meeting.



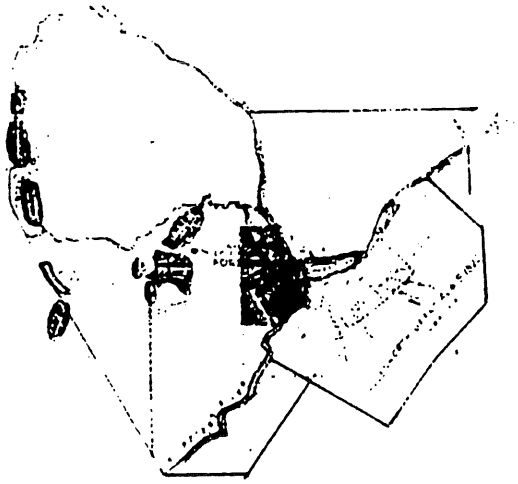
A. Regional Contexts

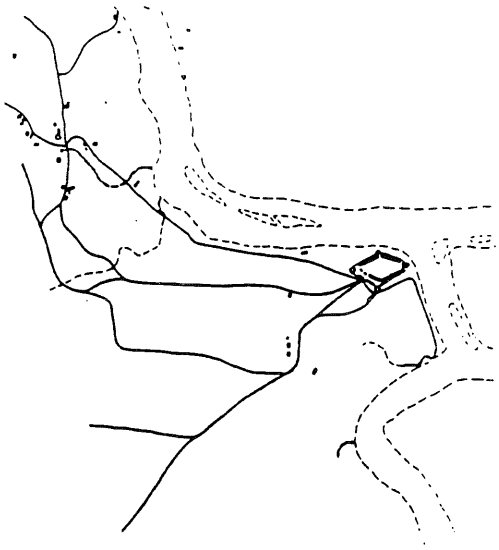
In order to understand the potential re-use options for the MSP site, it is important to analyze the site in the context of regional development patterns and environmental structures. These relationships provide clues both to the continued evolution of the region and the role of the site in this evolution.

A series of maps of the Twin Cities region have been developed. These maps are "regional x-rays" that illustrate historical development patterns, current and projected development patterns, regional road network, and regional patterns of open space. The task force used the "x-rays" to develop the initial set of re-use themes for the MSP site. The themes and "x-rays" provided the material for discussions with various interest groups. Focus groups meetings with elements of the business and development community, meetings with various federal, state, and regional agencies/institutions, and meetings with communities were conducted in May. The data analyses resulted in a series of observations about the regional context.

1. Historic Development Context

   From studying the historic evolution of the Twin Cities region, it is apparent that the presence of Fort Snelling and the MSP Airport have been significant factors influencing the regional



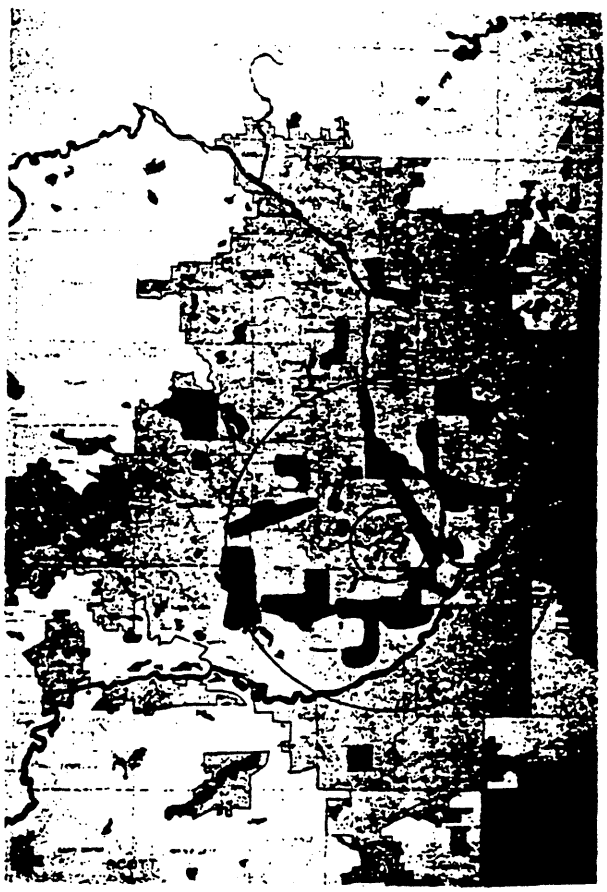




development patterns. This historic development pattern from 1930 - 1990 shows an initial concentration of development around the two central business districts. This pattern gradually expands westward from Minneapolis towards Lake Minnetonka and south towards the Minnesota River.

The original use of the MSP site as part of the Fort Snelling complex can be seen as a deflector of development. This site, given its geographic location, would most likely have been the center of early urbanization; instead the occupation of the Fort prevented settlement here. As the Fort Snelling property holdings diminished, the settlement patterns filled in around the Fort. The continued use of the site as an airport can also be seen as the "cork in the bottle" that has inhibited, along with the wide river valley, development in the southeast.

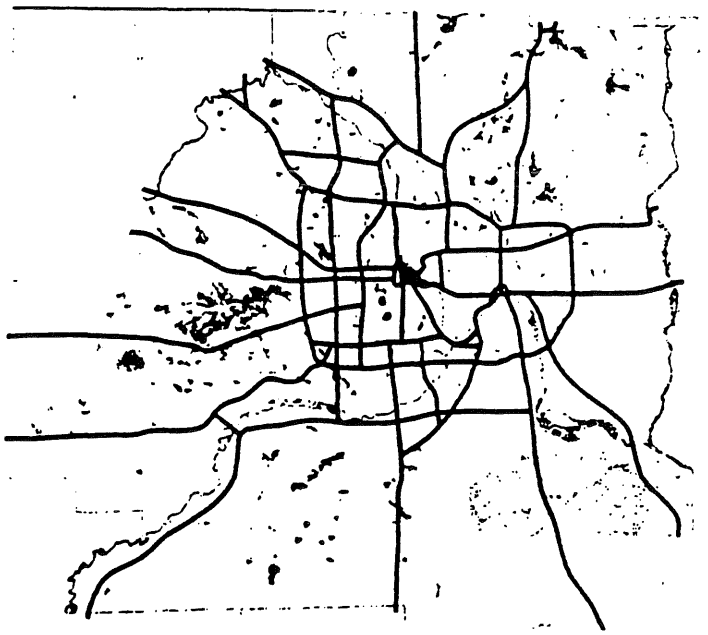
Once the airport use is moved to another location, the site will no longer have this strong effect. What happens to development patterns will depend largely on public policy, the configuration of the new airport area, and the infrastructure serving it. However, the re-uses proposed for the MSP site will also have a significant effect. The site will become more centrally located as development patterns change around it. It will become an even more remarkable asset and opportunity than it is today.



2. Regional Employment & Economic Activity Center Context

Historically, the metropolitan region is perceived as having two "core" employment centers--St. Paul and Minneapolis--that anchor regional growth. New employment-related development is largely seen as separate and isolated patterns enclosed on different corridors or self-contained parks.

Regional land use patterns reveal a series of nearly continuous, linear zones of economic and employment uses. These zones, both current and historic, form a regional ring that functions a single employment core. The MSP site as well as the CBD's of St. Paul and Minneapolis are part of this ring of economic development, along with I-494 through Bloomington, Eden Prairie, Minnetonka, and Plymouth, as well as the I-394 corridor through Golden Valley and St. Louis Park. Sheppard Road from St. Paul to the MSP site was a traditional employment corridor that has since become underutilized. The redevelopment of this employment link from MSP to St. Paul would provide an economic stimulus to the eastern sectors of the region. The re-use of the MSP site can become a key component in creating a future context for reinvestment in this employment core.



3. Transportation Context

The transportation network is usually discussed in terms of the expressway network. As the urban portion of the region expands, the transportation network also expands. The MSP site has and will continue to have a central position in that network. It is extremely well served by that network but is constrained by the current heavy volumes of regional traffic that run past it. The major arterials, secondary roads, and parkways create another network that is also significant and should be considered in the re-use scenarios.

In addition to the impact on highways and local streets, the re-use of the MSP site should be considered as an opportunity to establish a multi-modal transit node. Future public transportation modes may include light rail transit, or continued bus service networks as outlined in the Metropolitan Council's 1989 Transportation Development Guide/Policy Plan. The central location of the MSP site creates an opportunity to develop a major employment center that is accessible to both the urban and suburban work force. Establishing employment centers as serviceable nodes on the MSP site will be critical to the potential for high quality transit service.

By integrating employment service and residential uses within the MSP site, it may also be possible to reduce the number and types of trips that would be added to both the regional and local street systems.



4. Environmental Context

The geographic form of the Minnesota and Mississippi river valleys gives the region its basic form. This physical form makes the site a very prominent center of the region. The relationship between the MSP site and the Minnesota River Valley together with the historic resource of Fort Snelling provide a significant environmental context for re-use options. The Twin Cities have a tradition of strongly designed and continuous networks of open space related to natural features. The MSP site has blocked the relationship between these systems and the River Valley.

The site's location at the confluence of the two river systems provides an opportunity to connect the Minnesota River Valley to the communities surrounding the MSP site. Additionally, the regional access to the site offers the potential to develop a major open space/recreation amenity for both the metropolitan region and the state.



B. MSP Contexts

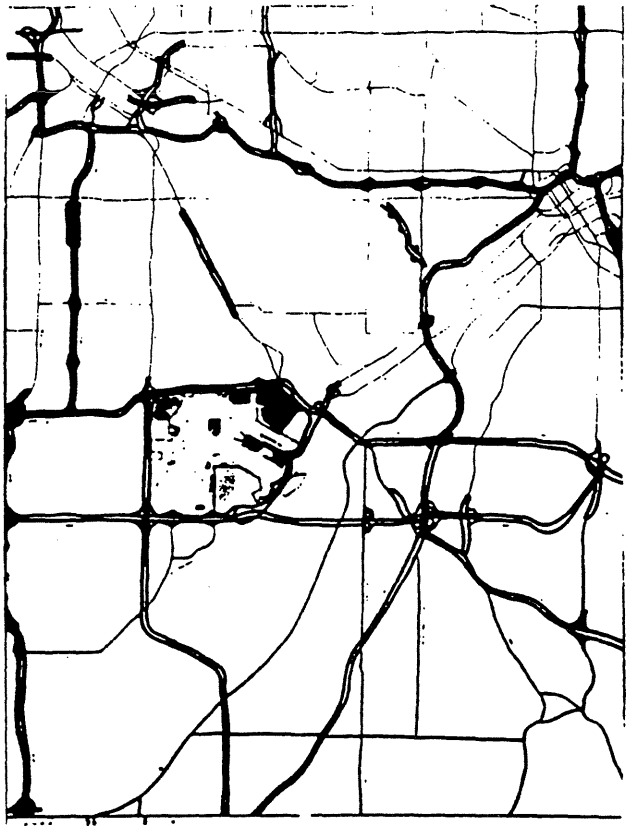
The development scenarios need to be tested also in the context of the MSP environs. A series of "x-ray" examinations of the MSP context provides significant influences for re-use options.

1. Land Use Context

   The existing land use patterns in the adjacent communities include a mix of residential, commercial, institutional, and employment uses. Commercial and employment uses tend to follow the transportation corridors. The largest consumer of land is residential. The residential neighborhoods are relatively stable and well served by institutions and amenities. As the neighborhoods continue to age, they offer many opportunities for affordable and life-cycle housing. The removal of the airport will be a benefit in terms of noise and traffic. New uses could serve to support their continuing stability. South Minneapolis is lacking some convenience retail, Richfield is interested in increasing the commercial and office uses along its eastern edges, and Bloomington is concerned about the impact of the MSP site on traffic and the new Mall of America.

   Communities to the east of the site, such as Mendota Heights and Eagan, have land use patterns that are directly influenced by current air traffic patterns. Re-use of the site will allow for a broader range of uses and create a different market for sites affected by current air traffic.

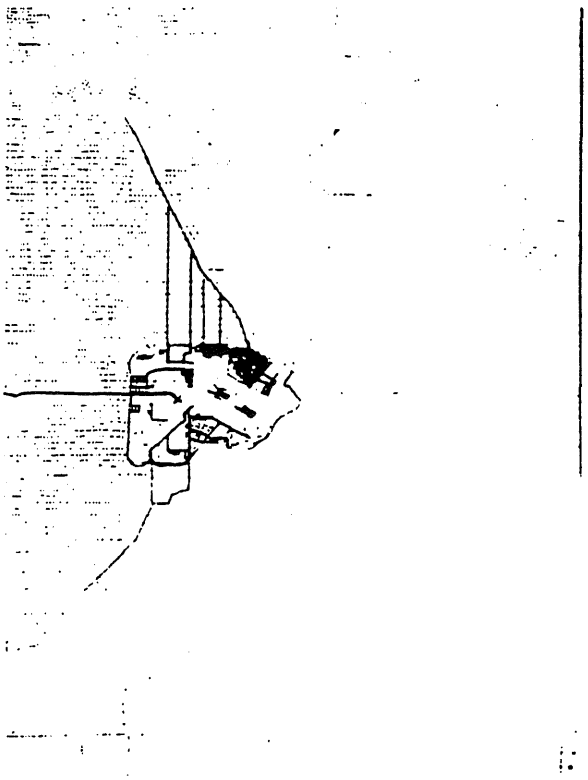
   Additionally, the eastern segment of the I-494 corridor adjacent to the MSP site is an older development corridor which must compete with newer development opportunities in the western segments of the I-494 corridor as well as the I-394 corridor. The redevelopment of the MSP site in the future may contribute to the stability and stimulate reinvestment into the easternmost I-494 corridor development.



2. Transportation Network Context

Traffic projections indicate that with the removal of the airport, the expressway system around the site will have an unused capacity of approximately 131,000 vehicle trips per day. Translated into land use, that represents 2,000 acres or 18.0 million square feet of typical industrial park uses; 5,000 acres or 13,000 units of single-family housing; 2,800 acres or 17,000 units of planned unit development residential uses; 900 acres or 13.0 million square feet of corporate office park development; 2,000 acres or 12.0 million square feet of research center development; or 163,000 acres of State Park.

These principle movements are along the I-494 and Highway 77/Cedar Avenue corridors. The 62nd Crosstown volumes decrease dramatically east of Highway 77/Cedar Avenue. There is less traffic volume on Highway 5, but it is a critical and historic corridor between St. Paul and Bloomington and the southwest. The Hiawatha-Mendota Bridge corridor (northwest-southwest) is also a significant one. Preliminary analysis would indicate that the turning movements at the Mendota Bridge intersections are less critical than the two through movements (northeast-southwest and northwest-southeast), if the airport is removed.



The local street network that crosses the regional highways and extend into the MSP site include 66th Street running east-west from Richfield, 43rd, 34th, 28th, and Hiawatha Avenues running north-south from Minneapolis, as well as 24th and 34th Avenues from Bloomington.

All of these streets, with the exception of 34th and 43rd Avenues into Minneapolis, are classified as arterial streets carrying through-traffic. 34th and 43rd Avenues are local residential streets.

Re-use strategies for the site will have to balance the development potential with the capacity of the regional road system. The locations of different types of uses, the intensity of development, and the relationship to local street capacity and function will be key factors in the redevelopment planning, ultimate build-out, and the mix of uses.



3. Open Space System and Environmental Context

The networks of public open space in the region do not extend through the MSP site. The historic Fort Snelling, its chapel, and visitor center are isolated by the expressway system. Access to the Minnesota River Valley is currently difficult. The Minnesota River Valley nature center south of I-494 is cut off from other parts of the area. The major open space network to the north and the Minneapolis parkway system offer potential for open space connections.

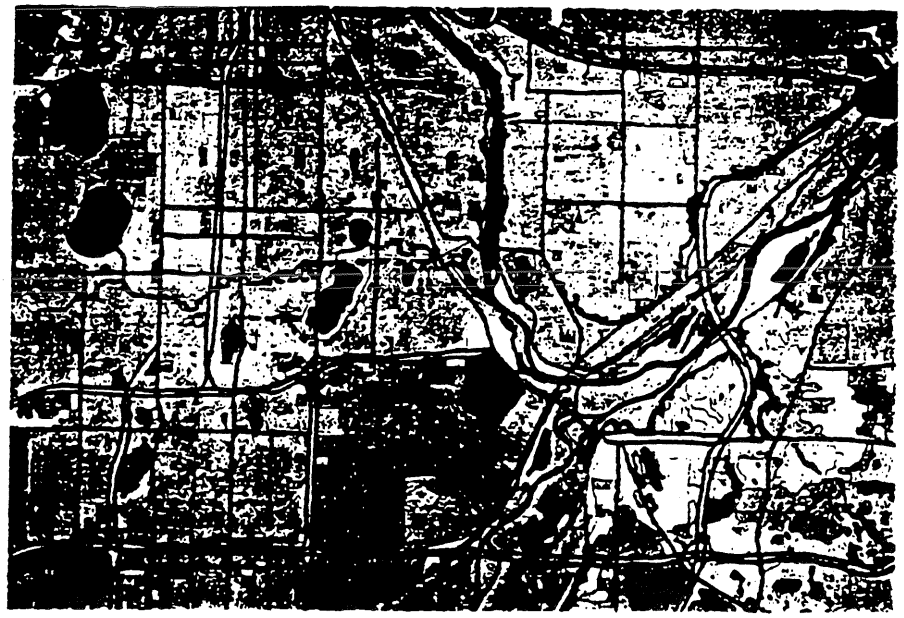
Additionally, local street and sidewalk systems provide an opportunity to develop a secondary network of connections to local parks and recreation facilities.

The natural systems on the site include wetland areas in the western sectors of the site, the bluffs along the Minnesota River in the east, and residual original prairie grasses in the northeast adjacent to the Veterans Administration Hospital.

The geological and hydrological character of the site creates opportunities to expand and restore the western wetland systems or to create new environmental amenities, such as lakes.

The current airport use has eliminated most of the original environmental features. The redevelopment of the site will involve considerable restoration of environmental resources and the creation of additional resources to provide amenities for potential economic and residential uses on the site, as well as adjacent communities and the regional population.

The mitigation of existing hazardous waste contamination will not be fully addressed until extensive site investigations are conducted. The mitigation of hazardous wastes as well as the demolition and removal of airport facilities will be a component of the airport relocation process. Mitigation activities may influence the initial development phasing.



4. Infrastructure Context

Currently, the MSP site is serviced by a number of metropolitan utilities, each of which has an impact on the ultimate development capacity of the site. The following is a summary of relevant issues.

a. Water Supply

The existing water demand at MSP is approximately 1 MGD. The Minneapolis Water Utility presently supplies approximately 350 MGY to the airport. Permitted cooling wells presently pump 1,000 MGY. This present capacity is sufficient for potable water supply for a city of approximately 25,000 people. Any future increase in pumping or change in use, such as changing cooling wells to water supply wells, would require MDNR approval. Ground water from the site would also require treatment if used for potable water.

Additional supply is available from the City of Minneapolis if a third pipeline were installed in the 48" water main at 58th Street. The City of Richfield could supply 2 MGD if a pipeline were constructed from the Richfield distribution network to MSP. If the water systems of Minneapolis and Richfield were combined on the MSP site, the City of Richfield would have to soften its water to the same extent that Minneapolis does. Realignment of the existing MSP water distribution network may be required to accommodate the development of the re-use scenarios. Additional branch pipelines will be required to supply individual customers. Preliminary analysis indicates that the water demand with each hybrid re-use scenario will be met.

b. Sanitary Sewer

The MSP sanitary sewer network may require realignment to accommodate development of the re-use scenarios. Additional branch sewer lines will be required to route sewage to the appropriate interceptors. Preliminary analysis indicates that there is sufficient capacity in the MWCC sanitary sewer interceptors to meet the flows generated by each hybrid re-use scenario.

c. Stormwater

Run off from stormwater may require additional pretreatment in newly designed detention basins before it is discharged into sensitive water bodies. Additional basins or expansion or relocation of the existing retention basins on the site may be required to accommodate different drainage patterns and additional run off. Pretreated stormwater could be utilized as a water source for additional wetlands on the site.

d. Electricity

The underground distribution network will require realignment to adequately accommodate construction of the hybrid scenarios. Northern State Power indicated that sufficient electricity capacity exists int he distribution network to meet anticipated electric usage for each hybrid re-use scenario.

e. Telephone

The underground telephone distribution network will require realignment to avoid conflicts with development of the hybrid scenarios. The telephone network at MSP has sufficient capacity to meet the demand of the proposed hybrid re-use scenarios.

f. Natural Gas

The distribution network for natural gas will require realignment to avoid development conflicts. Additional pipelines must be added to supply natural gas to individual customers. The trunk pipeline routed along Cedar Avenue can be tapped for additional supply. Sufficient natural gas capacity exists in the area to meet the use of each hybrid re-use scenario.

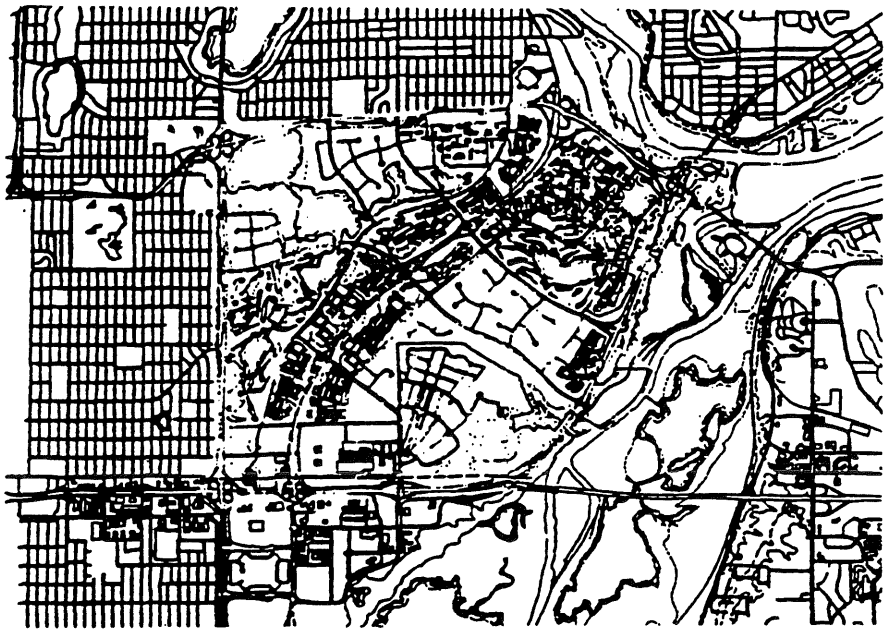
g. Cable Television

There is no cable television service at MSP. A vendor must be selected, and the entire service network must be installed.

C. Community Value Concept

As the planning process has evolved, it became clear that evaluation of alternative development scenarios for MSP could not be based on traditional quantitative criteria, such as job creation or tax revenue, because of the long-term nature of the study (10 to 15 years in the future). As a result, the task force considered community value scenarios which seem to best describe the long range potential for the MSP site.

The idea for community values scenarios came out of discussions of a planning process con ducted in the Netherlands which had four value based scenarios for the development of the community in the year 2050. This seemed an appropriate idea to adapt to the MSP re-use process given the extended 21st century timetable for implementation. Five value-based scenarios were presented to the task force at the 19 June 1992 meeting. These scenarios are described on the ollowing pages.



1. Maximum Economic Benefit To The Region

This scenario assumes that a combination of research park, telecommunications complex, business park, and distribution center would provide maximum economic benefit. It could include a federally funded research center, a conference center, an incubator component and technology transfer component. The scenario provides the maximum number of accessible sites. A new expressway would run through the center of the site connecting the Hiawatha corridor with I-494 at the Mall of America intersection. Major roads connect all other expressway exits to this point. The traffic system will have an impact on local streets around the site as well as the network. Region serving retail is located along the I-494 corridor.

Open space on the site provides a quality environment. The two existing golf courses are expanded to provide amenities for the development. The plan indicates 2100 acres used as one of the several types of employment use. This represents somewhere between 19.0 and 38.0 million square feet of development.



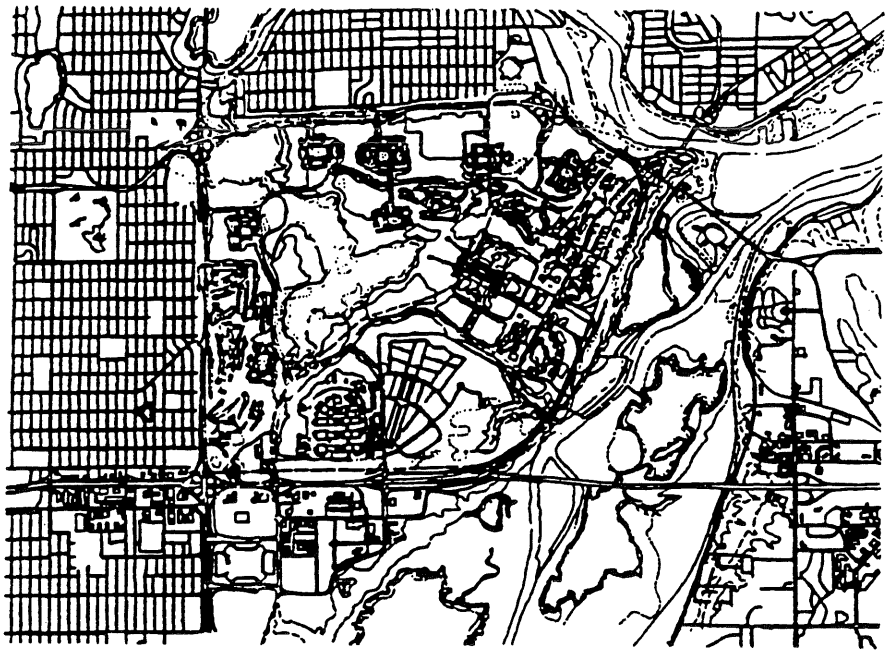
2. Maximum Public Open Space

Under this scenario, the entire site is devoted to recreation facilities and institutions which focus on the environment. The major physical feature is a "mountain" created by the landfill, both a commercial landfill and using the soil acquired by digging several large lakes on the site. It would include year round recreation activities, especially cross-country and downhill skiing in the winter months. It would be served by several lodges and hotels. The entire site will be served by a series of hiking and nature trails.

The Twin Cities region has a great deal of passive open space. The site is therefore developed with active recreation facilities, including indoor tennis using the existing hangar buildings. The golf course is extended.

Historic Fort Snelling is re-integrated with the site by changing the road pattern. The turning movements are eliminated at the Mendota Bridge and the roads put in tunnels. In this way, the Fort can become the focus of a district on the site. It also makes it possible to link the site with networks of open space to the north and south of the site, as well as to the west.

The Fort Snelling General Services Administration (GSA) area is developed as an environmental center. A Native American cultural center and research facility could be developed as well. The area along the bluffs would be restored to its original prairie state providing a major new open space amenity.



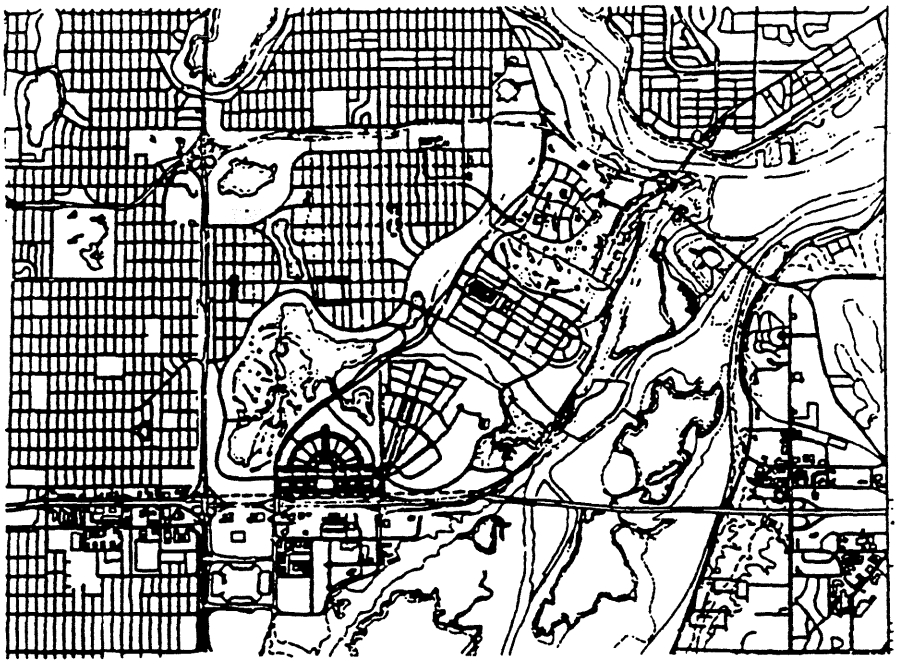
3. Maximum Public Purpose

Under this scenario a "campus of campuses" is proposed on the assumption that the institutional support infrastructure, public and private, required for the region must continue to improve and expand. This scenario suggests that by concentrating research, higher education, health, and economic development in this complex, a new synergy among various disciplines would create new opportunities and achievements.

The site is served primarily from peripheral roads. Through traffic would be discouraged. There are internal links between the various campuses.

The existing terminal could be used for a community college, continuing education, and trades training function. It would relate to a series of lab and research buildings which could use the existing parking structure. A "campus" of prototype manufacturing buildings could be incorporated and complement other campuses for various public and non-profit institutions and corporations.

The shared focus of all of the campuses would be a major public open space with trails and recreational facilities.

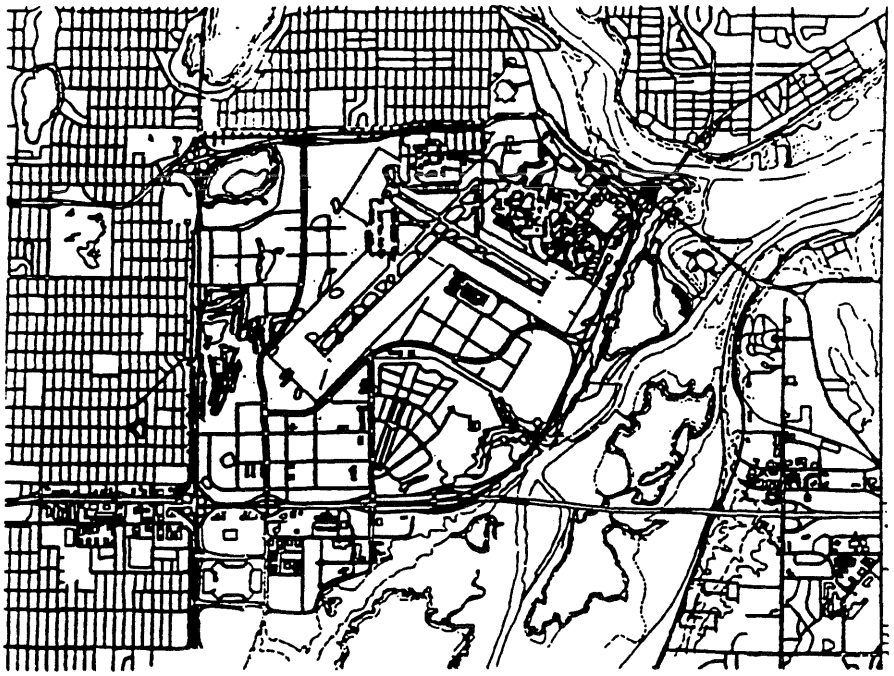


4. Maximum Benefit For Adjacent Communities (Extend Traditional Urban Patterns Into MSP Site)

The traditional form surrounding MSP is a series of well-defined neighborhoods and mixed-use districts. Under this scenario this traditional pattern would be extended throughout the site. The north and west districts would be primarily residential in character with schools, institutions, and amenities. The district along I-494 would be a business district with transit stops and major parking facilities. The existing terminal and parking structure could be used for institutional and business uses which become the focus of a mixed residential district. The GSA area would become a business district.

Historic Fort Snelling would be restored in the same manner as the Open Space scenario and would become a residential community as well as an historic site.

These districts would be joined by a continuous network of open space modeled on the Twin Cities tradition of parkways. A new parkway through the center of the site would connect Hiawatha to I-494. This parkway would run through a major open area located in the middle of the site and would be directly connected to the parkway along the bluff. The local networks would discourage through traffic from flowing into adjacent communities. The public open space network is extended through the site and connects with the river valleys.



5. Aviation Use

An aviation re-use of MSP assumes that the scheduled passenger commercial service is moved entirely to a new site. This would include air cargo uses, but not necessarily general aviation activities which could remain along with the military uses. One runway and potentially a crosswind runway would be retained; the balance of the site would be available for development as a business park, primarily in office, flex, and distribution facilities. There would be no change to the external road system and the internal roads would be changed to only serve the new uses. Many of the existing structures could be temporarily or permanently converted to commercial and industrial uses.

After these community value scenarios were presented to the task force on 19 June 1992, it was decided to create several hybrid scenarios which would reflect the most important community value aspects of the separate scenarios, such as an economic development/research focus, open space amenity, and compatible residential uses. These hybrid scenarios are described in Section IV.

In exploring re-use options for the MSP site, it is essential to do so in terms of a very long term timeframe. The site will not be available for re-use until 15 to 20 years from now. Furthermore, it is a very large site--the largest single site that is ever likely to be developed in an urbanized area--and will require a number of years to be developed, built, and absorbed by the market.

Planning based on current market conditions, current development trends, or even current public policy would not necessarily be useful when the site becomes available or for the period of its development. These factors will certainly change many times between now and the time of development.

Therefore, the strategy for projecting re-use options for the site is to provide a set of "performance criteria" which can serve as a framework to guide specific re-use plans as they are developed in the future. These performance criteria define the essential characteristics and priorities for any redevelopment strategy. The criteria include physical, economic, cultural, historic, and environmental attributes which can serve as physical planning tools and a basis for public policy frameworks.

The planning process included testing and debating the merits of a series of alternate future scenarios for the site, each of which was based on a community value. From this planning process emerged five major categories of performance criteria and one over-arching criterion for the future use of the site, all of which are based on community values and goals. In addition, there are two types of implementation criteria: economic and legal.

Performance Criteria

The MSP site is considered by many to be the heart of the region, located at the very place where the Twin Cities were founded with the dramatic features of the Minnesota and Mississippi River Valleys as its setting. The scale of the site is very large. It is the biggest chance the region will ever have to make a significant development that can have a key role in leading its economic and social evolution. Therefore, the site merits a comprehensive strategy with a vision to create a new place in the region--this is a case where Daniel Burnham's famous admonition surely applies: "Make no little plans, for they cannot stir our souls".

1. Job Opportunities and Economic Development

   The MSP site is a unique land resource located in the center of the metropolitan region with exceptional regional access adjacent to the region's major employment centers with a spectacular natural setting. This resource should be leveraged to implement a key component of a regional economic development strategy for the 21st century. It offers the opportunity to create new, high-quality job opportunities that complement the existing regional employment base.

   Specific criteria:

   a. The focus should be economic development sectors of the future--high-tech manufacturing, research, new technology development, health care, and new communications.

   b. There should be a diversity of such sectors on the site.

   c. Public institutional components, such as university or federally funded research facilities, should become a focus to create synergy among the mixed use developments.

d. Development should be complementary to other major economic centers and not draw economic vitality from them, but it should be regionally significant.

e. Development strategies should involve public/private investment collaborations to balance public costs.

f. The development should be sufficiently intense to make public transportation feasible for both inner city and suburban workers.

g. Economic development strategies should provide job opportunities appropriate to the workforce in the adjacent communities.

h. The quality of the development and quality of the environment created should be conceived in terms of the site's national and international competition for economic development.

2. Major Environmental/Open Space Amenity

The MSP site is situated along the bluffs overlooking the Minnesota River Valley at the confluence of the Minnesota and Mississippi Rivers. Fort Snelling and the National Cemetery abut the site creating a mosaic of environmental, historic, and cultural resources unique to the region. There is an exceptional opportunity to build on both the historic legacy of the site and its proximity to the regional open space resource of the Minnesota River Valley. It is possible to create an unparalleled cultural resource of regional and national significance.

Specific criteria:

a. The open space amenity should be designed to complement and connect with existing regional open space networks.

b. Open space networks should be designed to connect and enhance the parks, streets, and recreation facilities in adjacent communities.

c. The open space network should provide public access to the Minnesota River Valley.

d. Approximately one-third of the approximate 3,100 acres should be devoted to open space and natural areas.

e. Development should emphasize active recreation uses.

f. Development should complement the National Cemetery site and respect the interpretive experience for visitors to the cemetery.

g. Re-use strategies should enhance Fort Snelling and support the restoration of the officer's housing complex. Active re-use options for this complex should be priority within these strategies.

h. Restoration and improvement of significant environmental features, both historic and existing, should become a physical framework for site development.

i. The provision of new environmental resources, such as lakes and woodlands, should be a major component of an open space system.

j. The design of open space systems should be based on sustainable ecologies.

k. The re-use of the site should include environmental mitigation and restoration of wetlands and prairie areas.

3. Complement Surrounding Communities

The MSP site is adjacent to single-family residential communities to the north (Minneapolis) and west (Richfield). To the south, Bloomington is primarily commercial along the I-494 corridor, and to the east lies the Minnesota River Valley. Although the site is bounded by a high-capacity highway system that creates a significant barrier between the site and the surrounding communities, re-use strategies should be responsive to the scale and character of the residential communities in particular. The intensity, character, and types of uses adjacent to residential communities should create a positive influence on surrounding neighborhoods and should not negatively affect the quality of life in the communities.

Specific criteria:

a. Include uses which serve adjacent and new community needs. These might include institutional uses, neighborhood/community scale commercial retail uses, and recreational facilities.

b. Provide linkages between the existing communities and the open space on the site to provide amenities for these residential communities.

c. Provide a balance of uses on the site so that new residential development does not burden the services of the surrounding communities.

d. Provide public and commercial uses which reinforce the economic base of the surrounding communities.

e. Develop a transportation network on the site that provides local connections where needed, but do not introduce large volumes of non-local traffic into the surrounding neighborhoods.

f. Provide regional scale transportation connections where appropriate for adjacent communities in order to support on-going planning efforts and objectives of those communities.

4. Regional Transportation

The MSP site is surrounded by a regional highway network and has perimeter access on all four sides. The projections of capacity for this system indicate that, once the airport function is removed, an unused capacity of approximately 131,000 vehicular trips per day will be available. Additionally, opportunities exist to create a critical mass of employment centers within the site that can be serviced by different modes of mass transit.

Specific criteria:

a. Trip generation to and from the site should be distributed in a balanced way onto the expressway system.

b. Development types and location should minimize the through-traffic impact on local residential streets.

c. The intensity of development related to employment facilities should be planned to create serviceable nodes by mass transit.

d. The mix of uses should provide a balance of traffic peaks throughout the day.

e. The form and type of development should encourage the use of various forms of transit.

f. The capacity of the network should not be exceeded, particularly at peak hours.

g. Development should be coordinated with improvements to the transportation network.

h. The secondary network as well as the regional expressway system should be effectively utilized.

i. Where possible, negative environmental impacts of the expressway construction should be mitigated, particularly along the Minnesota River Valley.

5. Residential Communities

The site is surrounded by predominately single-family residential uses. Housing types immediately adjacent to MSP tend to be modest, single-family detailed housing on small urban lots. This existing housing resource provides a large reservoir of close-in, affordable housing. The re-use of the MSP site could incorporate additional residential construction that would both complement and reinforce the existing residential neighborhoods.

Specific criteria:

a. Residential components should incorporate a diversity of housing types and costs.

b. Life cycle housing should receive priority in the development program.

c. Residential development should offer a "move-up" opportunity for young families to stay in the close-in urban neighborhoods.

d. Residential components should be integrated in a complementary way with other uses on the site to provide unique, mixed-use environments.

Alternative Scenarios for the Re-Use of the MSP Site

A key step in the planning process was the preparation of five "community value-based" scenarios for the re-use of the site. Once the performance criteria were generated from these scenarios, the team consolidated the key aspects of the various scenarios into four "hybrid" scenarios.

They are presented here as illustrations of ways in which the performance criteria could be fulfilled with development on the site. None of these are specific proposals for the site; they are merely illustrations of the performance criteria and can be used to evaluate development proposals as they are made in the future.

It would have been possible to end the planning process with the development of performance criteria. However, it is only by testing actual physical designs for the site that the performance criteria become more than generalizations.

The following pages include:

A. Existing Conditions of the Site
B. Aviation Use Scenario
C. Parkway Scenario
D. New Place Scenario
E. Emerald Place Scenario



A. Existing Conditions

The plan of existing conditions indicates in colors the various uses which are located within the circle of expressways that circle the site. These include 3,100 acres devoted to the airport itself. The main terminal building with its parking structure is located at the end of an access road from Route 5. The original terminal in the center of the site, the HHH International Terminal, is located south of the main runways. Other structures on the property include a number of hangars and maintenance structures for Northwest Airlines and a series of structures for airport dependent uses.

In addition to the 3,100-acre MSP site, there are a number of other uses on the land within the expressway ring. The Air National Guard and Air Force Reserves maintain active operations at the airport. There is also a small naval air facility on the airport grounds. The northeast corner of the site is dominated by Historic Fort Snelling and a large park including a golf course. Fort Snelling National Cemetery fills the southeast corner of the area. Along the western and northern edges there are fragments of residential areas and a golf course recreation area. Mother Lake in the northwest corner is part of a larger wetland area.

The airport, its related uses, and the military operations are surrounded by the ring of expressways and are an island in the middle of the urbanized part of the Twin Cities.

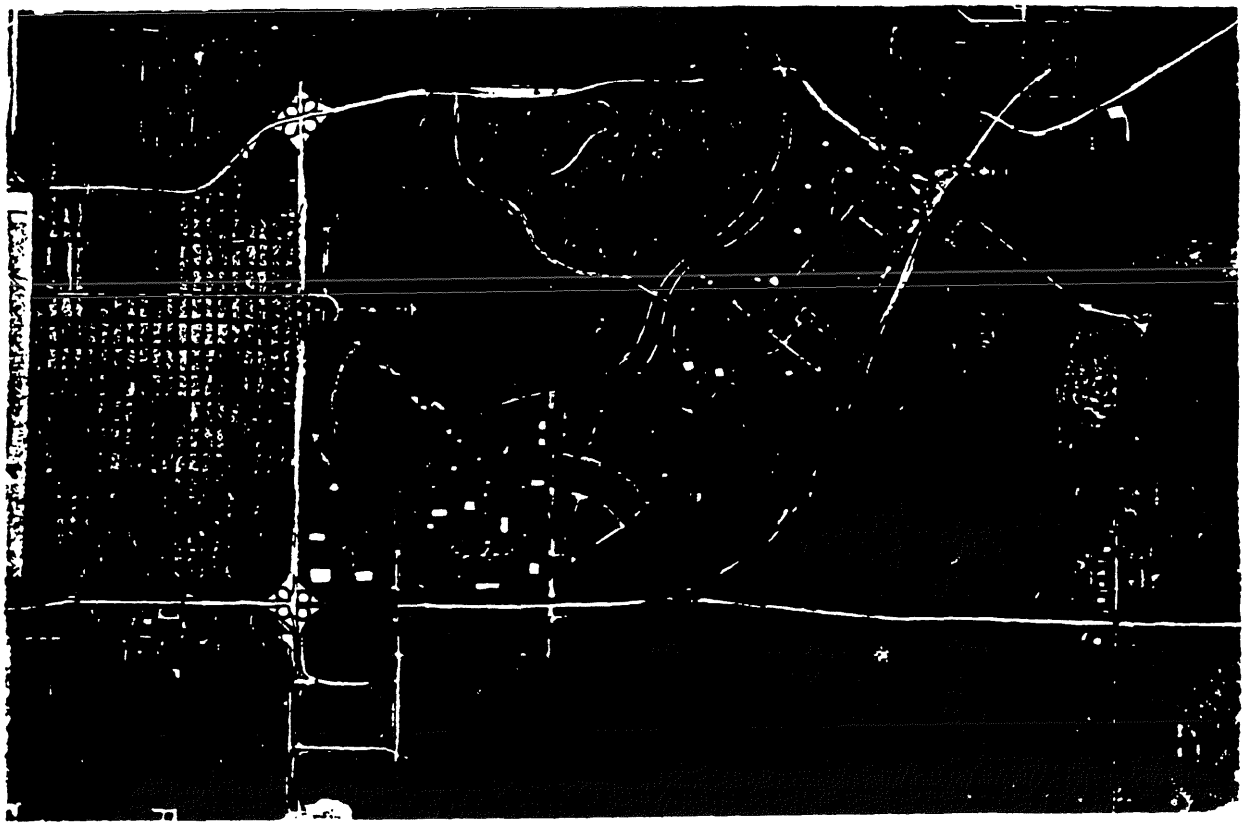


B. Aviation Use Scenario

As a base scenario, we have identified those aviation uses which might remain if the commercial terminal were moved. This would not include cargo uses but would include a general aviation airport. We have assumed that the military uses would remain. The balance of the site is developed as a business park, primarily in office and flex space. There is no change to the external road system, and the internal roads are revised only to serve the new uses. Many of the existing structures are converted to commercial and industrial uses.

This scenario has relatively little community value. The configuration of the site and its impact on surrounding areas remains the same. It is an island in the city. It does not have a positive impact on the open space network or historic resources of the site.

520 Acres Flex/Office @ .25 FAR = 5.67m Sq. Ft.
1,300 Acres Airport
350 Acres GSA/Military
710 Acres Open Space



C. Parkway Scenario

The principal organizing element of this scenario is a new parkway which runs across the site from northeast to southwest, connecting the end of Hiawatha with I-494 at the Mall of America interchange. It is conceived as a true "parkway"--a curving, divided road running through a linear park of restored natural landscape.

The parkway crosses a large public open space which runs from the northwest to southeast corner of the site. Approximately 982 of the 3,100 acres are devoted to this open space. It includes several lakes in the area where the water table is highest, an expanded and improved golf course, a wide variety of recreation facilities, and restored wetlands and prairies. It is configured to link with the Fort Snelling National Cemetery so the open space extends all the way to the Minnesota River Valley.

The parkway and open space serve several districts or development areas on the site. The key element is a major research, development, and office complex located between the bluffs along the Minnesota River Valley and the parkway. It is designed as an extension of the Historic Fort Snelling complex, with the officer's row restored as an integral part of the complex. The present GSA area is developed as an office park with a golf course as part of the environment to attract corporate headquarters.

The district closest to South Minneapolis is developed as a new residential area in the manner of current suburban development. It includes recreation facilities and is linked to the existing community.

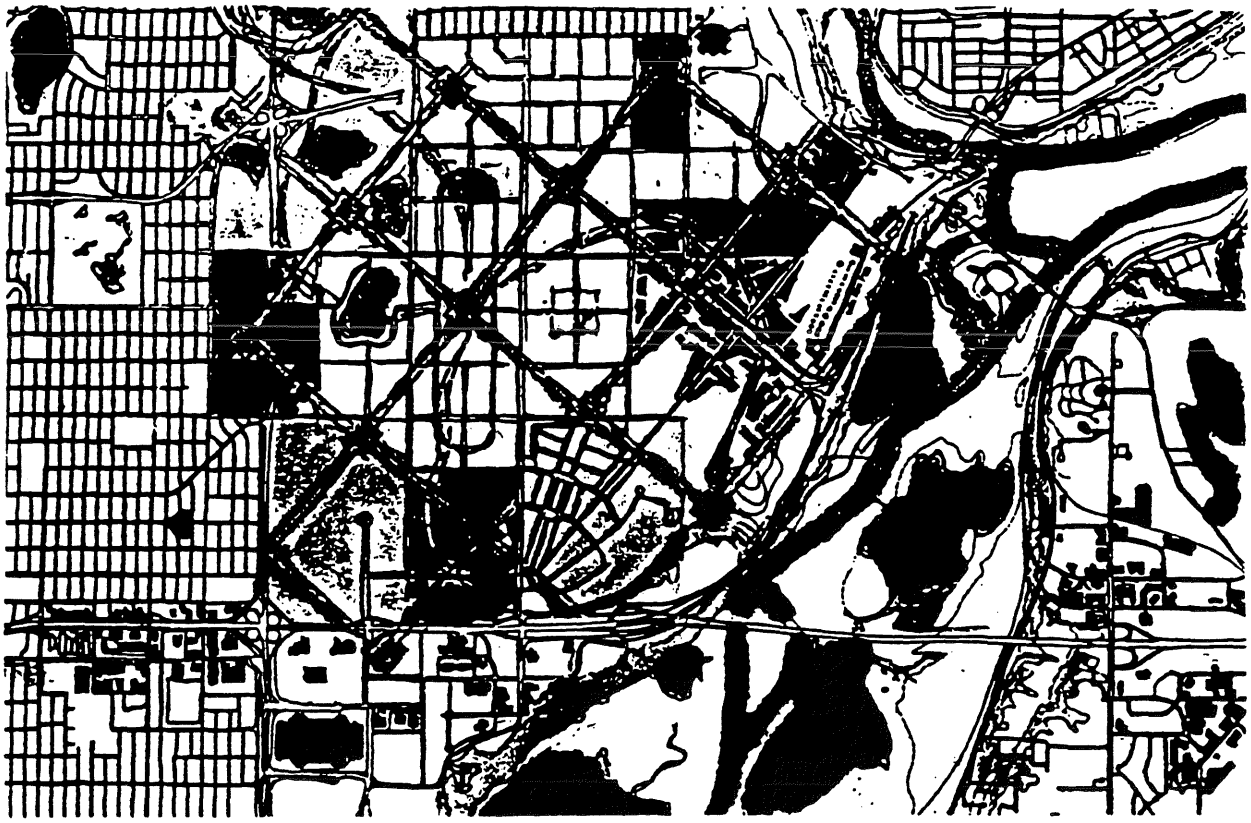
The district adjacent to Richfield extends 66th Street to a commercial and office center which is the focus of a residential district which runs around the western edge of the park.

The district closest to Bloomington is illustrated as a mixed-use employment district.

The network of roads serving this development link each area to the new parkway and to the interchanges on the existing ring of expressways. The only fast route through the site is the new parkway. The connections to Richfield and South Minneapolis are conceived as local connectors and provide access to parkway for local users.

Commercial/Office Use
645 Acre @ .25 FAR = 7m Sq. Ft.
65 Acres @ .5 FAR = 1.4m Sq. Ft.

Residential Use
655 Acres @ 1.5 Units Acre = 982 Units
115 Acres @ 12 Units Acre = 1,380 Units
982 Acres Open Space



D. New Place Scenario

This scenario represents a futurist vision of the site by building on the history of the site and the region to create new relationships and forms. Three are four principal organizing elements in this scenario:

- A "lattice" of open space with community nodes of active recreation and public space oriented to the Minnesota River Valley.
- Region open space elements including an expanded Fort Snelling Park, the National Cemetery, an expanded park around Lake Nakomis and Mother Lake, and a major recreation complex adjacent to the I-494/I-77 interchange.
- A local street network based on original street patterns and organized as a series of mixed-use districts.
- An extension of the ravine access to the Minnesota River Valley as a system of pedestrian ways that link the lake systems in the northwest to the floor.

The key district is the research, development, and office campus located along the Minnesota River bluffs with primary access from Route 5. It is linked to the Officers' Row complex which is illustrated as restored and used as part of the campus.

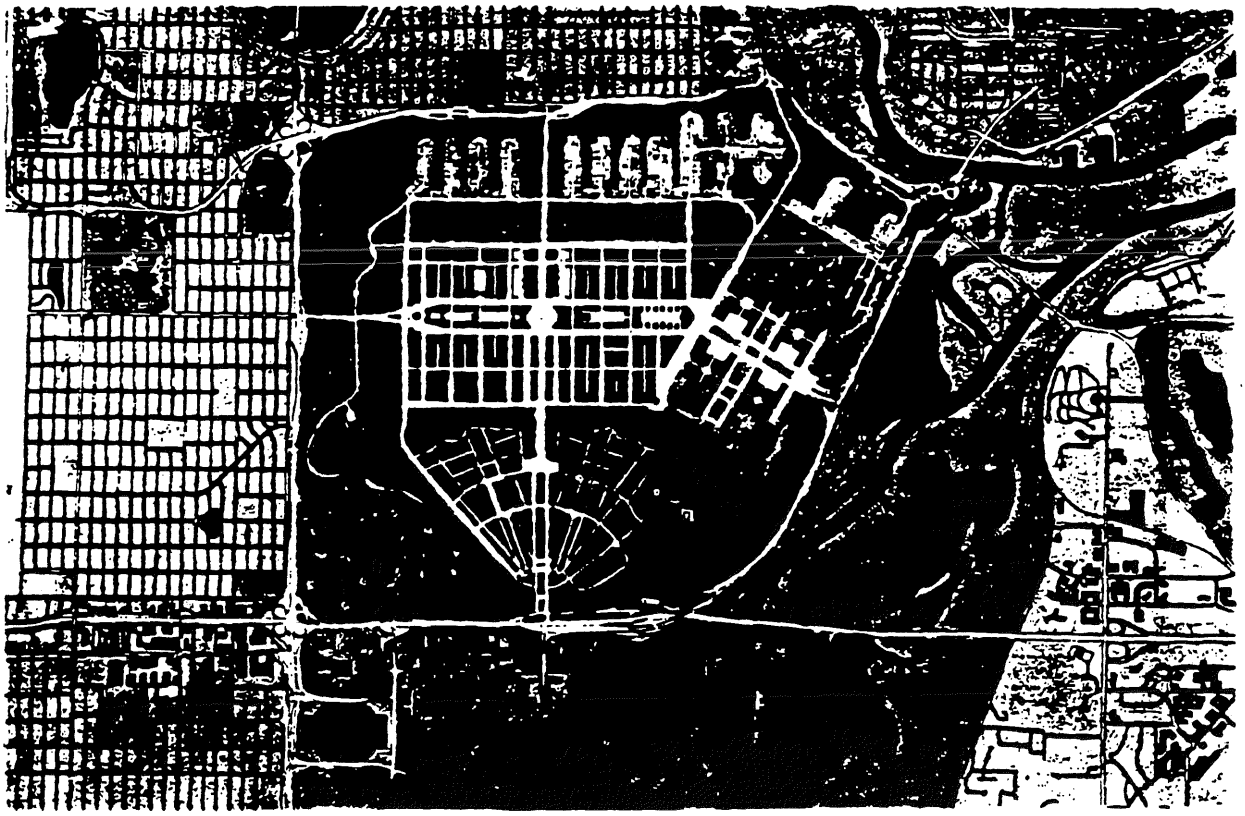
The road network provides connections to all interchanges of the expressway ring around the site. Connections to adjacent communities are primarily for local use and not for large volumes of through-traffic. Some redevelopment of adjacent communities is illustrated as part of the overall development strategy. In some instances the priority of physically connecting adjacent residential communities mandates that sections of the crosstown expressway and I-77 be in tunnel.

Commercial/Office Use

85 Acres @ .5 FAR = 1.85m Sq. Ft.
857 Acres @ .25 FAR = 9.3m Sq. Ft.

Residential Use

525 Acres @ 1.5 Units Acre = 787 Units
280 Acres @ 10 Units Acre = 2,800 Units
1,285 Acres Open Space



E. New Fort Snelling Scenario

The central feature of this scenario is a medium-density, mixed-use development in the center of the site. It is surrounded by park and open space. Its frontage along this open space is lined with medium density residential development. Its core is a mixed use office, retail, and residential center organized along a grand public space. The two axes of this grand mall link the three adjacent communities with the Minnesota River Valley.

The eastern segment of this complex is the research, development, and office campus. Its central space is linked to Route 5. Its buildings command dramatic view of the river valley.

The open space surrounding New Fort Snelling includes two major golf courses, a series of lakes, active recreation areas, and restored wetlands and prairie areas.

A series of new residential areas at lower density are located along the northern edge of the site with frontage on the open space. These are linked to South Minneapolis and extends to the officer's row complex at Fort Snelling which is illustrated as restored and re-used as a residential development.

The road network around the Fort itself is modified to permit through movements but to eliminate the interchanges. The result is to re-integrate the Fort into the site and restore its earlier road pattern.

Fort Snelling National Cemetery's expansion is located west of the present cemetery instead of to the east as currently contemplated. This opens up the land to the east along the bluffs for residential development or public open space. The cemetery can expand in a more monumental way and, more significantly, avoid locating uses along 494 which will add traffic to the area of the Mall of America.

The road network provides a series of direct connections from expressway to expressway but through the most intense parts of the development. It, therefore, provides the most direct access to the most uses from all directions but would tend to discourage through-traffic from using the site or local roads in adjacent communities.

Commercial/Office Use
2.7m = 250 Acres High-Tech Park @ .25 FAR
9.1m = 700 Acres Town Center @ .3 FAR

Residential Use
1,000 Units = 500 Acres Housing @ 2 Units per Acre
1,860 Units = 155 Acres Housing @ 12 Units per Acre
1,300 Acres Open Space

A. Economic Impact Summary

1. Economic Implementation Criteria

The MSP site provides a unique land resource for the region to meet its long-term goals--economic development and employment opportunities and general quality-of-life enhancement. The site is very well served by expressways. It is convenient to a large share of the businesses and residents in the region. It is also strategically located between downtown Minneapolis and other major economic centers and the new airport search area. The site forms the eastern border of the I-494 corridor or I-494 Bloomington-Edina "Edge City".

The economic re-use strategy and implementation criteria for the MSP site needs to recognize several key parameters:

Location. The potential re-use of the MSP site needs to relate to its regional location and context and to its role in the I-494 corridor.

Market. Currently, the Twin Cities commercial real estate market, as in most metropolitan areas across the country, has a large amount of vacant office, retail, and industrial space. The region is coming off a strong commercial construction period. This has resulted in an "overhang" in the office space market particularly which will take 5 to 10 years to be absorbed. There has been in general locally and nationally cyclical patterns of over-building followed by a period of under-building. By the time the re-use of MSP would potentially begin, 2005 to 2010, the vacant space would be absorbed.

Long Range Planning Horizon. The MSP property is a very large property relative to the historic pace of land absorption in the region. In addition, it will take time to clear and prepare the land for development. As a result, the economic results of MSP site must be viewed from a 15 to 50 year period not the 2 to 5 year turnaround associated with a much smaller, more typical development project.

Complementary and Competitive Development. From the stand point of economic development, the greatest challenge will be to prepare and implement a re-use plan and strategy which will generate economic growth which would otherwise not occur in the region. While the focus of the economic strategy should be on emerging economic growth sources within the region and nationwide, some amount of internal regional redistribution activity will likely take place given the uniqueness of the site and its new "infrastructure".

The performance criteria which measure the impacts would include the following:

- Change in the number of jobs by type of job and industry, by income level and in total.
- Amount of resulting private investment in existing land and improvements and in new land development and improvements on the MSP property.
- The total market valuation and real estate tax revenue from the development site.
- Sales, inventory and other tax revenues generated by business operations on the site.

- Public money required for site preparation, for infrastructure and for development project packaging for gap or bridge financial participation.

- Public operating funds to support the development staff and development effort.

These are directly measurable numbers. The more difficult aspect of economic performance criteria determination is to estimate the indirect or "multiplier" impact and factors, which while more important to the future economic health of the region and its people are difficult to quantify. These would include the enhancement of total and high growth stimulating research base in the region, the achievement of technology infrastructure at a level greater than that which would otherwise be achieved, and the creation of a technically trained work force at a higher skill level and in greater numbers than that offered in competing metropolitan markets.

These are high growth leverage factors. They are difficult to measure because the MSP property would only be part of the strategy, hopefully the catalyst to bring about the energizing of the strategy, to achieve these high leverage objectives.

But although these high leverage growth factors are more difficult to measure, they should be an important part of the performance criteria to evaluate alternatives just as are the quantifiable criteria of jobs, tax revenue, investment and other factors created directly through development on the site.

2. Economic Development Issues

The focus groups, one-on-one interviews, task force meetings, and other consultant tasks identified a variety of opportunities and constraints related to the future development of the MSP site. These issues are discussed below.

a. Unique Land Resource

The MSP site represents a unique, 3,100-acre large land resource, unmatched in size and location in the metropolitan are and especially within the I-494 corridor. This large land resource offers many opportunities including:

- The opportunity for the project to create its own unique environment and market identity.

- The opportunity to develop a significant large-scale, mixed-use integrated project in the metropolitan area, a mixed-use project with a high quality image to set a new standard for the region.

- The opportunity to serve specialized market niches as they evolve in the metropolitan area. Current gaps include a campus-type, research and development facility to capitalize on the region's and state's existing high-tech economy and an urban, regional recreational facility to satisfy the area's need for year-round, active recreation.

- The opportunity to create a unique development that, because of its critical mass and high quality, becomes competitive on a national and multi-state basis rather than just on a metropolitan basis. Such a project can substantially add to an area's overall growth by attracting development that otherwise might not have been located within the metropolitan area.

One of the weaknesses of the development of such a large land resource is that it will take a long time to be fully built out and, thus, for all of the positive impacts to occur. Additionally, some feel that the re-use of MSP would take a share of its absorption from already existing and planned projects thereby affecting their feasibility.

b. Access

The MSP site has strong regional highway access, necessitated by its use as the metropolitan area's primary airport facility. I-494 connects it with metropolitan area suburbs while 35W and 35E provide it with convenient access to downtown Minneapolis and downtown St. Paul, respectively.

c. Location

The MSP site is well located in terms of a number of considerations:

- Its central location with regards to downtown Minneapolis and downtown St. Paul and other metro area commercial nodes.

- Its location in the eastern end of the I-494 strip, the metropolitan area's strongest and largest office submarket. As the survey of corridor business indicates (see appendix), this node will continue to grow, even if the airport is relocated, because the overwhelming majority of current tenants have primarily located in this submarket for reasons other than airport proximity. While another six to eight million square feet of office space is planned over the long-term in the I-494 submarket, the MSP site could be highly competitive for future development because of its high quality standards and image.

- Its proximity to the new airport. With a new airport site located in Dakota County, the MSP site could represent a midpoint between downtown Minneapolis and the new airport. Additionally, mass transit could make this site very accessible to the new airport thereby increasing its competitiveness.

- Its relative proximity to the existing executive housing located in West Bloomington, Eden Prairie, and Edina and the emerging high quality residential areas of Eagan and Apple Valley. Proximity to executive housing is a critical factor for corporate locational decisions. Many area companies have chosen to locate in the southwestern portion of the region to be near this housing. Given current and projected congestion patterns and dependent upon land costs, the MSP site may prove to be an attractive alternative to these southwestern locations, especially given its proximity to the two downtowns and to the new airport site.

d. Adjacent Land Use

The MSP site is surrounded by a variety of residential and commercial uses.

(1) Residential Development

Strong middle-income residential neighborhoods are located to the north and east. In addition there are strong residential neighborhoods in nearby Bloomington, Eagan, and Mendota Heights. These neighborhoods could provide housing for new workers at the MSP site. They also indicate that the area is well received as a residential location. The strength

and vitality of these neighborhoods bodes well for any comparable residential development on site. Additionally, the relocation of the airport can only serve to increase the marketability of many of these adjoining residential neighborhoods due to the significant decrease in airport-related noise.

(2) Commercial Uses

Commercial uses are scattered along the I-494 corridor. The 6,100 hotel rooms that serve the range of lodging market needs and the 2.9 million square feet of retail space (not including the Mall of America) and restaurant space provide good support services for existing office, R&D, and residential uses in the corridor and could provide such support for similar types of development at the MSP site. Many of the existing office projects in the immediate area, such as Appletree Square and International Plaza, are known throughout the region as high quality projects, indicative of the MSP vicinity's acceptance and marketability for office development. While occupancy rates have become somewhat lower along the I-494 corridor in recent years, this reduction is an indication of regional overbuilding and growth trends rather than any reduction in the area's marketability.

The MSP environs will gain more visibility once the Mall of America is opened. The Mall could significantly increase the area's image, generate spin-off demand at nearby restaurants, retail and lodging facilities, and over the long term generate further retail potential in its vicinity.

(3) Recreational Uses

Within the immediate vicinity of the site is historic Fort Snelling and the Mississippi River gorge. These two resources contribute to the site's uniqueness and could form the foundation of any open space and recreational offering on the site.

Overall, the mix of uses adjacent to the MSP site can be supportive and contribute to its marketability for various types of commercial and residential development.

e. Economic Impacts

Re-use of the MSP site will generate a number of economic impacts but, most importantly, should favorably impact property tax revenues and jobs, depending upon the ultimate use of the site and density patterns. As a government function, the existing MSP airport is tax exempt. Re-use of the site could put up to two-thirds of the site back on the property tax rolls.

The current jobs at the [illegible]all airport related with the vast majority being service oriented. A corporate headquarters/[illegible] business park could serve to increase the total wages generated by the site while existing jobs would not be lost but be relocated to the new airport. Thus, the mix of jobs generated by the new development MSP could be more diverse and more high paying and could require a higher level of skills and education. This relocation, of course, could cause some workers to move, but many might move to a residential project at MSP because of proximity to the new airport, especially in comparison to the northern parts of the metro area

f. Development Costs

A number of development issues will have to be addressed as the project evolves and its development plan is finalized. These issues will affect the ultimate cost of developing the property and thus its competitiveness in the corridor, region and nation. They include:

- The nature and degree of environmental hazards existing at the site, related to both the buildings and the land.
- The suitability of the terminal, hangar, and other buildings for re-use purposes. The cost of adaptively re-using these structures will have to be weighed against the cost of their demolition and subsequent new construction if a suitable re-use is found.
- The suitability of the existing utility system to serve future development at the site in terms of the system on site, its capacity, location, and the system to the site.
- Other unique site development costs not related to infrastructure and environmental concerns but to the removal of the fuel storage facilities and the vast amount of concrete presently used for the runways, aprons, and existing circulation systems.

All of these issues will have a significant impact on the land prices that will have to be generated to make the investment in MSP re-use viable.

g. Business Climate

The business climate of the region and the state not only affects the marketability of the MSP site but also of other sites in the region. But a large project and one with high visibility such as the MSP re-use site will have to be competitive in a larger context than just the local metropolitan area. In this large context, real estate and business location experts will be concerned with the relative competitiveness of the state and the metropolitan area as a location for doing business. Concerns have been expressed about the area's ability to retain and attract certain types of businesses that represent new and emerging strengths in the local and national economies. These concerns will have to be addressed before the site can be successfully marketed to a national audience.

3. The Existing Airport Area Business Locational Affinity and Probable Future Actions

There has been considerable concern that the relocation of MSP airport would heavily impact the commercial viability of the I-494 Corridor and vicinity. To ascertain the probable impacts from the possible MSP relocation, a mail and follow-up telephone survey was conducted of four types of commercial businesses in the Corridor

- Airport-dependent businesses including rental car companies, air freight carriers, and hotels
- Airport-influenced businesses including office and industrial tenants

While there are also a substantial number of restaurants and retail businesses along the corridor, these businesses were assumed to be primarily resident and nearby employee supported and therefore not dependent upon nor heavily influenced by re-use of the airport.

The results of the survey and its implications for the Corridor and site re-use are summarized as follows.

a. Airport Dependent

Three types of airport dependent uses were surveyed, car rental agencies, freight carriers, and hotels.

(1) Car Rental Agencies

The car rental agencies do not heavily influence land use along the I-494 corridor, as almost all are located at the MSP site. Only three out of the eight respondents are located away from the airport in the I-494 strip. Two of the non-MSP car rental agencies and all of the MSP agencies because they are airport-dependent would relocate to the new airport. Together, the two non-MSP facilities only lease approximately 3,500 square feet of space and therefore would not heavily impact office occupancy rates within the Corridor. A number of rental facilities would stay to serve the local and lodging markets.

(2) Freight Carriers

The air freight carrier respondents are located in close proximity to the airport in nearby Minneapolis, Bloomington or Eagan.

Because they are airport-dependent, as to be expected, 75 percent of the respondents stated that they would relocate to the new airport, most in time for its opening. The "yes" respondents would vacate approximately 200,000 square feet of leased space or approximately 12 acres of land. Assuming the non-respondents have similar propensities in terms of relocation nd space needs, then approximately 425,000 square feet of leased carrier space would be vacated in the corridor or 26 acres of land as a result of MSP re-use.

(3) Hotels

The I-494 corridor is a logical location for lodging facilities. A total of 32 hotel/motel facilities are located in the corridor in Eagan and Bloomington. These facilities serve airport users, visitors to the office and industrial parks surveyed above, and area residents. They are also centrally located and convenient to downtown Minneapolis and downtown St. Paul.

(a) Occupancy Rates

The respondent hotels range in size from 47 to 575 rooms and contain 3,666 rooms, or 60 percent of the total corridor inventory, estimated at approximately 6,100 rooms. Occupancy at the respondent hotels ranges from 50 to 73 percent or 64 percent on average, which is consistent with industry standards. Generally, the chain and medium to higher priced facilities have the highest occupancy rates. There appears to be no correlation between proximity to the airport and occupancy.

Over half of the respondents have experience a stable occupancy rate over the last few years, and 20 percent have experience an increased occupancy rate. This is surprising given concerns about overbuilding in the area.

The MSP Airport and I-494 strip are important generators of roomnights in the Corridor. According to the survey of Corridor hotel managers, 57 percent of Corridor occupancy is related to airport proximity and 75 percent of the total lodging business is attributable to commercial business (non-meeting and meeting). This predominance of commercial business and synergistic relationship between commercial occupancy and airport proximity is related to a number of factors:

1. Most of the hotels surveyed are highly quality commercial facilities that cater to upscale commercial clients, who largely travel by airplane.

2. The 6.7 million square feet of office space along the I-494 corridor generates substantial commercial roomnight demand. Additionally, the majority of visitors to these high quality office projects arrive by airplane.

3. The I-494 corridor is the logical location for overnight accommodations for commercial travelers to Twin Cities suburban commercial nodes and for those conducting business in both suburban and downtown locations.

With reuse of the MSP site and relocation of the airport, lodging facilities along the I-494 Corridor, because of the critical mass of commercial activity in the Corridor, will continue to attract commercial travelers. The Corridor, with a convenient location vis-a-vis downtown and the new airport, could be an attractive alternative for visitors wishing convenient access to both locations. On the other hand, some travelers will choose to stay near the new airport. The number of such travelers will be dependent to a large extent on the quality and number of facilities available at the new airport, but more importantly, on the amount and quality of office and commercial activity in its vicinity. The propensity of future visitors to stay along the Corridor versus at the new airport would be best analyzed through a survey of hotel occupants.

As fixed base operations, hotels are unable to move just because their demand is reduced for one reason or another. In fact, none of the facilities said that they would close as a result of the airport relocation.

(4) MSP Re-Use Implications

Neither the car rental companies nor freight carriers will heavily impact re-use of the MSP site. The number and quality of accommodations in the Corridor and current occupancy rates indicate that hotel use at the site would not be viable. On the other hand, uses that support the existing lodging facilities, such as a research and development park, recreation and tourist attractions, and institutional uses should be emphasized.

b. Airport Influenced

One type of airport-influenced use was surveyed--office and industrial tenants. Surveys were distributed to office and industrial tenants at the major multi-tenant complexes in the I-494 corridor located between Eagan's eastern boundary and Normandale Boulevard.

(1) Office and Industrial Tenants

Although the surveys were distributed to multi-tenant and single-tenant office and industrial firms along the I-494 corridor, 100 percent of the respondents are office users, 80 percent are located in a high-rise building, and 100 percent lease the space. This predominance of office versus industrial, high-rise versus low-rise, and leased versus owner-occupied space matches commercial land use patterns within the Corridor.

(2) Relocation

Out of the 204 respondents, only 13, or 6.4 percent, indicated that they would relocate to a site near the new airport. These companies would vacate only 58,000 square feet of space, most of which would be in high-rise buildings.

If the non-respondents are assumed to have similar propensities in terms of relocation and space needs as the survey respondents, a total of 65 companies would relocate from the Corridor generating a vacancy of approximately 290,000 square feet, or 4.3 percent, of the Corridor's existing 6.7 million square feet of office space. Thus, the relocation of MSP would cause a modest increase in the Corridor's vacancy rate, immediately proceeding the opening of the airport.

(3) Absorption Impacts

Besides the increased vacancy, relocation of MSP will most likely affect, to a small degree, the pact of future absorption within the Corridor. The survey indicated that 30 percent of the companies responding (occupying 22 percent of the total space of companies responding) located in the Corridor because of MSP. Thus, in the future, a portion of the Corridor's absorption, perhaps up to 11 percent or half of the space previously occupied due to the airport proximity, could be captured by the new airport location. Absorption in the southwest corridor, the submarket in which the airport is located, has been averaging approximately 450,000 square feet per year. An 11 percent loss of absorption, due to the MSP airport relocation, would total only approximately 50,000 square feet per year along this Corridor if past absorption trends continue.

This possible 11 percent reduction in annual absorption could be offset by a number of factors. Not to be underestimated is an increase in the area's desirability as an office location caused by the Mall of America, the elimination of airport noise and the strategies implemented to develop the MSP site, especially if the site becomes competitive on a multi-state and national basis. All of these factors should have a positive spin off on the I-494 corridor.

(4) MSP Re-Use Implications

Relocation of the airport could modestly impact future absorption within the Corridor end causing a one-time increase in vacancy rates. This implies that multi-tenant office, competitive with existing and planned I-494 facilities, should not be a predominant land use at the re-use site. Uses that complement or support the present office market, corporate headquarters, research and development space, for example, should be considered for the strategy.

B. Governance Recommendations

The governance structure for the re-use of the MSP site must be designed to implement the performance criteria set for the site. The governance recommendations below are designed to address the performance criteria and issues raised in the legal/governance section in the appendix to this report. The governance structure should consist of a development and management entity which would be established three to five years prior to the closure of the airport to work out the details of the re-use issues. In particular, the development and management entity should address the financial requirements of phased development of the re-use--Phase 1: start-up costs, land acquisition and disposition, master plan development; Phase 2: initial implementation of master plan; and Phase 3: on-going, long-term implementation of the master plan.

1. The development and management entity should have sufficient authority to establish and implement a comprehensive re-use strategy for the MSP area. This includes the ability to determine the appropriate local official controls for the MSP area. Based on the comprehensive re-use strategy, the development and management entity would adopt a master plan including a plan for how land would be annexed to adjacent municipalities. The re-use strategy should identify financial incentives to achieve the long-term development goals and objectives.

2. The development and management entity should reflect and involve regional interests and those of the adjacent municipalities.

3. The development and management entity should have the requisite legal and financial authority to control the acquisition and disposition of property within the MSP area.

4. Specific municipal services (fire, police, water, sewers, schools, parks) should be the responsibility of the appropriate adjacent community to avoid unnecessary duplication and to take advantage of a shared service concept. The land within the MSP area should be placed on the local tax roles as soon as possible.

5. Environmental remediation should be undertaken by the responsible parties and, if necessary, by the development and management entity funded on a federal, state, or regional basis.

6. Preparation of the site for development should be the responsibility of the development and management entity funded by federal, state, or regional resources.

7. Re-use and redevelopment activities and supporting infrastructure should be the responsibility of the development and management entity and users.

8. The development and management entity should coordinate public capital investment and maximize private capital investment.

METROPOLITAN COUNCIL
Mears Park Centre, 230 East Fifth Street, St. Paul, Minnesota 55101
612 291-6359 TDD 612 291-0904

DATE: *September 17, 1992*

TO: *MSP REUSE TASK FORCE*

FROM: *JOHN KARI*

SUBJECT: *MEMBER SURVEY RESULTS*

MSP REUSE TASK FORCE SURVEY
September 1992

STATEMENT 1

I believe that the site offers an opportunity for office/warehouse/manufacturing of a high-tech clean park setting. It could be a little like the Opus Park in Eden Prairie; wide streets, good traffic control, concrete curbs, lawns, landscaping, brick exteriors and a certain amount of screening for cars and trucks.

The second use would be residential and this could be both single-family and townhouse residential. The townhouse residential could be both ownership or rental. It should not be for low-income but for medium- to modestly-high income.

Coupled with these two uses would be an environmental open space corridor leading from the state park and regional park on the Minnesota River through the residential and adjacent to the commercial area leading to Richfield. Hopefully, this could be running, walking, skating paths, rest areas by lakes, points of vista and some direct connection to the regional and national park with a low-ramped overpass. Then a ramping down to the river level at a grade consistent with biking, walking and rollerblading.

Therefore, there could be one master plan for the entire area, and the office-warehouse commercial could be sold off into one, two or three larger parcels for redevelopment consistent with the development criteria. Also, the residential could be sold off into one or more single-family areas and one or more townhouse areas. Consequently, there could be a number of developments going on simultaneously, all consistent with the master plan.

STATEMENT 2

The site will impact the region but should have the objective of reaching out to the international market. The site should present the best example of what we as a community can offer the global community. The activities at the site should not compete with, but rather should complement the two core cities. I view St. Paul as the seat of government and Minneapolis as the financial and services center. institutions of higher education abound in the central cities. I see the MSP site as a center for the development of job and career opportunities and economic development. The need exists for something more than mere service jobs--entry-level jobs with career paths and manufacturing or industrial jobs which respect the environment. The unique aspect of the

confluence of two verdant river valleys should be promoted. Research should be promoted in the fields of medicine, transportation, food, communications and energy. Housing should include entry-level market and other price ranges enabling upward mobility as residents progress with their economic resources. A Native American cultural center should be erected to promote history, environmental education and international peace programs. Governing body should remain an open question for present, but should be first matter addressed once new airport construction schedule is determined.

STATEMENT 3

I see the current MSP site being redeveloped into moderate- to upper- and single-family housing with a mixture of parks and commercial buildings.

This will give the surrounding cities the best tax base and will reinforce the Metropolitan Council's desire to contain urban sprawl.

STATEMENT 4

If the MSP site is vacated, a significant economic generator will be lost to this region. It is important that reuse planning consider replacement of the economic base to support the commercial/industrial/residential areas that have been dependent upon both direct and indirect airport business. The concept of using terminal facilities linked with a remote airport site should not be abandoned.

In addition to developing criteria for redevelopments, special emphasis should be placed on developing a specific planning process for redevelopment if the site becomes available. The process should consider the need to provide a replacement economic generator as well as the need to identify and construct uses complementary to the commercial/industrial/residential uses which previously served the airport site.

Retaining open space and recreation space should be a consideration in any planning for reuse. Special consideration should be given to extending existing recreational travel ways through this area. The historical significance of Fort Snelling should be retained.

Clearly and without question, the property should be returned to the corporate limits of the cities from which they were taken. If there are unusual boundary problems which develop as a result of development concepts, those issues can be resolved through annexation and intergovernmental agreements.

STATEMENT 5

The main focus of the site should be to bring relief to the surrounding communities from aircraft noise. Therefore, I do not envision an airport component to the reuse of the site. To prevent additional large noise generators I envision the site: 1) having a major active open space and environmental component recognizing the historical importance of the area; 2) complementing and integrating with surrounding communities, i.e., community-scale retail, recreational facilities; 3) complementary and reinforcing existing residential with additional residential. This vision would extend present uses and provide an open space component with human-scale retail and institutional uses for the residential component.

The site should not be competitive with surrounding large retail and commercial areas (downtowns and Mall of America), but should reinforce existing usage patterns, provide small-scale commercial and highlight the unique historical importance of the area.

Governance should reflect and involve the interests of adjacent municipalities, property owners and regional interests. This entity should have authority to establish and implement a comprehensive reuse strategy for the site and have the requisite legal and financial authority to control the acquisition and disposition of property within the area.

STATEMENT 6

If (and that's a big "if") the current MP site dies not continue in use as an airport, it is my opinion that the best reuse of the site in the near term is as a public land reserve. Speculation on long-term reuse of the MSP site is so hypothetical that it is unproductive at best, and at worst gives the impression of expertise and accuracy beyond the scope of our committee's study. I have reached these conclusions after examination of the study alternatives, and in light of the historical importance of the MSP site.

The attributes which on the surface indicate that the current MSP site is desirable for redevelopment to another urban land use can be summarized in two words, location and size. The size of the MSP site alone qualifies it as having extraordinary potential. Proposed reuses which would segment and subdivide the site should be viewed as ill-advised unless they are clearly temporary uses. The location of such a large site at a point where Minnesota's three largest cities meet is of more than symbolic importance. The economic, social and political forces which have made Minneapolis, Saint Paul and Bloomington so successful demand an exceptional reuse of the MSP site, a reuse equivalent in importance to the current airport.

Our committee has heard advice regarding the potential reuse of the MSP site for traditional urban uses. Redundancy and lack of vision are two criticisms of these uses. It is also evident that reuse of the MSP site for traditional urban uses would disrupt the regional real estate market and depress land prices by over-supplying real estate in any given category.

In order to make an informed decision on airport relocation, one must consider the costs and benefits of reuse of the MSP site. I believe that it is an obvious assumption that the residual land value of the MSP site for any urban land use is less than the costs of dismantling existing facilities and providing upgraded infrastructure to serve urban intensity uses. Given the supply of vacant land in the region, any benefits from reuse of the MSP site would be transferred benefits, rather than net new benefits to the region.

The conclusions stated above are not an abdication of the charge of our committee. However, acceptance of these conclusions may preclude relocation of the airport. If that is the result of our committee's work, then our work has been of value, even though we did not prescribe a reuse.

Land-banking the MSP site for potential large site reuses and uses of benefit to the adjacent communities would allow transportation, education, health care, recreation, international trade or possibly metropolitan civic center uses to be developed as the need and potential would arise. Maybe a future generation would find the MSP site an ideal new home for the University of Minnesota? Who knows? Knowing that we have not identified a reuse which requires MSP's location and size can be both prudent and visionary.

STATEMENT 7

My vision for the MSP site is one which integrates it with the surrounding communities and the adjacent lakes and river valleys. At the same time, it will take advantage of its unique position roughly midway between the downtowns and the new airport to leverage economic opportunities which will complement and maintain the vitality of a highly evolved I-494 strip. Of necessity, it will encompass a commercial/industrial element to enhance economic viability and minimize the public cost of redevelopment.

If anything, its components could orient even more toward the site's opportunity for natural amenities. These should complement and integrate into the other elements rather than be separate from them. Promenades, river walks, extensions of the parkway system and circular paths of varying lengths could draw users from the economically-based land uses into a highly pedestrian, human-scaled environment.

The commercial elements should be sensitive to evolving trends and concentrate on businesses and industries which will be viable over a very long planning horizon. While everyone's crystal ball is hazy, options can include businesses and industries which have remained viable despite the electronic revolution, research and development to remain on the cutting edge of all businesses, businesses associated with human longevity, ergonomic and human efficient based industries, medical-technical industries and communications technologies.

The space should reflect the nature of the communities at its boundaries to an extent although, it should be recognized that unless highway crossings exist, the areas adjacent to Cedar Av. and the Crosstown will not function as neighborhoods across those arterials. It will be necessary to bridge the area both physically and socially to encourage interaction and avoid islandization. If such bridging does not occur, frankly, it does not matter what is on the other side of a divided highway.

The reuse of the site should take advantage of its location along the river bluff for views and natural amenities. It should relate to, but need not be overly controlled by its relationship with, historic For Snelling. It should continue to act as a transportation-transit hub. It should be a place to be, as Lake Harriet, West River Road and the parkway area. It should be a prototype of new planning concepts and techniques. it should somehow draw people of the region together as the airport does currently. This sounds really silly, but it has the potential to be a reflection of the Mall of America for housing, employment and nature-based recreational opportunities.

In the interim, it should be governed by a regional agency in much the same way as a developer manages a development until it is ready for self-determination. Then it should become an entirely new city. Assuming, of course, that we have not all been forced to consolidate by then. In which case, it should become part of Falcon Heights.

STATEMENT 8

The redevelopment of the MSP site creates what can best be described as "a significant opportunity which cannot be adequately envisioned today." The sheer size and pivotal location of the site will lend itself to a monumental metamorphosis when (and if) it is available for development in 15-20 years. Unfortunately, no one can accurately predict the needs and wants of the marketplace in this future time period. It has become clear to me that the most that can be expected from our task force is to broadly brainstorm and describe potential uses, develop and rank decision criteria based on today's world, and develop some broad parameters for the evaluation of other issues (such as governance, traffic impact, etc.) to be addressed in the future.

With respect to the governance issue, the site should be governed by those with the greatest investment/risk in the development of the site. In today's world this would probably translate into some sort of public/private governance structure that exists in some of our "edge cities. To dictate today that Richfield, Minneapolis, Bloomington, or some combination thereof, should provide the governance would be a terrible mistake since we do not know anything about the future investors, uses and/or occupants of the site./

The most significant opportunity this site offers is that this region will be in a position to mastermind the development of a major urban site. It can be molded into a development that accommodates many unforeseen uses, transportation modes, and regional needs. Our biggest risk is to define our objectives, decision parameters, or vision too rigidly today which may cause us to miss a major unforeseeable opportunity. For instance, it may be that in the future we want a site that integrates with the surrounding communities. Yet, on the other hand, there may be an opportunity so unique and significant for this region that this parameter will be totally overshadowed and can be abandoned.

STATEMENT 9

The site should be developed in such a way as to allocate 25 percent commercial (including industrial research and/or manufacturing) which would preferably be of a "high tech" medical or scientific nature, 25 percent parks or otherwise open space, and 50 percent housing. Two-thirds of the housing should be low-density with the remainder either medium- or high-density. Except for the open space the development need not blend in with the adjacent communities. It should be a community within itself. It should complement the adjacent communities to the extent that its appearance should not be "off the wall" so to speak. The development should be coordinated be a central governing authority which would establish and enforce a comprehensive plan, including zoning and building codes, thereby avoiding intercity and interagency conflict and should ultimately be governed as a separate and unique political subdivision apart from any existing city or county jurisdiction.

If the area developed into a rich slum then so be it. I don't necessarily think it has to be all things to all people. Jobs, housing, increased tax based--those are the important considerations.

STATEMENT 10

The site should support activities that complement those in the Metropolitan Area, particularly the downtown districts of Minneapolis and St. Paul. The large space availability makes certain types of development possible that are now missing in the metro area. For example, large high-tech campuses with concentration of R&D functions and manufacturing. The unique role of the downtown district (Minneapolis) in the global information (transportation/communications) networks must be clearly articulated and its essential requirements identified. This is much more than a job opportunities and economic development because of the uniqueness of the Minneapolis downtown district and the Metropolitan Area in new global networks. Only a limited number of such transportation/communication nodes exist, and only because of the superior services they provide for trade and commerce.

The site should integrate economically with downtown districts (Minneapolis & St. Paul) and residentially with adjoining communities. Job specifications of the new businesses should be listed early for comparison with available skills in adjoining and nearby neighborhoods, especially Minneapolis and St. Paul, which have suffered from job dislocation.

The site's uniqueness comes transit's large area proximity to downtown districts, historical and cultural values, and topographic features, including relation to local waterways and parkways.

Governance should be such that the importance of the site to the economy of the region and the state is fully recognized in all of its deliberations in a way that provides for fully collaborative and cooperative arrangements with local governments.

STATEMENT 11

First, we must consider present and projected marketplace considerations. Nationally, and locally we have an economically over built office market. We do not need more office or retail space. The state's business climate and tax structure prevents us from attracting new business (i.e. we can't attract a very large "3 M"-type corporation to a new corporate office complex). This is not likely to change.

The site's topography and location make it ideal for industrial development (flat areas, large open spaces, etc.).

Accordingly, I believe that we should focus on three areas:

- industrial development,
- residential development (complement surrounding areas), and
- open space/park areas.

This approach is consistent with market needs, will cause minimal disruption to existing business and residential areas and will offer the potential for phased, incremental development over time.

STATEMENT 12

The MSP site should accomplish the following goals:

- blend in and benefit the surrounding communities that should ultimately be responsible for the long term governance of the site;
- replace the jobs related to the new airport site to the extent possible;
- state financial commitment to the proper rehabilitation of the site and development through writedowns, subsidies or tax benefits; and
- balanced use which reflects market conditions at the time of development.

STATEMENT 13

The USA is becoming less and less industrial and more service and research oriented. The world population is growing. People are living longer. Information and health care are becoming a higher priority need. Additionally, ground space is required to create new facilities to house and service the research and educational needs. College campuses are limited in ground to expand and need additional space and facilities for graduate school and research. Can a portion of the ground space be utilized to build facilities for higher education and research. This facility to be a cooperative effort and concentration of universities in locating their graduate school and research at one location. This facility could be administered with more efficiency and less cost that the present individual university experiences -- a super campus with top students and research facilities to improve health, services and to serve the growing population.

The Fort Snelling portion of the site can be developed into additional open space for public use. Parks, additional historical development and reclaiming the ground where the State of Minnesota was born.

This concept would not require additional highways to serve the area -- some relocation of present roads would be necessary but traffic counts would remain at a lesser level than now experienced. This concept would be compatible with the surrounding communities.

RANKING THE CRITERIA

- Using a 100-point scale, how would you rate the criteria in importance?

Job Opportunities and Economic Development	33.2
Major Environmental/Open Space	17.7
Complement Surrounding Communities	15.0
Regional Transportation	11.5
Residential Communities	20.0
(Use requiring MSP's unique size & location)	3.6
total	**100**

- Additional criteria?

1. Failure to reach the potential of the MSP site should be a criteria. There are two components to this: 1) under achievement of the potential of the site is relatively easy because of the location of the site; and 2) preference should clearly be given to redevelopment proposals which require a large, premier site such as the MSP site, rather than to proposals which would subdivide the site.

2. Impact on existing business, property values, tax structure and surrounding communities.

3. Integration with the downtown and regional economies.

   Complement residential and communities workforce in occupational requirements of individual industries.

4. Replacement development for airport support businesses.

   Cost of redevelopment alternatives.

   Infrastructure impact costs and limits.

5. Complement surrounding community and residential communities sections:
   - need to include wording on linkages of the new to the old -- a sort of blending so to appear that the new is an extension of the existing uses.

6. Economic feasibility

7. Our report misses the point. No vision and no criteria for development mean anything without financial commitment to make the redevelopment possible. We forget that fact completely. If, and only if that is available, the other factors come into play. Following that, we must take the long view. That would mean, in the first instance, that this site must go back to the local communities and thus harmony with those communities and their goals is critical. Next is job replacement for the jobs moved from the site. The other factors upon which we put so much emphasis are secondary factors which flow from these primary factors.

- Criteria to be dropped or rephrased?

1. The criteria for Job Opportunities and Economic Development and for Residential Opportunities should be dropped as elements of a rating system. While each of these criteria are important to the entire region, it has not been demonstrated that any potential redevelopment would add net new jobs, economic development or residences to the region. What has been demonstrated so far is the likelihood of economic transference within the region.

2. Major environment/open space per se has no lasting value; it must tie into the importance of amenities for a footloose, professional workforce.

   Regional transportation is important only insofar as it links site with (a) downtown district, (b) other regional sites and (c) global markets and import supply sources.

   Residential communities is a positive factor only insofar as it relates to workforce preference and industry requirements.

3. Given the long period of time involved, we should change our analysis from to process. If MSP moves, how should the process work to best develop the site. This would require money, and community involvement. In that process, we would recommend that the decision makers review the criteria which we today believe might be important.

4. In reference to the economic impact along the 494 strip hotels, it is my request to rephrase the statement "that in the opinion of the hotel management the moving of the MSP airport would have little or no effect on the hotel occupancy." This statement should be deleted. As a part hotel owner/manager, the MSP airport is very important to the hotel industry along Highway 494. In my case at the Registry Hotel, 78% of occupancy Monday through Thursday used air travel as a means to arrive at the MSP Area. Talk to the owners of the hotels, not the short-term franchise managers.

September 16, 1992
R-uVIS.ION

Re-Use Study (Phase II) of the Minneapolis-St. Paul International Airport

Interim Working Papers

Technical Appendix

4 August 1992

Prepared for:

MSP Re-Use Task Force
The Metropolitan Council

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A. Geology, Hydrogeology, Contaminated Sites

1. Description of Existing Conditions

a. Geology and Hydrogeology

The geology of the Minneapolis-St. Paul International Airport site is characterized by sedimentary rocks of Ordovician age which are overlain by glacial deposits of Quaternary age which range from 0 to 150 feet thick. Subcropping bedrock lithologies include dolomite, sandstone, and limestone of the Prairie Du Chien group, St. Peter Sandstone, and Platteville and Glenwood formations respectively (Figure 1 and Figure 2). The St. Peter and Prairie Du Chien form bedrock aquifers in the area, while the Platteville and Glenwood is considered a confining layer. Surficial deposits composed of Superior Lobe Till, Des Moines Lobe outwash, and terrace deposits of late Wisconsin age overlie the bedrock (Figure 3). Local exposures of bedrock exist in the eastern part of the site, along the river and freeways. Peat and organic-rich sediments form the surficial deposits in the wetland areas and in the river valleys. Soils overlying the glacial deposits are part of the Estherville-Dickmann soil association which consists of excessively drained sandy loam and loamy sand overlying outwash sands. The surficial deposits are generally coarse-grained and highly permeable leading to rapid percolation and recharge of the surficial aquifer.

Three bedrock aquifers underlie the airport site: the Prairie Du Chien-Jordan (OPCJ), the Franconia-Ironton-Galesville, (CFIG) and the Mt. Simon-Hinckley (CMSH). These aquifers are separated by the St. Lawrence and Eau Claire confining layers respectively. The St. Peter sandstone and the Platteville and Glenwood formation, which underlie much of the airport site, are used locally for low-capacity wells but are not considered major sources of ground water. The Glenwood shale forms a thin confining layer at the base of the formation. The OPCJ and CFIG are hydraulically connected to the surficial aquifer and to the surface drainage system primarily through the Mississippi and Minnesota rivers. The CMSH is the deepest of the aquifers and has only a weak hydraulic connection with the overlying aquifers. The OPCJ and CMSH are major sources of ground water for the Twin Cities area; the CFIG is used for domestic water supply in western and northern Hennepin County.

Ground water flow in the OPCJ and CFIG aquifers is to the southeast while flow in the CMSH is to the northwest, toward the cone of depression centered in western Minneapolis. Potential yields at the airport site are about 2,000 gal/min. for the OPCJ, 600 gal/min. for the CFIG, and 1,500 gal/min. for the CMSH.

The water table occurs at a depth of 10 to 40 feet at the airport (Figure 3). The water table occurs at the ground surface near the Mother Lake wetland, locally along the bluffs of the Minnesota River, and in the Minnesota river valley. Its depth varies from about 20 feet at the western part of the site to 40 feet near the eastern part. Ground water movement in the surficial aquifer is to the southeast towards the Minnesota River. The surficial aquifer is not used for public water supply in the area but has an indirect connection to the CPCJ aquifer over parts of the site where no confining unit intervenes.

b. Surface Drainage

Surface run-off is collected in storm sewers over the developed portion of the airport site, the storm sewer system is discussed in the infrastructure section of this report. Natural surface drainage is toward the Mother Lake wetland in the western part of the site and toward the Minnesota River in the eastern part via a gulch near Fort Snelling.

c. Wells

Locations of wells near the airport site were obtained from the County Well Index database of the Minnesota Geologic Survey and the Minnesota Department of Resources (DNR) well permit index. Well locations are shown on Figure 4. Permitted wells are listed in Table 1. Permitted wells include all wells which pump more than 1 million gallons per year, 10,000 gallons per day, or domestic supply for more than 25 people. Six of the permitted wells at the site are utilized for pollution confinement, two are used for landscaping at the Fort Snelling Cemetery, and seven are used for air conditioning. No public water supply wells exist at the airport; all potable water is supplied by the Minneapolis Water Utility. Total permitted pumpage for the airport site is 4,520 million gallons per year (MGY) of which 3,795 MGY is for air conditioning. Actual pumpage in 1991 was 1,099 MGY of which 1,071 MGY was for air conditioning; municipal water supply to the airport was about 300 MGY. The infrastructure portion of this report details available public water supply and use. The state has recently passed legislation restricting future use of ground water in "once through" cooling systems because they are considered to be inefficient users of our ground water resources. All the air conditioning wells at the airport are affected by this legislation. The Metropolitan Airport Commission (MAC) plans to switch to a different type of air conditioning system by 1995.

d. Hazardous Waste

Several areas of soil and ground water contamination are known at the airport site. Petroleum product spills and leaks from underground storage tanks (UST's) and associated piping make up the bulk of the known contaminated sites. One Superfund site is known at the airport, and a landfill is listed as a potential Superfund site. MAC has also identified several areas of suspected contamination which are presently under investigation. Known and suspected hazardous waste contaminated areas are shown in Figure 5, which is keyed to Table 2, a listing of known hazardous waste sites in the area. This list was compiled from the Environmental Protection Agency (EPA) Facility Index System (FINDS), the Minnesota Pollution Control Agency's (MPCA) Spills and Leaksite lists, and from information supplied by MAC and the USAF Reserves.

One Superfund site was identified in the file review: The USAF Reserves Small Arms Range Landfill. A Remedial Investigation/Feasibility Study was submitted for this site in July 1991. The study indicated that low levels of contaminants derived from landfill leachate were present in the surficial aquifer. Several remedial action alternatives were presented in the report; recommendations were made for plume attenuation, access restrictions, maintenance of site cover, and ground water and surface water monitoring.

Twelve UST leaksites were identified in the MPCA file review. These are sites where petroleum contamination of soil or ground water has been discovered during UST removal or maintenance. Several of these sites were also identified by MAC as contaminated sites. Contaminated soil has been removed from several of the sites and treated.

The EPA list of licensed hazardous waste generators at the airport site are listed in Table 3 and located on Figure 6. The MPCA's list of Registered Underground Storage Tanks was also obtained (Figure 6). These sites are included as areas where the potential for hazardous waste contamination exists and where some evaluation of the likelihood of contamination will be required prior to any property transfers. MAC is in the early stages of investigating most of the hazardous waste sites on their property. An inventory of UST's and a hydrogeologic study of the area are now in progress. Pumpouts are now underway at two sites near the airport: the US Air Force Reserve Site and the O. Williams Pipeline site which is southeast of the airport.

The overall impact of hazardous waste contamination at the airport is unknown at this time and will become evident only as investigation and remediation efforts proceed. The surficial aquifer, which is most likely to be directly impacted, is not a potable water source in the area. Impact to the surficial aquifer should therefore not directly affect human health. The Prairie Du Chien - Jordan (CPCJ) aquifer is the most likely of the bedrock aquifers to be impacted. The Platteville and Glenwood Formation intervenes between the CPCJ and the surficial aquifer over most of the airport proper, reducing the likelihood of contamination reaching the CPCJ. Regional ground water movement in both the CPCJ and the surficial aquifer is to the southeast, toward the Minnesota River, and away from the Metro area pumping centers. Any contaminants which do reach these aquifers will thus be unlikely to have direct impact on drinking water supplies. The airport property is serviced by municipal water.

All known and potential areas of hazardous waste contamination will require investigation and remediation before any property transfers or redevelopment of the airport site can occur. The investigation and remediation process is likely to be expensive and protracted and will be complicated by the complex land ownership situation at the airport.

e. Geotechnical

Geotechnical considerations at the airport site include suitability of substrata at the site for building, water table depth, and overburden thickness. Soils at the site consist mainly of coarse sand and gravel, with organic rich clays occurring in the wetland areas on the western end of the site. The granular soils should be suitable for almost any type of construction. Depth to bedrock varies from less than 10 feet in the eastern part of the site to 200 feet in a bedrock valley just west of the airport property. The eastern part of the site is thus most suitable to very heavy construction requiring footings in bedrock.

Water table depth varies from about 10 to 40 feet over the site (see Figure 3). The water table is generally shallower in the western part of the site and deeper in the eastern part up to the Minnesota River bluffs.

TABLE 1 Permitted High Capacity Wells

Twn	Rng	Sec	Qtr	Permit	Use	Unique Number	Permit Holder	Aquifer	Permitted MGY	1987 use MGY	1988 use MGY	1989 use MGY	1990 use MGY	1991 use MGY
28.0	23.0	19.0	dbd	886193–1	Pumpout	409553	USAFR	OPVL	48		3.9	0.5	0.2	4.4
28.0	23.0	19.0	dbd	886193–P2	Pumpout	462941	USAFR	OPVL	48					2.6
28.0	23.0	19.0	dbd	886193–W14B	Pumpout	462230	USAFR	OPVL	48	0.1				1.2
28.0	23.0	20.0	bbc	886011–1	Air cond	161497	Vet. Admin.	OPDCCJDN	195	196.1	117.3	181.2	271.1	289.5
28.0	23.0	29.0	ccab	570249–1	Air cond	208323	Northwest	OPDC	500	223.5	257.6	163.5	141.5	171.7
28.0	23.0	29.0	ccad	570249–2	Air cond	208324	Northwest	OPDC	500	142.2	249.2	240.0	230.5	196.6
28.0	23.0	29.0	cbb	600131–1	Air cond	208322	MAC	OPDCCJDN	650	85.1	278.0	125.5	28.1	121.6
28.0	23.0	29.0	cbb	600131–2	Air cond	208321	MAC	OPDCCJDN	650	140.5	127.5	154.0	73.8	104.2
28.0	23.0	29.0	cbb	600131–3	Air cond	151585	MAC	OPDCCJDN	650		18.5	92.4	70.6	46.8
28.0	23.0	29.0	cbb	600131–4	Air cond	509084	MAC	OPDCCJDN	650	16.8			120.8	140.6
28.0	23.0	31.0	cdb	866150–1	Landscape	208326	Fort Snelling Cem.	OPDCOPDC	50		16.1	20.4	5.4	16.2
28.0	23.0	31.0	bac	866150–2	Landscape	208325	Fort Snelling Cem.	OPDCCJDN	50					
28.0	23.0	32.0	adc	906263–CW	Pumpout		O. Williams		13					2.3
28.0	23.0	32.0	acd	906263–CW	Pumpout		O. Williams		13					0.4
28.0	23.0	32.0	acd	906263–CW	Pumpout		O. Williams		13					1.1
							Total Airport once through		3600	608	931	775	665	782
							Total once through		3795	804	1048	957	936	1071
							Total all uses		4078	804	1068	978	942	1099

Key to Aquifer Codes

CPVL	Platteville Limestone
OPDCCJDN	Prairie Du Chien – Jordan
OPDC	Prairie Du Chien

Table 2

EPA RCRA Sites: These sites are licensed hazardous waste generators only; no contamination has been discovered at these sites.

No.	EPA I.D. No.	Name
1	MND985667427	AVIS Rent A Car
2	MND985666031	Butler Aviation
3	MND985694769	Hertz Corp.
4	MND981802499	MNDOT Ft. Snelling Complex
5	MND040832529	National Car Rental
6	MND006963508	Northwest Airlines
7	MND985694041	Airport Dental Clinic
8	MND985698570	Airport Systems
9	MND981784184	Aviation Methods Inc.
10	MND982419137	Dayton Hudson Corp. Flight Dept.
11	MND982620759	Deluxe Corp.
12	MND149789570	Federal Express Corp.
13	MND981792161	GMI Air Transportation
14	MND985699412	Gate 1
15	MND175540376	Honeywell Flight Operations
16	MND985703610	IDS Corporate Hanger
17	MND985697168	MAC Fire Station
18	MND982606923	MAC Paint Shop
19	MND040834236	Martin Bob Trucking Inc.
20	MND121190243	Mesaba Aviation Inc.
21	MND982615429	Navairescen Minneapolis
22	MND003835501	Northwest Airlines
23	MND048161665	Page Avjet Corp.
24	MND135286508	Page Avjet
25	MND985700749	Page Avjet
26	MND981774821	Page Avjet Maint. Shop
27	MND982609000	Preventative Maint. Inc.
28	MND985682319	Quadion Corp. Flight Dept.
29	MND985693993	Rosemount Inc.
30	MND981538267	Sun Country Airlines Hangar
31	MN1170090020	US Marine Corps MWSS471
32	MND985700913	US West Flight Operation
33	MN7360031028	USVA-Ft. Snelling Cemetery
34	MND130730575	Viking International Airlines
35	MND985704055	Ziegler Aviation

Table 3

Metropolitan Airport Hazardous Waste Sites

Leaking Underground Storage Tanks

No.	Facility	MPCA I.D. No.
1	Hertz Rent A Car	2991
3	NW Airlines	575
4	NW Airlines	3088
6	US Postal Service	4319
7	Air Natl. Guard	4447
8	MAC	790
9	Air Natl. Guard	4289
10	Fort Snelling Cem.	3444
11	Marine Air Reserves	4050
12	Page Avjet	4427

Sites Identified by MAC

1. Superfund Site: US Air Force Reserves Small Arms Range Landfill; final proposed plan has been completed.

2. Hertz Rental: Leaking UST was removed and replaced, contaminated soil remains at the site.

3. Air Natl. Guard: 100,000 to 200,000 gallons of Jet A was dumped (1970's).

4. Northwest Airlines Building B: 10,000 gallon of mineral spirits were spilled, no remediation has yet taken place.

5. NW Maint. Building: Contaminated soil exists at the site.

6. US Postal Service: Leaking UST removed, also an acid spill.

7. VanDusen: Leaking UST; 2,000 yards of soil removed.

8. Butler Aviation (Fuel Farm): Contaminated soil and free product. 8/88 spill no. 2874 oil/water separator tank overflowed; Jet A discharged. It was vacuumed up, and 550 tons of soil was excavated and incinerated.

9. Fueling system around terminal: Supplied by AST's at Butler Fuel Farm; 4 fuel lines 8, 10, 12 & 14 inches in diameter. Pipe lines are pressure tested nightly when system is not in use. Some leaks appear to have occurred over lifetime of piping system.

10. Page Avjet: 4,000 gallon spill in 1989, free product remains.

11. MSP Radar Site: Old landfill; site assessment underway; PCA notified.

12. Fire Training Facility: Small tank leaks and surface spills.

13. Old Fire Training Facility: Probable surface spills; has not been investigated.

Sources of Information

Balabau, N.E., editor: Geologic Atlas Hennepin County, Minnesota, Atlas C-4, Minnesota Geological Survey, 1989.

Balabau, N.E. and Hobbs, H.C., editor: Geologic Atlas Dakota County, Minnesota, Atlas C-6, Minnesota Geological Survey, 1990.

Liesch Engineering Corp., Phase 1 Comprehensive Hydrogeologic Investigation, Minneapolis - St. Paul International Airport, 1992

Wahl, T.E. and Tipping, R.G., Ground Water Data Management, The County Well Index, Minnesota Geological Survey, 1991.

Kaluzniak, M.J., Safety and Environment Administrator, Metropolitan Airport Commission

Minnesota Department of Natural Resources, Division of Waters, Water Appropriation Permit Index 1992.

Minnesota Pollution Control Agency File Evaluation:

EPA	National Priorities List (NPL)
EPA	Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)
MPCA	Permit List of Priorities
MPCA	Regulator Compliance, Hazardous Waste Enforcement Log
MPCA	List of Permitted Solid Waste Facilities
MPCA	Hazardous Waste Permit Unit Project Identification List
MPCA	1980 Metropolitan Area Waste Disposal Site Inventory
MPCA	1980 Statewide Open Dump Inventory
MPCA	Property Transfer Technical Review List

EPA Facility Index System (FINDS)

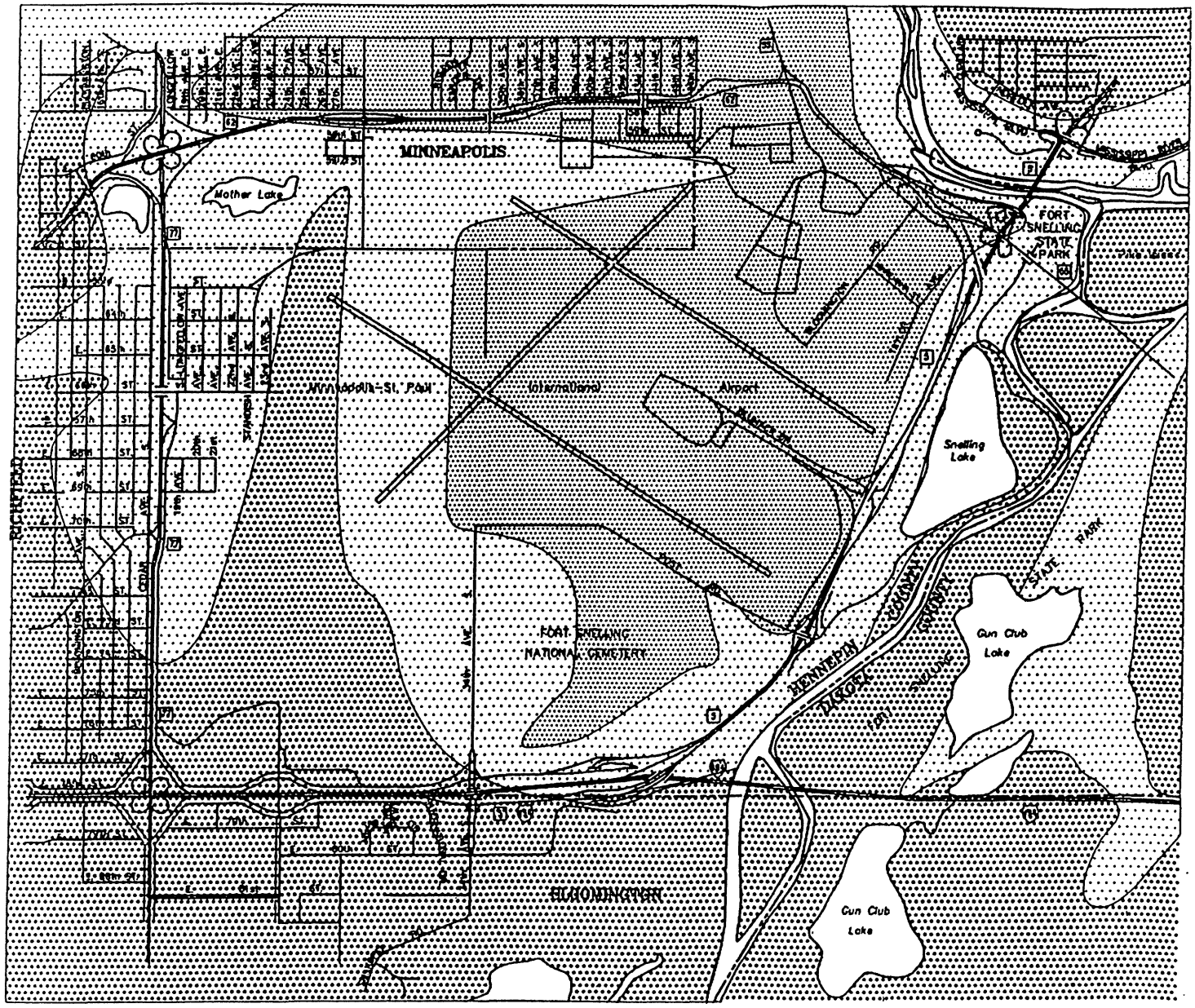
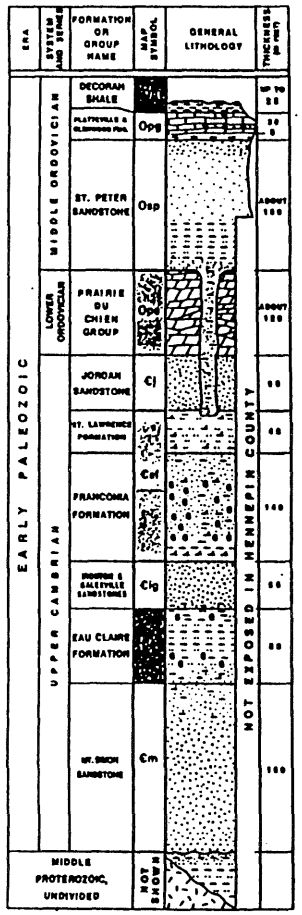
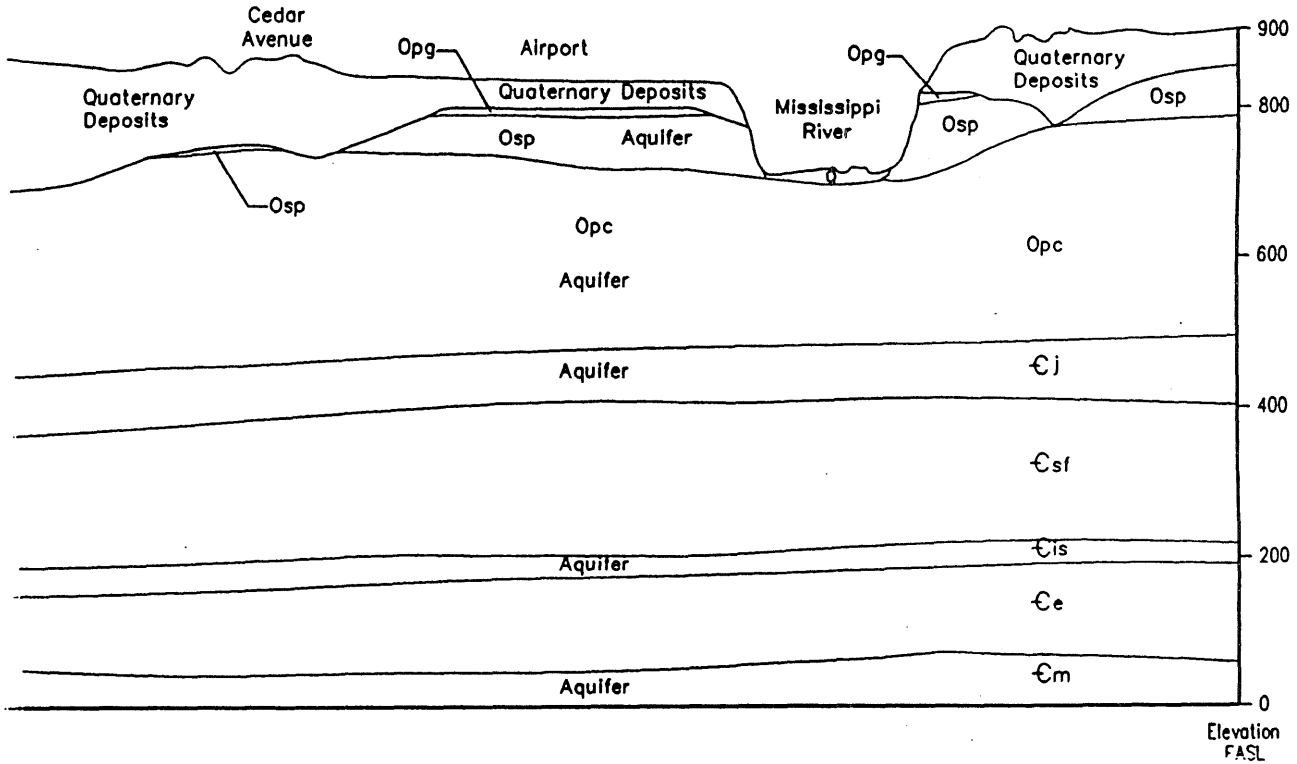


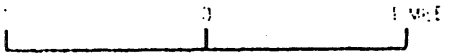
FIGURE 1
BEDROCK GEOLOGY



Geology Cross Section of Minneapolis–St. Paul Airport Area.
Adapted from Hennepin County Atlas, Atlas C–4, County
Atlas Series, Minnesota Geological Survey, 1989.



HORIZONTAL SCALE



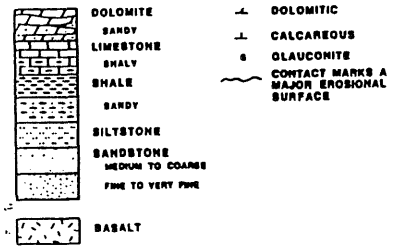


FIGURE 2
GEOLOGIC CROSS SECTION

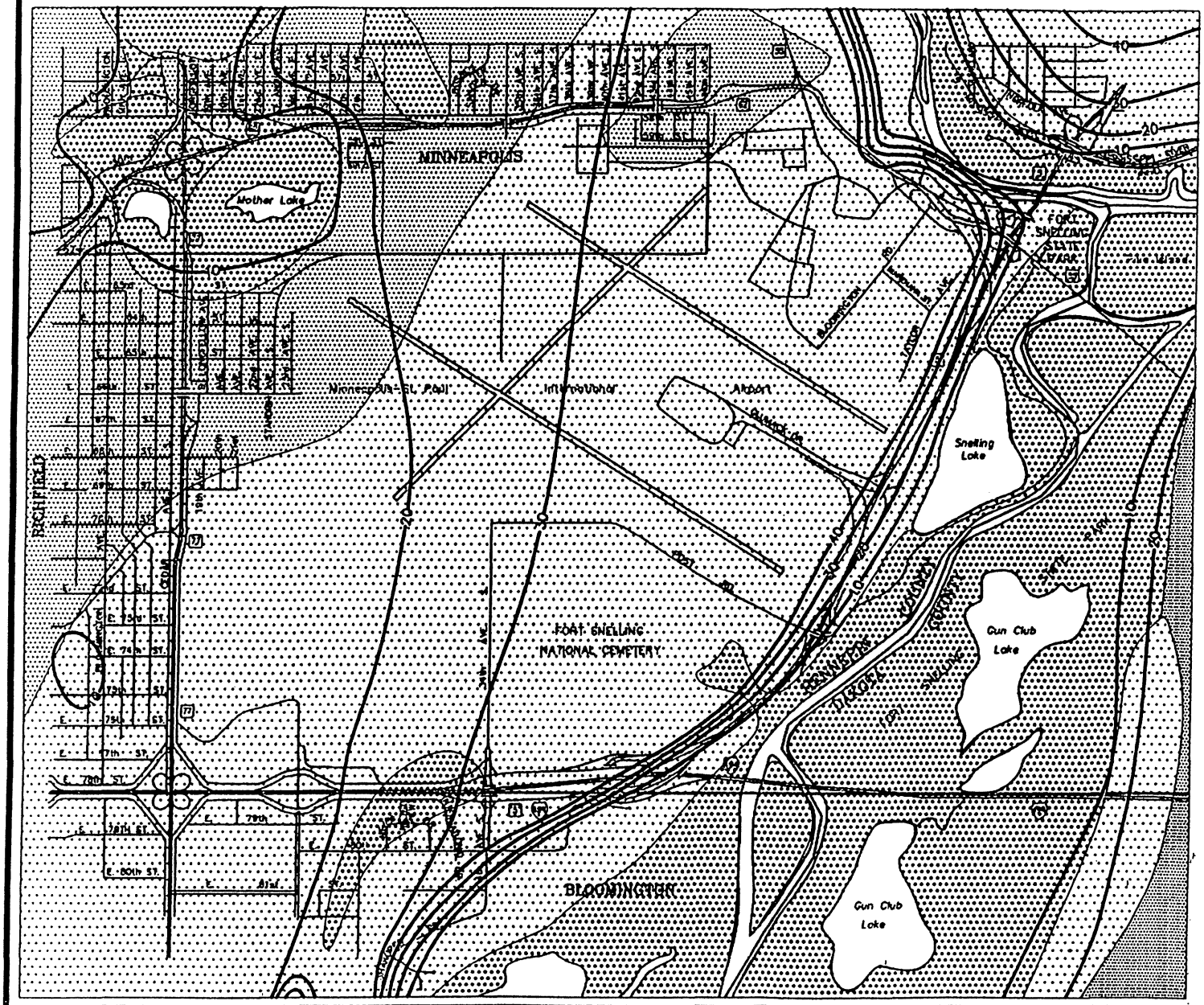


FIGURE 3
SURFICIAL GEOLOGY AND DEPTH TO WATER TABLE

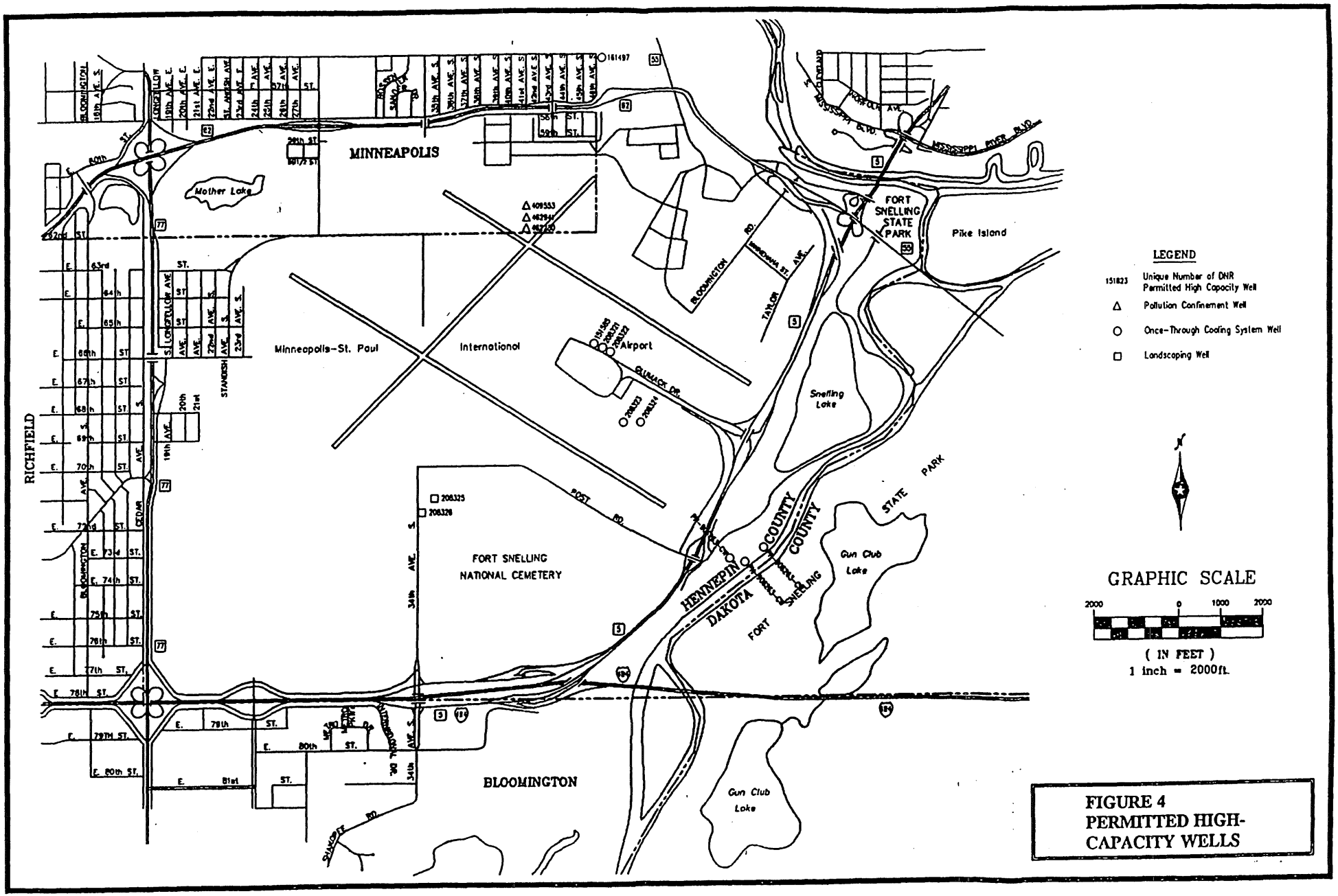


FIGURE 4
PERMITTED HIGH-CAPACITY WELLS

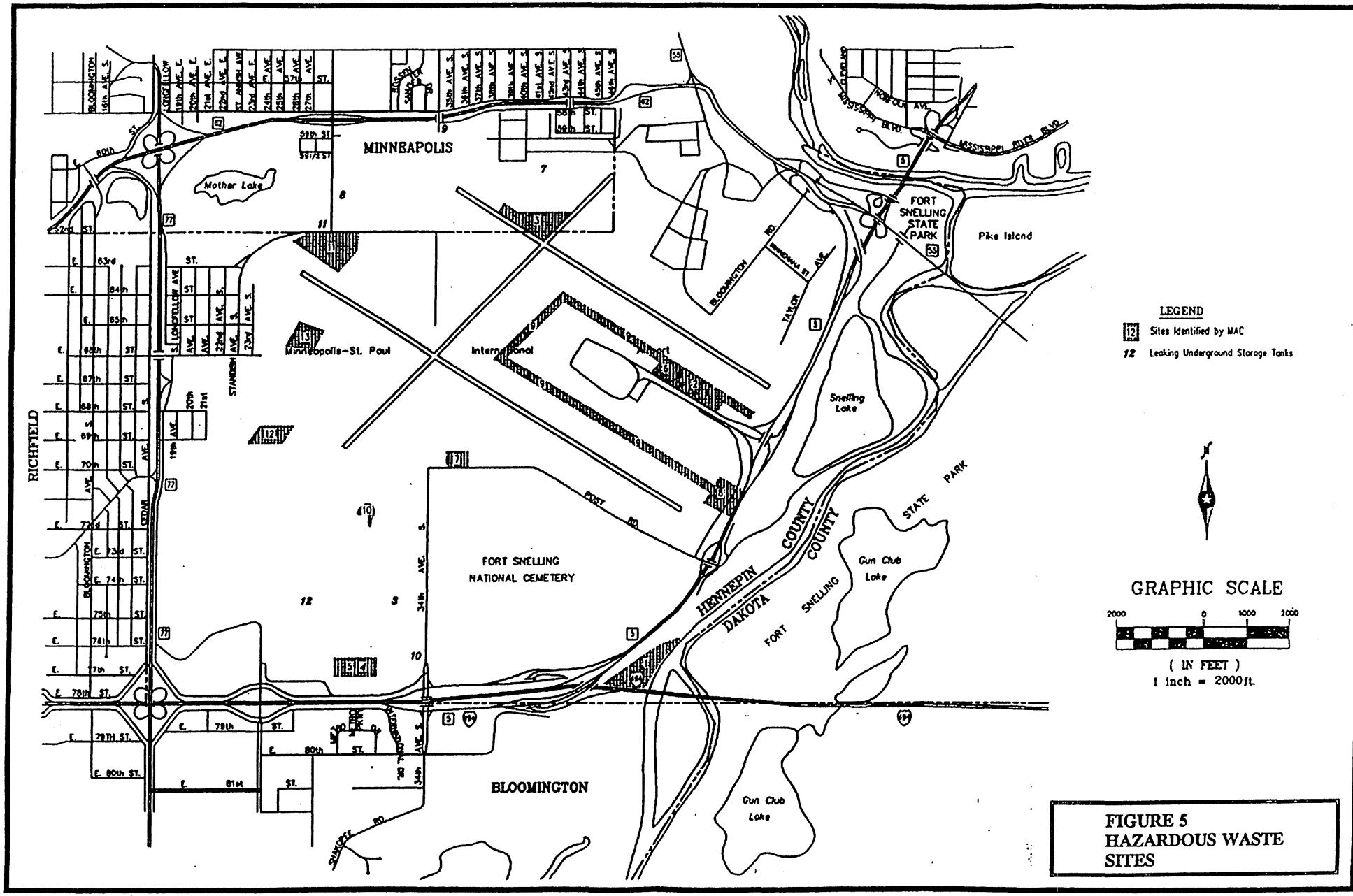


FIGURE 5
HAZARDOUS WASTE SITES

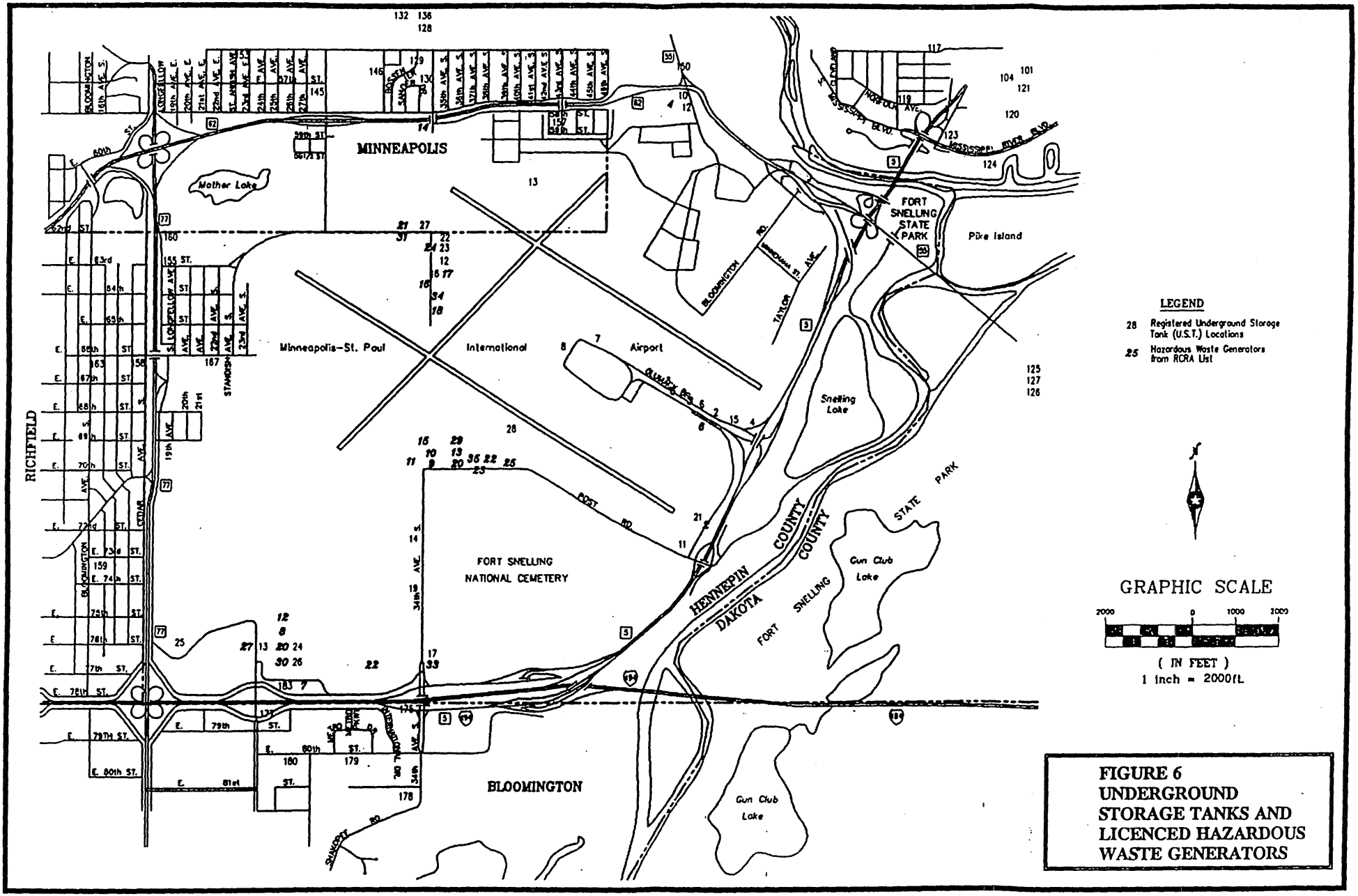


FIGURE 6
UNDERGROUND STORAGE TANKS AND LICENCED HAZARDOUS WASTE GENERATORS

B. Natural Features

1. Existing Conditions

a. Natural Conditions on Site

(1) Wetlands

Very few wetlands remain on the airport property itself (Figure 7). Many have been filled or drained in past years for development purposes, such as runway construction. One, located west of the runways, has dried up in recent years and no longer supports wetland vegetation. It is not known if this is a result of natural processes or human activity (such as possible construction activities which resulted in altered drainage patterns). Most of the wetlands that remain are very small, much less than one acre, and are located on the Rich Acres Golf Course. Most of the existing wetlands are Type 4, with a few Type 3 or combination types (see Table 4 for description of wetland types).

The largest wetland in the airport re-use study is called Mother Lake. It is a Type 3/4 wetland located in the northwest corner by Highways 71 and 62. It is approximately 140 acres, consisting mostly of cattails and reeds with open water in the center. This type of combination wetland provides very good habitat for ducks, other wetland birds, and animals.

Numerous wetlands exist directly outside the airport property, especially to the northwest. This area is important wildlife and waterfowl habitat. A continuous band of wetlands also exists along the Minnesota and Mississippi River corridors, within the floodplain.

(2) Floodplains

No floodplains are located on the airport property itself, but the 100 and 500 year floodplains extend the width of the Minnesota and Mississippi River Valleys just east of the site (Figure 7). A floodplain also surrounds Lake Nokomis from 0 to 800 feet or more.

(3) Rare, Threatened, Endangered Species

Rare, threatened, or endangered species located on or near the airport re-use site area are identified in Figure 7. According to the DNR Natural Heritage Program database, the upland sandpiper (*Bartamia longicauda*) was observed on airport property near the Richfield Golf Course in 1978 (DNR, 1991). While this is not their natural habitat, these birds do prefer large open grasslands and have adapted somewhat to mowed grasslands such as airport fields (Coffin and Pfannmuller, 1988). The upland sandpiper has state special concern status. It is the only rare element recorded for airport property itself.

Several records exist for state endangered plant species within the airport re-use study site. They are:

Hill's thistle (*Cirsium hilli*)
western prairie fringed orchid (*Plantaginea praeclara*)
kitten-tail (*Besseya bullii*)

All three species were recorded in what was a prairie area near the National Cemetery. However, the records are very old and the former prairie area now greatly altered. The orchid was recorded in 1909, the kitten-tail was apparently pre-1900, and the thistle is of unknown age. None of the species has ever been verified. Field inspection of that area on 29 June 1992 by an Enviroscience biologist did not locate any of those species. The area is primarily upland with one patch of trees and a wetland area. A gorge runs through the middle, but contained no water at the time. The area has had extensive human disturbance, with indications that fill has been dumped on most it, presumably from gravesite excavations. The area is completely overtaken with weedy species and very few native species now exist there. While the possibility of the existence of the endangered species in this area cannot be eliminated, the highly disturbed nature of the area makes it unlikely. All rare elements are protected by law and areas where they have been recorded should be avoided unless it has been definitively determined that they no longer could exist at the site.

A mesic blacksoil prairie, rated endangered by the state, also exists on the project site. This is discussed in more detail under "Prairie", below.

Sixteen other rare, threatened, or endangered species or natural features exist within a one-mile radius of the airport re-use study area.

(4) Prairie

A mesic blacksoil prairie, remnant of about 16 acres, is located at the southwest corner of the intersection at Hwy 62 and Hiawatha (Figure 7). The DNR ranks prairies on a scale from A (best) to D (worst). This prairie is ranked C. Rank C is "moderately disturbed by man, but still maintains sufficient natural features that merit protection" (DNR, 1990).

The dominant grass species on this prairie are Kentucky bluegrass (*Poa pretensis*) and smooth brome (*Bromus inermis*), both non-native weedy species. Other common non-native species were spotted knapweed (*Centaurea maculosa*), mullein (*Verbascum thapsus*), white sweet clover (*Melilotus alba*), black medick (*Medicago lupulina*), common St. Johnswort (*Hypericum perforatum*), yarrow (*Achillea millefolium*), and canada thistle. Most native species were not abundant. They include: ground cherry (*Physalis heterophylla*), bergamot (*Monarda fistulosa*), gray-headed coneflower (*Ratibida pinnata*), rosa (*Rosa spp*), milkweed, (*Asclepias syriaca*), leadplant (*Amorpha canescens*), and big bluestem (*Andropogon gerardi*).

The DNR database includes prairies of 10 or more acres. It is not known how many prairies exist in the region, but it seems apparent that those of at least 10 acres are quite a distance from the project. One is located in Maplewood and another in Anoka, both at least 20 miles away. There are other very small prairies, some just an acre or so, located within Minneapolis. The Minneapolis Park Board maintains several such prairies. One of these is located just north of Highway 62, west of Hiawatha.

(5) Geology

This is discussed in detail in the geology/hydrogeology section, but a brief description is included here. While local relief ranges from 0 to 20 feet, the area overall is quite flat. Elevation changes from a high of 850 in the northwest with gradual decline to 810 on the

east side. A fairly dramatic relief is seen in a gorge in the southeast which drops from 800 feet at the top to 725 feet at the river flat below. An intermittent stream carries run-off through the gorge to the river which is at 700 feet.

Ground water level on the airport site varies from surface level on the west side to 30 or 40 feet deep on the east side near the bluffs.

b. Surrounding Natural Features

(1) Minnesota Valley National Wildlife Refuge

(a) Habitat

The Minnesota Valley National Wildlife Refuge (MVNWR) (Figure 8) is a 72-mile open space corridor following the Minnesota River from LeSueur to the confluence with the Mississippi River, just east of the airport. The refuge is a diverse complex of habitat types, some of which are rare or endangered in the state. They include mesic blacksoil prairie (a critically endangered habitat in the state with less than 500 acres left), oak savannah, floodplain forest, and vast wetlands that extend all along the river in the river flats. The wetlands also include calcareous fen, which is critically endangered in the state with less than 700 acres remaining.

(b) Species

The refuge supports an abundance and variety of wildlife species, including a large population of white-tail deer, fox, mink, raccoon, badger, skunk, rabbit, beaver, muskrat and numerous other rodents, bald eagles, hawks, owls and vast numbers of migratory waterfowl, songbirds, and insects. Several records of state rare, threatened, or endangered plant and animal species also exist in the refuge, many of them in the prairie and fen.

(c) Public Uses

The primary objective of the refuge is to preserve and restore wildlife habitat for wildlife as well as people. Human recreational activities have been facilitated by trails for hiking, cross-country skiing, biking, horseback riding, and snowmobiling. Ultimately, a trail will extend the full 72-mile length of the refuge. Observation blinds and overlooks have been constructed for wildlife viewing in strategic places. Brochures and programs about the refuge are available for public education as well as several interpretive centers. Canoeing, backpacking, and camping sites have been developed in certain areas, and hunting and trapping are also permitted in some areas.

(2) Fort Snelling State Park

(a) Habitat

The habitat of the park is forested river bottom which is dominated by cottonwood, green ash, elm, silver maple, and willow. Wetlands and wet prairies are also found there. Wildlife species are the same as those found in the MVNWR.

(b) Public Uses

Located at the confluence of the Mississippi and Minnesota Rivers (Figure 8), Fort Snelling State Park is in the heart of the metropolitan area. This park is one of the most visited state parks in the state, with about 750,000 visitors per year. Public recreation opportunities are similar to those of the MVNWR with the additional activities of golf, polo, swimming beach, and the historic Fort Snelling.

(3) Mississippi National River and Recreation Area

The portion of the Mississippi east of the airport site (Figure 8) is part of Mississippi National River and Recreation Area (MNRRA), managed by the National Park Service. The MNRRA includes 72 miles of the Mississippi from Dayton, Minnesota, to just south of Hastings, Minnesota. It also includes the four miles of the Minnesota River and adjacent lands upstream from its confluence with the Mississippi. The habitat and wildlife is similar to that of the MVNWR. The MNRRA has opportunities for many public recreational activities, such as hiking, biking, picnicking, skiing, fishing, and boating.

(4) City Parks

Numerous city parks (Minneapolis, Richfield, and Bloomington) are located within a mile of the re-use site (Figure 8). They are listed and described below, starting at Minnehaha Falls and going counterclockwise around the site:

Name	Address	Acres	Features
Minneapolis			
Morris Park	39th Ave. & 55th St.	3.8	Courts, pool, ballfield
Keewaydin Field	31st Ave. & 52nd St.	4.1	Courts, pool, ballfields
Bossen Field	28th Ave. & 56th St.	39.1	Ballfields, pool, picnic, courts
Lake Nokomis	2401 E. Minnehaha	408	Courts, beaches, ballfield, paths
Todd Park	Chicago & 57th	13	Courts, ballfields
Diamond Lake	Portland & Diamond Lake Rd.	68	Wildlife Sanctuary
Pearl Park	414 E. Diamond Lake Rd.	29	Courts, ballfields, pool
Richfield			
Veterans Memorial	6400 Chicago Ave.	100	Ice arena, paths, swimming pool, picnic
Taft Park	6200 18th Ave.	42	Paths, ballfields, picnic, courts

Name	Address	Acres	Features
Christian Park	6900 Bloomington Ave.	11	Paths, picnic, ballfields, courts
New Ford Town	6431 21st Ave.	3	Ice arena, courts
Rich Acres Wilson Park	6844 21st Ave.	2.6	Paths, courts, pond
Washington Park	7600 17th Ave.	7.1	Ballfields

Bloomington
Smith Park

Wrights Lake Park

2. Historical Conditions

a. Natural Features on Site

(1) Wetlands

Historical aerial photographs (1945) show numerous wetlands on the western portion of the site (Figure 7). The water table is at or near the surface in this area, gradually dropping to 30 or 40 feet deep at the bluff edge. Some of the existing wetlands, particularly those on the Rich Acres Golf Course, were originally much larger. Most of the wetlands removed were located where the existing runways are now. Most of these historical wetlands were Type 3 or Type 3/4.

Historical photographs and geological survey maps also indicate the former presence of several wetlands adjacent to the east side of the runways, near the north end. This area is now developed by the U.S. Air Force and has not contained wetlands since 1952. Although the water table in this area is about 30 feet, a perched water table may have been present to support these wetlands. The area was also lower than surrounding areas, as seen in historic photographs which show a slight ravine there.

(2) Vegetation

Presettlement vegetation maps for the state show that this area was in the transition zone between upland prairie, prairie wetland, and oak woodland/brushland (DNR, 1988). Historical drawings of the site from the mid-1800's indicate that it was primarily prairie, but it probably contained features of all these habitats. The area was inhabited by Dakota Indians, a hunter-gatherer tribe, until about the mid-1800's when settlers arrived and began agricultural development. The flat, rich prairie soils of the airport site were highly suitable for cultivation.

(3) Future Conditions: Proposed Hybrid Scenarios

A. Environmental Features
B. Consistency with Surrounding Features
C. Environmental Impacts of Scenarios
D. Concerns of DNR and Refuge Officials

Table 4

Wetland Types According to U.S. Fish and Wildlife Service, Circular 39: Wetlands of the United States. 1971.

Wetland Type	Description
Type 1	Seasonally flooded basin. Basin is flooded only briefly during heavy rains or spring run-off. Vegetation is generally floodplain forest, weeds or cultivated crops.
Type 1L	Bottomland hardwood forest.
Type 2	Sedge Meadow. Shallow, grassy wetland with little open water which may only have waterlogged soil during dry periods. Vegetation is typically grasses or sedges.
Type 3	Shallow Marsh. Wetland basin is usually covered with six inches to two feet of water and is heavily vegetated with cattails, bulrushes or broad-leaved aquatic plants. Small patches of open water may occur.
Type 4	Deep Marsh. Wetland basin with permanent water depths from two to four feet. Open water areas are fringed by cattails, bulrushes, etc.
Type 5	Shallow Lake and Pond. Open water basin from four to ten feet in depth which is too shallow to support permanent gamefish populations.
Type 6	Shrub Swamp. Shallow wetland basin which may only have waterlogged soil during dry periods and is heavily vegetated with alder, willow or dogwood.
Type 7	Wooded Swamp. Wetland may have standing water but typically has only waterlogged soil and is vegetated with tamarack, black spruce, red maple and black ash.
Type 8	Bogs. Low lying or floating vegetative mat with waterlogged soils, supporting spongy covering of mosses, sedges or heathlike shrubs.

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Department of Natural Resources. September, 1991. Natural Heritage Program Database. Rare Features in Metropolitan Airport Area.

Department of Natural Resources. 1988. Natural Vegetation of Minnesota. Biological Report No. 1.

Federal Emergency Management Agency. 1981. Flood Insurance Rate Map. City of Minneapolis, Hennepin County.

C. Utilities Infrastructure

1. Description of Existing Conditions

The following section describes the conditions and capacities of the Minneapolis-St. Paul International Airport (MSP) utility infrastructure. Information on each utility was obtained from the utility companies which provide service, the Metropolitan Airports Commission (MAC), and the cities of Bloomington, Eagan, Minneapolis, Richfield, and St. Paul. Information on the sanitary sewer system of the area was obtained from the Metropolitan Waste Control Commission (MWCC) and the utility departments of the cities surrounding MSP.

a. Water

The City of Minneapolis supplies potable water to MSP through two 18" and one 12" water mains (Figure 9). The water mains originate on the north side of MSP from a 48" water main that is routed along 57th Street (City of Minneapolis, 1984). An 18" main is routed along 28th Avenue to near the end of runway 11R. It then follows 24th Avenue south to I-494 to supply service to the air cargo area. A 12" main exists in the center of the airport and is routed to 34th Avenue from T.H. 62 to 70th Street. A second 18" main follows 46th Avenue south to the Lindbergh Terminal. The two 18" mains connect at 70th Street north of the Humphrey Terminal (TKDA, 1990).

The three water mains are metered as they enter airport property to record water usage and billing amounts for the MAC. Meter information provided by the City of Minneapolis indicates that the airport uses an average of 29 million gallons of water each month from these three water mains. Peak demands have occurred in the summer months requiring 46.5 million gallons/month, and low demands of 19 million gallons/month have occurred in the late fall and winter (City of Minneapolis, 1992). The City of Minneapolis Water Utilities Department stated that adequate potable water supply exists at the airport with the water main distribution system that is in place.

The cities of Bloomington, Eagan, Richfield, and St. Paul do not supply water to MSP at this time (City of Bloomington, 1992), (BRA&A, 1988), (City of Richfield, 1991) (City of St. Paul, 1989). The utility department of Richfield indicated that the city can supply MSP 2,000,000 gallons of water/day. St. Paul indicated that it can not provide any utility service to the area because its systems are near capacity.

Cooling water, separate from the potable water supplied by the City of Minneapolis, is obtained from several wells located on the airport. The discussion of these wells is found in the geology/hydrogeology section.

b. Sanitary Sewer

Sanitary sewer service is provided to MSP by the Metropolitan Waste Control Commission (MWCC) through a 10" sanitary main connection near 77th Street and Old Cedar Avenue and a 12" force main at 69th Street and 21st Avenue (TKDA, 1990). These sanitary mains connect to a City of Richfield interceptor on the west side of the airport (City of Richfield, 1991). The City of Richfield bills MAC for sanitary service. In addition to the connections with the Richfield interceptors, the airport has two connections to City of Minneapolis interceptors on the north side of the airport (City of Minneapolis, 1991). A 12" sanitary main is routed along 24th Avenue north across 62nd Street, and a 24" sanitary main is routed northeast from the Lindbergh Terminal to the Federal Buildings near Fort Snelling and the Veterans Hospital

(Figure 10). All sanitary lines are designed to last between 70 and 100 years. MWCC and the City of Minneapolis Utilities Department indicated that the lines are in good condition and were expected to last more than 100 years.

The cities of Bloomington, Eagan, and St. Paul do not provide sanitary sewer service to MSP (City of Bloomington, 1992), (BRA&B, 1988), (City of Eagan, 1988), (City of St. Paul, 1990).

Interceptor 3-BN-497 is a MWCC 36" sanitary main. It is routed along Old Cedar Avenue from the Bloomington lift station located near Old Cedar Avenue and 84th Street to Diagonal Blvd. in Richfield (MWCC, SSA). It was designed to direct flow either to the Metro Waste Water Treatment Plant (WWTP) in St. Paul or the Seneca WWTP in Eagan. Flow is directed to the Metro WWTP nearly all of the time. This interceptor receives flow from a 10" sanitary line on the south side of MSP and a 12" force main on the west side of MSP. The interceptor has a capacity of 13.0 million gallons/day (MGD) and was constructed in 1959 (MWCC, 1991).

Interceptor 3-BN-497 flows into two barrels side by side 1-RF-492 a 27" interceptor with the capacity of 5.2 MGD and 1-RF-493 a 30" interceptor with the capacity of 6.7 MGD. These interceptors were constructed in 1953 and 1966 respectively.

Interceptors 1-RF-492 and 1-RF-493 enter interceptor 1-RF-490 at 63rd Street and 22nd Avenue in Richfield. 1-RF-490 is a 48" interceptor that flows east from Edina and Richfield into meter station 130 (MS-130). This interceptor has a capacity of 26.8 MGD and was constructed in 1953.

M-130 is located near 62nd Street and 25th Avenue south in Richfield (MWCC, 1992). This meter station monitors flow from Richfield, Edina, and the two MSP connections to Richfield. Flows at this meter station over the past year indicate that a peak flow of 14,962,000 gallons/day was recorded in July 1991, and average flow for the year was 8,692,000 gallons/day.

Interceptor 1-MN-346 begins at MS-130 and ends at East 52nd Street and Minnehaha Avenue. It is 54" at MS-130 and has a capacity of 32.5 MGD. It increases to 75" and has a capacity 96.3 MGD when it empties into interceptor 1-MN-340. This interceptor was constructed in 1954.

Interceptor 1-MN-340, constructed in 1935, is a 3'-6" x 6' sanitary tunnel where it begins and a 10'-3" x 10'-3" tunnel where it ends at East 29th Street and West River Parkway. This interceptor has a capacity of 37.1 MGD where it begins and 792 MGD where it enters interceptor MS-100. Interceptor 1-MN-340 receives sanitary sewage from the 24" sanitary line that services the Lindbergh Terminal at MSP, the Federal Buildings near Fort Snelling, and the Veterans Hospital area.

According to engineers at MWCC, the City of Minneapolis Utilities and the City of Richfield Utilities, adequate capacity exists at each of the interceptors near the airport to accommodate existing and future expected sanitary flow from MSP.

c. Storm Sewer

Storm Sewer service is provided at MSP through a series of retention basins and through connections to a stormwater tunnel that drains into the Mississippi River south of Minnehaha Creek (Figure 11). The cities of Bloomington, Eagan, Richfield, and St. Paul do not provide MSP connections to their storm sewer systems (City of Bloomington, 1992), (BRA&A, 1990), (City of Richfield, 1991), (City of St. Paul, 1990).

Seven drainage and subdrainage areas were identified at the airport. The table below shows the approximate total acreage, impervious acreage, and percentage of impervious area.

Drainage Area	Total Size (AC)	Impervious (AC)	Impervious %
National Cemetery	450	24	5.3
Air Cargo	340	34	
11R-Mother Lake	260	35	13.5
MAC Maintenance	45	13	28.9
28th-34th T.H.62	41	1	2.4
Lindbergh Terminal	1,030	490	47.6
Northwest-29R	206	128	62.1
Total	3,032	1,031	34.0

Stormwater drainage from the National Cemetery first flows to a small retention basin then enters retention basin 3 and finally enters the Minnesota River (TKDA, 1990). The Butler Tank Farm drainage flows directly to North Retention Basin No. 3 (Liesch, 1992). Stormwater drainage from the Air Cargo area is routed south then east along the north frontage road of I-494. This pipe flows to South Retention Basin No. 3 before it enters the Minnesota River. Stormwater drainage from both runway 11R and the Mother Lake area is routed to a small retention basin before it enters Duck Lake (Retention Basin No. 1). Stormwater drainage from the MAC headquarters and maintenance area is routed to the city of Minneapolis through a 24" stormwater sewer line which flows along 28th Avenue to a tunnel system which ends south of Minnehaha Creek and the Mississippi River. Stormwater drainage from the area south of Trunk Highway 62 between 28th and 34th Avenues is detained in a small natural basin along Highway 62. Stormwater drainage from the Lindbergh Terminal drainage area is routed to North Retention Basin No. 3 before it flows into the Minnesota River. Stormwater drainage from the Northwest-Runway 29R area drains into Retention Basin No. 2 east of Snelling Lake in Fort Snelling State Park before it is routed to a second Retention Basin No. 2 on the southwest edge of Snelling Lake. After stormwater fills these two retention basins, it flows into the Minnesota River.

d. Electric

Electric service is provided to the airport by the Northern States Power (NSP) Airport Substation (NSP, 1987). It is located on the east side of the airport between the Northwest maintenance hangar and Trunk Highway 5. Most of the service to the airport is provided through an underground distribution network. The Bloomington and Southtown substations provide service to the area near the airport on the south and west. Present and forecasted demand for these three substations are displayed below.

Substation	1992	1997	2002
Airport	57 MW	60 MW	62 MW
Bloomington	41 MW	45 MW	49 MW
Southtown	152 MW	164 MW	174 MW

Current demand is being met throughout the entire Minneapolis-St. Paul International Airport (MSP). NSP has stated that there are plans to expand the Airport Substation to meet any additional demand, and "capacity will be provided when it becomes necessary."

e. Telephone

Telephone service is provided to the airport by U.S West Communications Inc. An extensive underground communication network of copper and fiber optic cables underlies the airport. MSP is using approximately 11,000 voice grade circuits. Greatest capacity is found near the Lindbergh Terminal where 30 ducts of cables have been installed (U.S. West, 1992). Twenty-four ducts of cables are installed at the Air Force Reserve Base. The perimeter of MSP has service levels that vary from 4 to 12 ducts of cable. The largest copper cable available is 4,200 pair. This cable will carry 4,200 private calls, or can be used for digital service. If fiber optic cable is used, a single duct contains three fiber optic cables. The capacity of fiber optic cables is only limited by the electronics that are placed on each end.

The telephone network at MSP currently operates at 75 - 80% of capacity. When the system demand increases to near 90%, the system is upgraded by adding additional cables to provide for the 20 - 25% excess capacity design. In recent years, U.S. West has been adding between 300 and 500 lines/year to provide for expanding service.

The life expectancy of the copper lines used at MSP was reported to be from 40 to 60 years, and the fiber optic cable life expectancy is a minimum of 60 years. The system is upgraded as needed to provide adequate service.

f. Cable Television

Each community surrounding the airport, Bloomington, Eagan, Minneapolis, Richfield and St. Paul, has cable television service yet there is no cable television service at MSP (Continental, 1992), (Group W, 1992), (Nortel, 1988), (Paragon, 1992). Cable companies have not been solicited to provide service at the airport. For service to be supplied, a request for service must be undertaken and bids must be requested. After this is accomplished, the cable television provider will wire the service area. Below is a list of communities which surround the airport and their cable television providers.

City	Cable Television Provider
Bloomington	Nortel Cable Television
Eagan	Group W Cable Television
Mendota Height	Continental Cablevision
Minneapolis	Paragon Cable Television
Richfield	Paragon Cable Television
St. Paul	Continental Cablevision of St. Paul Inc.

g. Natural Gas

Natural gas is supplied to MSP, Bloomington, Richfield, and Minneapolis by Minnegasco. Natural gas is supplied to Eagan and St. Paul by NSP Gas Co. The airport supply originates from a 20" gas main that is routed along Old Cedar Avenue from Burnsville to Minneapolis (Minnegasco, 1991), (Figure 12). This gas main is one of three similarly sized gas mains

that supply nearly all of the natural gas to Minneapolis, Richfield, Bloomington, and Edina. A memorandum from Minnegasco states that the 20" gas main along Old Cedar Avenue has the capacity to supply an additional population of 150,000 at the airport.

On the south side of MSP, a 12" gas main is routed along 75th Street north of the Metropolitan Transit Commission (MTC) bus garage and air cargo facilities west of 24th Avenue. The gas main decreases to 10" and bisects the National Cemetery near Labelle Avenue. It enters Lindbergh terminal, increases to a 12" gas main, and enters the Navy and Army Reserve property at the intersection of 2nd Avenue and "C" Avenue. A 3" gas main enters the property from the Trunk Highway 77 at East 63rd Street; it is routed along 62nd Street to the U.S. Air Force Reserve. A 6" gas main supplies the MAC headquarters and Federal Aviation Administration (FAA) buildings on the northwest side of the airport.

h. Jet Fuel

MSP currently uses from 800,000 to 1,000,000 gallons of Jet A fuel each day. Jet fuel used at MSP is provided by one of the two 8" pipelines at MSP. One is owned by Williams Brothers, the other by Koch Refinery. Fuel from one pipeline is selected depending upon the price. Jet fuel enters MSP and is routed to the Butler Fuel Farm.

Both the Koch and Williams Brothers jet fuel pipelines enter MAC property from the east across Trunk Highway 5, 500' feet south of the Butler maintenance facility, north of runway 29L. The Williams Brothers pipeline is routed northwest to the Williams Brothers delivery station before it is routed south to the tank farm. The Koch pipeline is routed south to the Butler Fuel Farm. When jet fuel arrives at MSP, it is stored a the Butler Fuel Farm which is located east of Trunk Highway 5 and south of Post Road. The Butler Fuel Farm consists of three 2,309,000 gallon above-ground storage tanks. These three 90'H x 45'D steel single wall tanks were built in 1988.

The Butler Fuel Farm provides jet fuel (Jet A) through a 20" pipeline to the airport fuel hydrant system at the Lindbergh Terminal. The four lines of the hydrant system that services Lindbergh Terminal are 14", 12", 10", and 8" in diameter.

Northern States Power Company. 1987. Metro Area Transmission Map NF-96924.

Paragon Cable Television. 1992. Minneapolis and Richfield Cable Service Network Map.

Toltz, King, Duvall, Anderson and Associates (TKDA). 1990. Wold Chamberlain Field, Airport Layout Plan, Sanitary Sewer Layout Plan, Sheet 3 of 16.

Toltz, King, Duvall, Anderson and Associates (TKDA). 1990 "As-Built". Wold Chamberlain Field, Airport Master Plan, Airport Drainage Map.

Toltz, King, Duvall, Anderson and Associates (TKDA). 1990. Wold Chamberlain Field, Airport Layout Plan, Watermain Layout Plans, Sheet 3 of 16.

U.S. West Communications. 1992. MSP Telephone System Distribution Network Map.

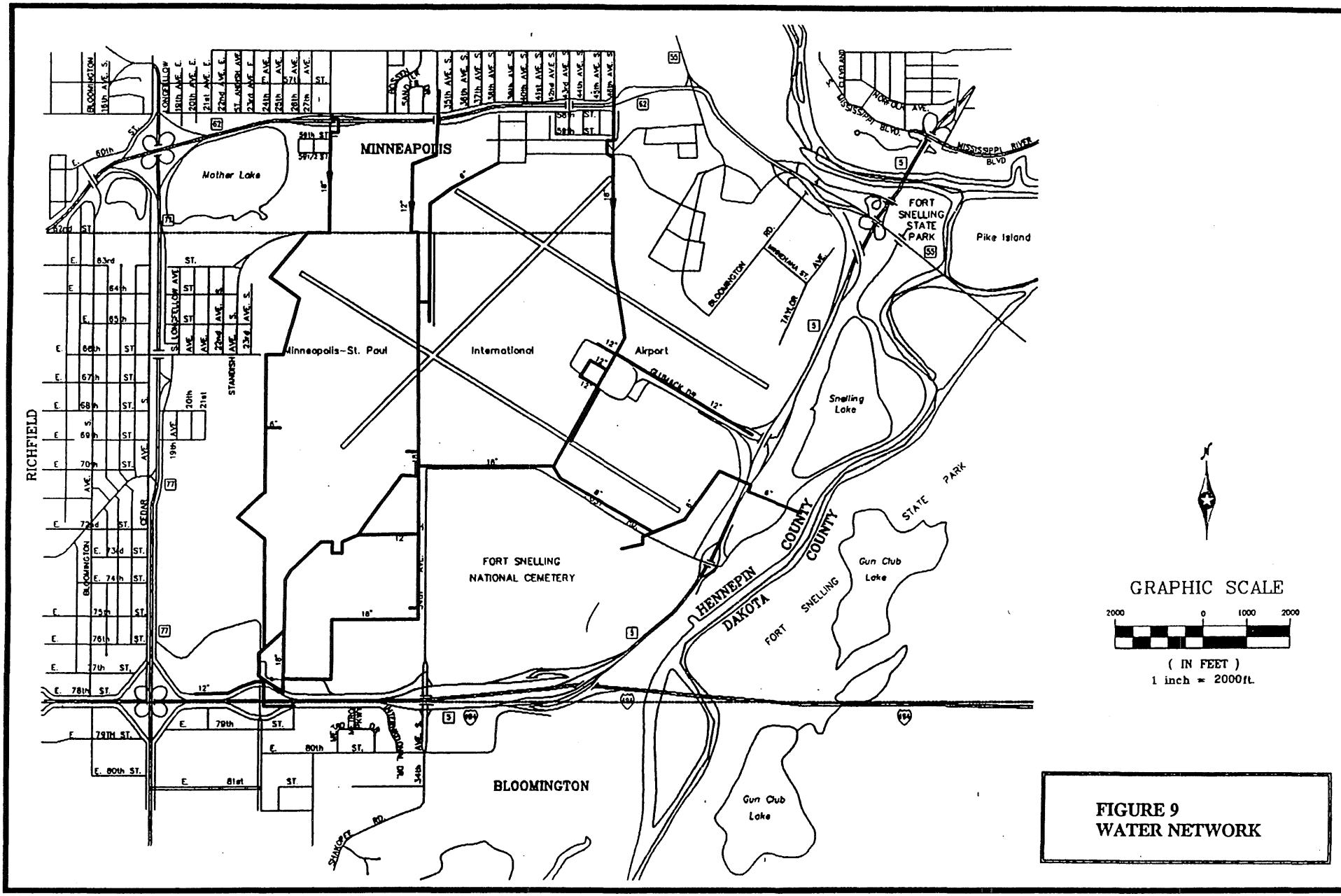


FIGURE 9
WATER NETWORK

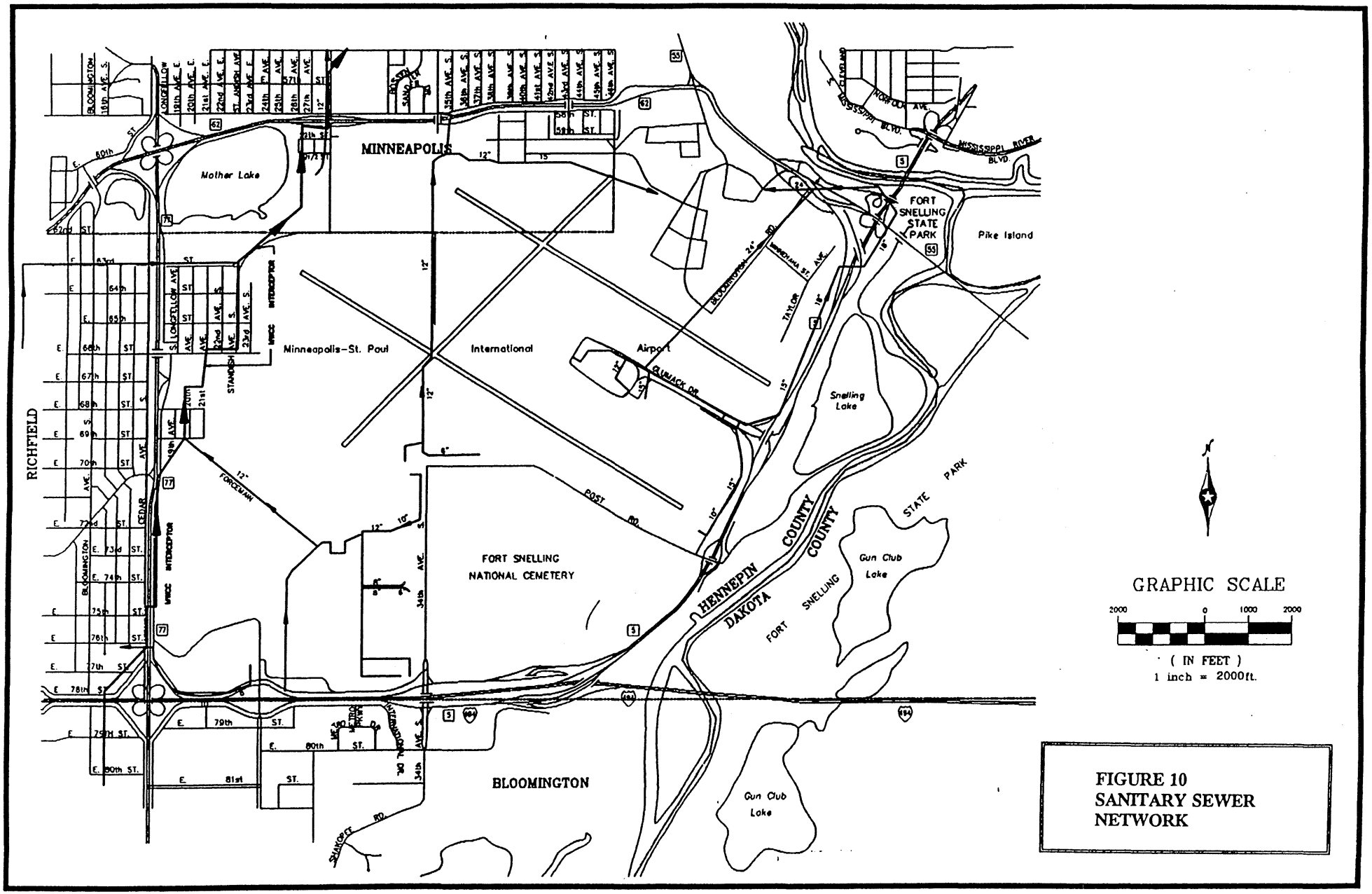


FIGURE 10
SANITARY SEWER NETWORK

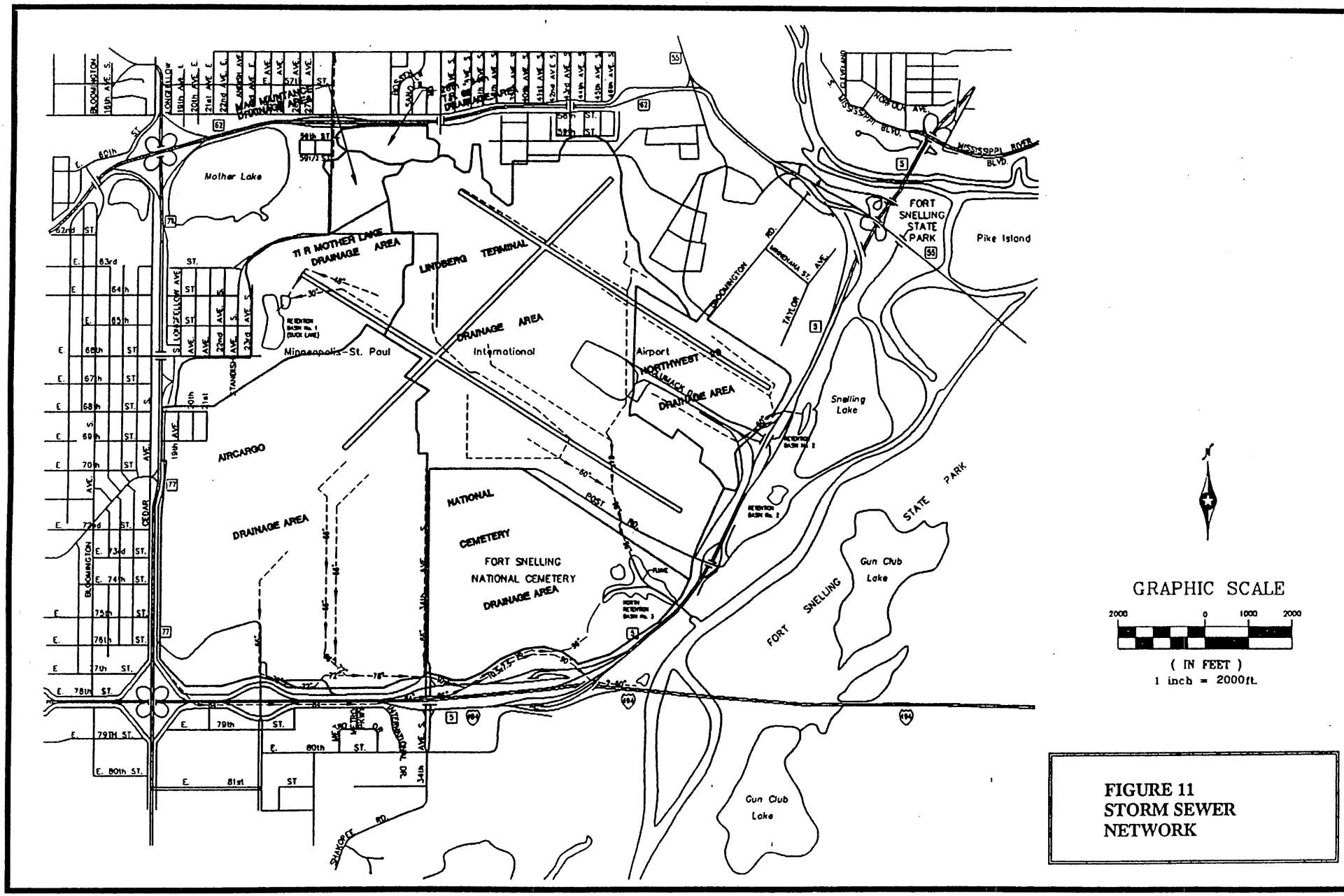


FIGURE 11
STORM SEWER NETWORK

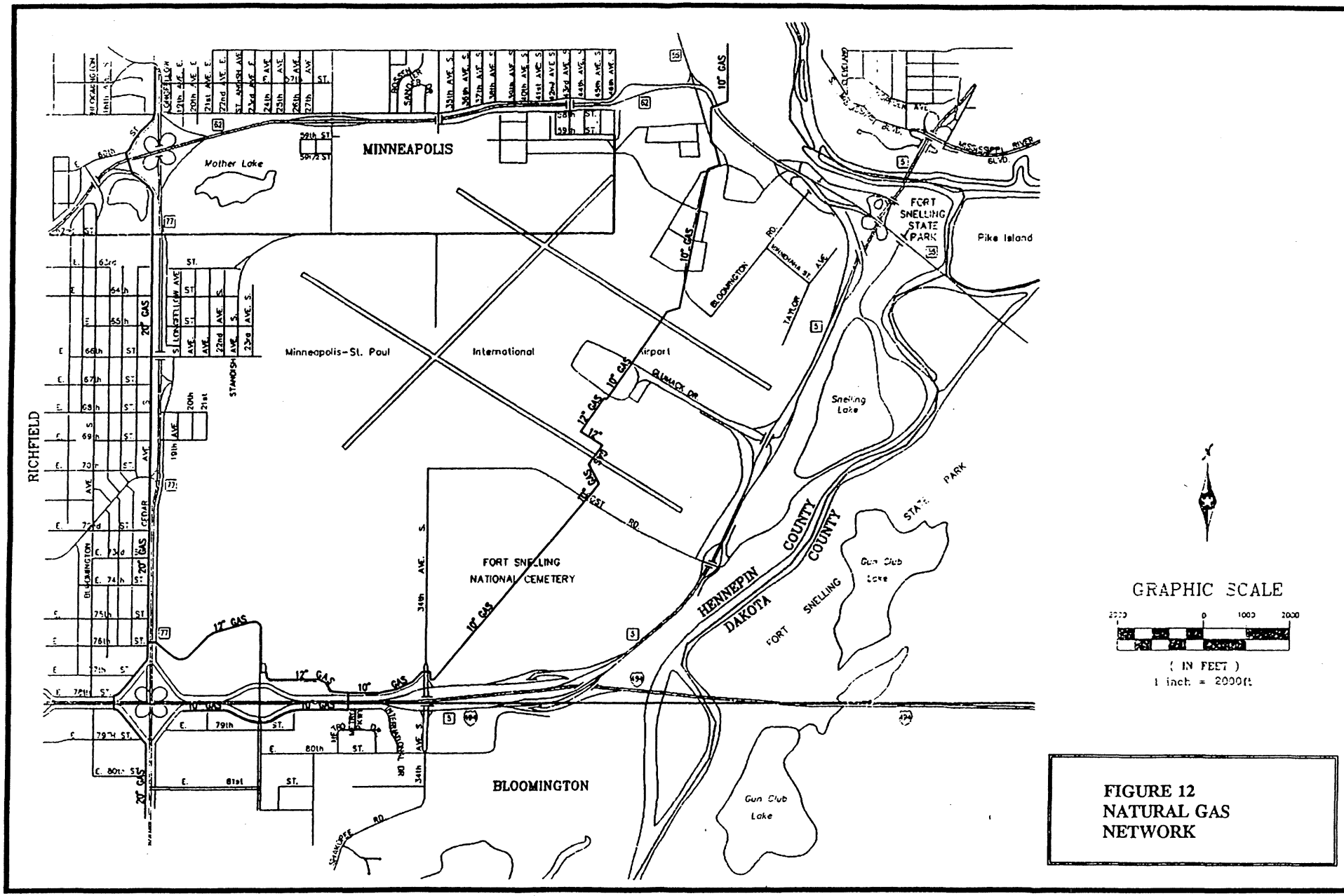


FIGURE 12
NATURAL GAS
NETWORK

This report analyzes the legal and governance aspects of re-use of the Minneapolis-St. Paul International Airport (MSP). It particularly focuses on possible structures for governance and finance, and mechanisms for redevelopment. For each, a wide range of alternatives is presented, discussed in light of both potential benefits and detriments. Moreover, this report provides background information on some of the legal constraints placed upon re-use of the MSP site by ownership patterns and environmental conditions.

This report attempts to convey an understanding of the possible options for legal and governance structures and mechanisms. Hence, this report offers no conclusions or recommendations. Similarly, its scope is broad, presenting many alternatives, some of which may not prove feasible for MSP. They are included nevertheless, because none of the options discussed is thought to be an ideal blueprint, or a model paradigm, for MSP re-use. Indeed, most sections emphasize repeatedly how hybrid approaches may prove most appropriate. Thus, this report presents options broadly, with the hope that it will stimulate thought and dialogue leading ultimately to a reasoned narrowing of the possible alternative strategies for the optimal re-use of MSP.

A. Alternative Political/Governance Structures for MSP

The governance structure for MSP lands should provide a mechanism to implement the re-use development scenario for the MSP site. The re-use task force initially discussed five development scenarios for the MSP site, each corresponding to distinct community values. The scenarios would individually provide: 1) maximum economic benefit to the region; 2) maximum public open space; 3) maximum public purpose; 4) maximum benefit for adjacent communities; and 5) aviation use. After deliberating, the task force determined that it was most appropriate to combine several community values by developing "hybrid" re-use scenarios.

Each of the alternative governance structures discussed below is potentially suited to any of the hybrid re-use scenarios. In addition, it may be appropriate to develop hybrid governance structures. For example, a hybrid governance structure might be particularly appropriate for an aviation re-use scenario. In such a circumstance, the hybrid structure could combine a Minneapolis Airports Commission (MAC) governance structure for the aviation component with another governance structure for the non-aviation related elements of the re-use. Similar hybrid governance structures might fit equally well with other re-use scenarios.

All governance structures should be considered in conjunction with the analysis of property ownership with a special emphasis on the disposition of property reserved exclusively for aviation purposes. The governance structure, however, does not necessarily have to be dictated by the legal ownership of the MSP lands. Regardless of who owns the property ultimately, sufficient authority for the governing entity could come from either the Minnesota Legislature or the United States Government to insure that the re-use vision is adequately implemented.

The governance structure alternatives should also be considered together with the type of redevelopment mechanism selected to implement the re-use vision. Indeed, a key to implementing any re-use scenario will be funding. While any governance alternative could be structured for different fiscal devices to help implement the re-use vision, it is critical to insure that the governance structure provides the best match for the fiscal device selected.

It is also essential to determine what function the governance structure should serve and what authority the governance structure should have. As a base, the governance structure should implement the selected re-use alternative with the necessary authority to insure that the re-use scenario is implemented. For example, the governance structure may not need, or possibly should not have, the full range of authority given to a city under Minnesota law. Depending on the selected re-use scenario, it may be appropriate to limit governance authority to something as limited as architectural and aesthetic control over the redevelopment itself.

Finally, any consideration of the governance structure will benefit from understanding the historical development of the MSP site. Indeed, MSP is a very unique entity under Minnesota law. Following World War I, both Minneapolis and St. Paul developed airport facilities, which competed for scheduled airline service. Minneapolis constructed Wold-Chamberlain Field while St. Paul constructed Holman Field. During the 1920s, Northwest Airlines began operations at Holman Field. During the 1930s, however, difficulties developed between Northwest Airlines and the City of St. Paul. As a result, Northwest moved all its flight operations to Wold-Chamberlain Field but retained its executive offices and maintenance facilities at Holman Field. St. Paul then sought to improve the facilities at Holman Field to lure Northwest back. As the competition between the two cities intensified, the Minnesota Legislature feared that each city would develop a major airport for use by the commercial airlines. The Legislature determined that a common major airport was necessary to serve both Minneapolis and St. Paul.

In 1943, the Minnesota Legislature created the MAC as an independent special purpose public corporation responsible for operating the metropolitan airports system. The MAC's authority is currently codified at section 473.601 through section 473.679 of the Minnesota Statutes. The MAC has complete control over the operation of the regional airport system. Initially, the MAC owned and operated Holman Field and Wold-Chamberlain Field. The MAC now owns and operates seven airports in the Metropolitan Area. MAC's geographical jurisdiction covers a 35-mile radius from the Minneapolis and St. Paul city halls.

In addition to a chair appointed by and serving concurrent with the Governor, the MAC currently consists of 14 commissioners, ten of whom represent districts in the seven county metropolitan area, while four represent Greater Minnesota. Except for the chair, commissioners serve staggered four year terms, to which they may be reappointed. In addition, the mayors of Minneapolis and St. Paul (or their appointed representatives) serve on the commission.

The MAC operates much like a city, supported by a staff of 370 employees, including police, fire, and administrative personnel. The MAC also has the authority to levy taxes for its services, although it has not used the authority since 1969. Since 1969, the costs for operating the regional airport system are paid for by user fees.

In 1953, the Minnesota Legislature formally detached the lands constituting MSP from the Cities of Richfield and Minneapolis. The current version of the MSP detachment statute, section 473.625 of the Minnesota Statutes, reads:

> Lands constituting any major airport or a part thereof now and which may hereafter be operated by any public corporation organized under sections 473.601 to 473.679 [the sections of the statutes governing the MAC], and embraced within any city or school district organized under the laws of the state, are hereby detached from such city or school district.

Any consideration of the governance alternatives must determine if the MSP lands should retain the status as detached from the adjacent cities.

An early legal challenge to the MAC's authority is particularly instructive as to the authority of the Minnesota Legislature to establish alternative governance structures. In Monaghan v. Armatage, 218 Minn. 108, 15 N.W.2d 241 (1944), the Minneapolis Park Board, which operated Wold-Chamberlain Field prior to the creation of the MAC, tried to prevent the MAC from taking over the airport. The Park Board alleged that the legislation took its property without due process. The Minnesota Supreme Court rejected the challenge, ruling that a city holds property subject to the paramount power of the state legislature. The Court noted that the state constitution specifically preserves the legislature's right to provide general laws paramount to the provisions of home rule charters, the legislature may modify or withdraw any power entrusted to a city, hold such powers itself, or vest the power in other agencies. This decision should provide the Legislature with sufficient flexibility to establish whatever governance structure the Legislature finds best serves the public interest.

Under almost any re-use scenario, legislation will be necessary to establish the new governance structure for MSP. At a minimum, legislation may be required to clarify the status of the MSP lands. The detachment statute, quoted above, detached all "[l]ands constituting any major airport or a part thereof..." from cities and school districts. If, because of the re-use scenario for MSP, the lands at MSP cannot be classified as constituting a use which is part of any new major airport, the detachment statute would no longer apply. In this case, it will be preferable to have legislation which specified how the MSP lands would be reattached or how the lands would remain detached for other purposes.

1. New Governing Entity -- Separate Agency

   A new governing body could be formed to implement the re-use vision. The new governing body would exercise complete control over all or a portion of the land within the MSP ring road.

   The new governing entity would have an identity separate from adjacent cities and existing regional and state agencies. The adjacent cities would have no legal interest in the property. Existing state and regional agencies would of course retain the necessary authority to insure compliance with state and Federal mandates with respect to public health, safety, and welfare concerns. Because title to MSP lands may vest currently under various property owners, this concept makes it necessary to assemble the lands over which the new entity will have jurisdiction. As much land as necessary should be assembled to accomplish the selected re-use scenario.

   a. New Municipality

      The new governing body could be established as a "new city" with powers common to other cities in Minnesota.

   b. New Regional Entity

      A new regional entity could be created to function in a capacity similar to regional operating agencies such as the Regional Transit Board, the Metropolitan Airports Commission, and the Metropolitan Waste Control Commission. A regional entity would provide a broader tax base for funding the re-use and could allow any revenues received from the re-use to be spread throughout the region. It would additionally represent broader regional interests.

c. New State Agency

A new state agency could be created to govern the re-use of MSP. A state entity would provide a broader tax base for funding the re-use and could allow revenues received from the re-use to be spread statewide. The agency would represent state interests.

d. New Special Purpose Agency

The new governing body could be established as a new special purpose entity detached from the adjacent cities. An example of a special purpose entity which is detached from the adjacent cities is the Minnesota State Fair Grounds under section 37.01 of the Minnesota Statutes. The special purpose agency could be an infrastructure agency with its focus limited to providing the necessary infrastructure for the re-use scenario.

e. Private Development Corporation

The new governing body could be a private or quasi-public entity. The private development corporation would be exempt from many local, regional, and state regulations. This would allow the governing body to operate largely outside the public process. The approach could be similar to the structure the State of Florida provided for the development of Walt Disney World near Orlando. The governing body could also be a regulated corporation similar in structure and operation to a telephone or electric company. If the development corporation is regulated, it may be necessary to establish a new governmental agency to regulate the corporation.

2. New Governing Entity -- Multi-Agency Panel

A multi-agency panel could be established under existing joint powers authority. The panel could combine powers from adjacent cities and regional, state, and/or Federal agencies. If there are problems obtaining the rights to use certain property, this approach might provide an appropriate solution to getting the interested parties to work toward a common goal. For example, the multi-agency panel could include the Minneapolis Park Board, the Department of Natural Resources, the State Historical Society, the Federal Government and other parties that hold title to the land. This panel could then work to implement a re-use scenario. This alternative might best meet the historic claims to jurisdiction of the lands at MSP.

3. Maintain Current MAC Governance Structure

Maintaining MAC's control over lands at MSP might be appropriate for any aviation related re-use of MSP. Given the conditions on most of the land at MSP that require MAC to use the lands for aviation purposes, the continued control of MSP by the MAC for aviation uses would help insure that the conditions are met. For a mixed use redevelopment including some aviation, the amount of land governed by MAC could be reduced to accommodate alternative governance for that portion re-used for non-aviation purposes.

4. Modified MAC Governance Structure

The current authority of the MAC is limited to operating the region's aviation system by section 473.602 of the Minnesota Statutes. Nevertheless, with an appropriate legislative change, the MAC structure could be modified so MAC could better govern the non-aviation related development at

MSP. The modified MAC structure would allow the MAC to become a redevelopment agency as well as a single purpose airport operator. A modified MAC structure could also be used to govern MSP even if there is not an aviation-related re-use at MSP.

5. All Property Controlled by One Adjacent Community

   One of the adjacent communities could be granted exclusive jurisdiction over the lands at MSP. The governance structure of that community would then implement the re-use scenario. This alternative might satisfy at least one, but not all, historic claims to the jurisdiction of the MSP lands.

6. All Property Controlled by the Federal Government

   Since a large portion of the land at MSP is owned by the Federal government, this alternative would place all lands at MSP under Federal control for use as a major Federal facility. This alternative could satisfy the reversionary clauses that the Federal government has on lands at MSP acquired through the Federal Surplus Property Act.

7. Reversion with Override by Another Agency

   This alternative would return all, or a portion, of the jurisdiction of the MSP lands to the cities and the Federal government which had jurisdiction over the lands prior to the creation and subsequent expansions of MSP. Under this alternative, however, an existing state or regional agency could be given additional authority, or a new governmental entity could be created with the necessary authority, to insure that the re-use scenario was implemented. The governing entity would have sufficient controls over what occurred on the property to insure that the cities implemented the re-use scenario.

8. Reversion With Restrictions

   These alternatives would involve returning all or a portion of the jurisdiction of the MSP lands to the cities and the Federal government which had jurisdiction over the lands prior to the creation and subsequent expansions of MSP. Each of these alternatives would constrain the reverted authority with specific restrictions.

   a. Legislative Mandate

      Implementing the re-use scenario could be accomplished through legislation by the Minnesota Legislature and the U.S. Congress which mandates that the adjacent cities and the Federal government act in accordance with the re-use scenario.

   b. Contractual Agreement

      As part of the land transfers occurring during the reversion process, new deed restrictions could be placed in the deeds to insure that the use of the land was limited to the purposes which would implement a particular re-use scenario.

9. Reversion

All, or a portion, of the jurisdiction over MSP could be returned to the cities and the Federal government which held jurisdiction over the lands prior to MSP's creation and subsequent expansions. The legislature could also give a portion of the MSP lands to other adjacent cities which did not have land taken for MSP. This alternative would include no oversight other than the existing oversight, provided under authority belonging to the Metropolitan Council and other regional, state, and Federal agencies. Within that confine, the adjacent cities and the Federal government could implement the re-use scenario voluntarily.

B. Redevelopment Mechanisms

A number of options exist for the mechanism for redeveloping MSP. Choosing among them requires consideration of administrative convenience and flexibility and cost. Each of the options examined here presents a distinct set of opportunities and limitations. They may, to a certain extent, be combined in order to address the perceived needs of the MSP governing entity. Moreover, they each should be examined in the context of the current ownership patterns and environmental conditions that shape the site.

1. Master Developer

Disposing of the entire re-use site to a single master developer offers several benefits. First, planning, design and phasing can be more smoothly managed with one entity than with several. Naturally, such an economy can be further enhanced if the developer is also slated to implement longer term governance, guided by specific conditions. Hence, the master developer might be a public entity, a private entity, or some combination, although a private entity is most likely in light of financing practicalities.

Second, apportioning the site improvement costs will be extremely difficult if there are a number of developers. Experience indicates that complications related to apportioning improvement costs to individual developers have been so disruptive as to delay or disable the effort.

Third, competition between various developers could make it difficult to market the redevelopment effort in a cohesive and comprehensive fashion. In some redevelopment efforts where multiple developers have been involved, competition between developers has undercut the viability of the projects as the developers grant rent or other concessions in competition with one another until the tenant has negotiated terms that are not profitable.

Fourth, having one developer in the project for the "long haul" will be advantageous, ensuring a long term investment strategy for the redevelopment program. This does not mean that local developers should not and will not be involved. There are undoubtedly local developers who have experience and economic capacity to undertake the project as the master developer, and it is likely that most outside candidate master developers will include a local development connection as a part of their qualifications or proposals.

2. Individual Parcel Sale or Lease

Leasing or selling land often helps accomplish redevelopment goals. MSP could lease out individual parcels of its land to those developers or tenants who are interested in redevelopment. A major advantage of leasing is the control maintained by lessor, even while it simultaneously raises money to fund further redevelopment.

The terms of the land lease could call for payments only after buildings were completed and occupied by tenants. Since the land is already owned, it would not cost the owners anything, and could save developers considerable risk and up-front costs in interest payments. In consideration of such favorable terms, the developer should be able to provide some or all of the infrastructure and public space improvements needed to establish the site properly. The extent of owner-funded improvements versus developer-funded improvements could be part of the negotiation in selecting a developer.

MSP could also sell parcels of land to potential developers under the condition that the land be developed consistent with a redevelopment plan. Selling the land could potentially generate more revenue up front to facilitate the redevelopment of MSP.

3. Public Infrastructure and Remediation

For a successful redevelopment of MSP, the public infrastructure must be evaluated and updated as necessary. Infrastructure essential to redevelopment includes access points to the site and existing roads. Availability of utilities and water is also an important infrastructure consideration. Existence or capacity of sewers and waste disposal are further factors in determining whether the existing infrastructure is adequate for redevelopment demands.

Obviously, the infrastructure demands will vary with the specifics of the redevelopment employed. However, it is vital to a successful redevelopment to assess these needs and provide the infrastructure necessary to encourage redevelopment and growth. Added infrastructure could be financed through linkage or any of the various funding mechanisms discussed below.

4. Public/Private Partnership

A partnership for redevelopment between the private and public sector is often essential for successful redevelopment. A redevelopment partnership encourages pooling risks, combining resources and sharing profits. Both sectors can share in the planning and financing responsibilities of a redevelopment project.

An example of a successful partnership is the development of Horton Plaza in downtown San Diego. San Diego and the private development firm of Ernest W. Hahn, Inc. cooperated in the redevelopment of the downtown site. The team used tax increment financing to fund the project and set up a government agency, the Centre City Development Corporation, specifically to handle the redevelopment of the center city. The project resulted in a retail center with movie and performing arts theaters as well as leasable office and residential space.

A second example of a successful redevelopment of a center city is that of Mesquite, Texas. The City was in charge of coordinating the planning and meetings between the various actors. The City worked with representatives of the business community as well as private consultants to develop a physical plan of the development. The business community and bank provided advertising for the

project while the City provided legal advice and arranged for various departments to shift funds for use in the redevelopment. The planning process included open public meetings and the partnership distributed information about the project to all interested parties.

5. Utility Concept

The MSP site could be redeveloped into a utility plant. First, however, the need for additional electricity in the area would have to be assessed. Additional cheap utility could be a lure to industry use of the surrounding area or part of the MSP site itself. The MSP site would be an ideal location for a utility plant because of the amount of space at the site and the proximity to a major metropolitan area.

6. Turn-Key Contractor

A turn-key contractor could be used to complete the redevelopment of the airport with little or no risk to MSP. In a turn-key contract, the contractor would agree to complete work on a building or redevelopment to a point of readiness or occupation. During the building period, the builder would assume all risk. This arrangement could be attractive to investors and cut down on insurance costs during the redevelopment process.

C. Financial Structure

The financial structure of the MSP re-use program depends largely on cost factors. Nevertheless, the precise parameters of the optimal financing arrangement are formed by a variety of factors, including the current environmental conditions of the site and the attendant possibility of future liabilities, the chosen redevelopment program, and the financial conditions that it creates, and the governing structure and its capacity to manage various financial structures.

Many possible incentives for private sector investment are presented here. Similarly, various funding sources and mechanisms are explored. While each may be a viable option, any re-use project of substantial size will undoubtedly rely upon several incentive mechanisms and funding sources in order to finance the re-use project adequately.

1. Private Sector Incentives

The assessment of alternative re-use scenarios reveals that several of the alternative scenarios would require economic incentives in order to attract private sector participation in the re-use plan. Government sponsored economic incentives have become commonplace in the United States -- the $150 million package provided to the German automobile manufacturer BMW is a recent example. While the re-use plan is not necessarily economically unattractive in the market place, such private sector incentives are useful, simply because corporations making location decisions are offered significant incentives by other states, particularly in the South. Alabama has already made some inroads into the bio-tech industry, one of the Twin Cities' mainstay industries, aided by substantial economic incentives. There are a number of potential economic incentives that other locales use to attract jobs, many of which are not currently available under Minnesota law.

a. Free Enterprise Zone

A "free enterprise zone" is a designation of a particular geographic area within which government gives preferential tax rates and other beneficial treatment to residents and businesses. The concept is intended to encourage business growth, through revitalization of the community, creation of job opportunities, and fostering of a favorable economic climate.

At the Federal level, legislation authorizes designation of 100 enterprise zones throughout the country. In choosing particular areas for designation, the HUD Secretary is to consider whether the area suffers from "pervasive poverty, unemployment, and general distress." Once designated an enterprise zone, an area retains that status for twenty-four years, unless the state or local governments initially request a shorter time period, or the HUD Secretary revokes the designation. During the time it is in the enterprise zone program, an area is granted various types of preferential treatment. Tax rates and fees levied by state and local government will be lowered for businesses and individuals within the enterprise zone. Public services will be increased, and rendered more efficiently, within the enterprise zone. Paperwork requirements will be reduced, removed, simplified, or streamlined. Assistance in providing jobs and job training, and technical and financial assistance will be made available to residents, employees and employers within the zone. Special preference will be given to minority contractors when selections are made for public projects occurring within the enterprise zone. Surplus government property located in the enterprise zone will be given, or sold below fair market value, to businesses agreeing to locate within the enterprise zone. In total, these efforts are designed to foster "job creation, community development, and economic revitalization" with the designated enterprise zones.

Minnesota, like nearly every other state in the nation, also has an enterprise zone program. Its selection criteria are similar to those used in the Federal program, focusing on poverty, unemployment, and general distress. Nonetheless, the Minnesota program does add several additional factors, including "the extent of chronic abandonment, deterioration, or reduction in value of commercial, industrial, or residential" properties, and the corresponding arrearages in property taxes. Perhaps most importantly, the Minnesota program is competitive, since the number of otherwise eligible communities and areas is too great for the state funding available for the program. If located within a designated enterprise zone, many types of businesses may receive any or all of several tax advantages. A sales tax exception exists for construction materials and equipment purchased by a business located in the zone for use in the zone. An income tax credit is available, up to a certain dollar value, to employers for each additional worker that they hire to work in the zone on activities other than construction. A separate income tax credit is available for a percentage of debt that finances new or expanded facilities in the zone. A credit against state paid property taxes is available for a portion of property taxes paid by a new commercial or industrial facility in the zone. Although these provisions vary moderately by the type of enterprise zone - "hardship area," "federally designated," or "border city" - the principle remains consistent; the Minnesota enterprise zone program is directed specifically at the construction of new or expanded facilities at which new jobs will be made available in areas where unemployment, poverty and general distress are currently present.

b. Indemnification for Environmental Hazards

Federal and state law in regard to responsibility and liability for environmental contamination is regarded as a serious disincentive for re-use, particularly where the prior use involved

extensive use of toxic or hazardous materials. Because an airport is noted for using such materials, a program of indemnification is appropriate to attract candidate investors or users who might otherwise be deterred by undisclosed or undiscovered contamination.

To encourage investment and re-use under the current environmental liability laws, MSP could indemnify lessors, investors or users of the land against clean-up costs. The government could still sue the investors, but MSP could promise to pay litigation fees and clean up costs. Therefore, the investors would not be at risk and more likely to invest in the re-use of MSP.

c. Land Trades

Trading land between public and private owners is another mechanism for providing incentives for participation. Within the MSP re-use area, a large portion of the property is currently, or in the future will be, publicly owned. Correspondingly, many of the candidate users possess large land holdings elsewhere in the region or state. Their participation in the MSP re-use may be deterred by their significant financial investment in their existing holdings elsewhere. Land trades may permit them to free themselves of these commitments, while simultaneously encouraging their participation in the MSP re-use.

The Federal government has authorized trades of its publicly owned lands for much of this century. The prime participating agency in these programs has been the Department of Interior. Recently, for example, it traded 400 acres of land in urban Phoenix, on which a school for Native Americans had been located, for nearly 100,000 acres of wetlands adjacent to the Everglades National Park in southern Florida. Similar trades have occurred for National Forest property, Wildlife Refuges, Indian Reservations, Conservation Areas, and portions of the National Wild & Scenic Rivers and National Trails Systems. Such trades have even been authorized for coal deposits for which the Federal government is the fee holder. All of these trades, while constrained to exchanges of property with comparable value, have been undertaken because disposition of one parcel, and acquisition of the other, were each considered to be in the national interest.

d. Tax Credits

Providing tax credits is another way of encouraging investment in development projects that are considered economically desirable. One of the most prominent examples involved the Investment Tax Credit authorized by the 1981 Tax Act. Under that provision, a 10 percent deduction was allowed against an investor's tax liability for investments made in certain depreciable property. Generally speaking, the credit was designed to encourage investment in factories and factory equipment.

Another tax credit provision bears even greater relevance to the type of investments contemplated for the MSP re-use area. In 1978, Congress provided an investment tax credit for expenditures made to rehabilitate historic structures. This mechanism is significant both because it related to expenditures made on identifiable real properties whose improvement was deemed to have social utility, and because its availability was tied to specific requirements on the nature of the renovation and the duration of the use of the property. Similar concerns are present for the development possibilities existing in the MSP re-use area.

Tax credits have also been made available at the local level. In Florida, for example, corporations doing business in qualified redevelopment areas are granted substantial tax credits for money contributed to a local redevelopment fund. The credit is available regardless of whether the business itself benefits from the expenditure of the contributed money.

Tax credits are a particularly strong incentive for investment because they provide a one-for-one tax benefit for every dollar invested. While such programs are typically limited to a fixed percentage of the total investment, their total cost in lost revenues can be significant to the tax collecting level of government. This lost revenue, however, is typically thought to be more than compensated for by increased income tax from increased business revenues, property tax from rising property value, or sales tax from greater sales volumes occurring at businesses in the newly constructed or renovated property. Recognizing this potential benefit for increased revenues, as well as the opportunity to implement desired public policies, governments have often created tax credit mechanisms to encourage growth and development of business property.

e. Land Write-Downs

One of the most problematic elements of redevelopment are the terms of disposition. If land disposition is keyed to market factors, then redevelopment objectives may not be able to be achieved. After all, the market exists without public intervention and if redevelopment is unable to respond to market conditions, then a disposition at market rates may not lead to successful redevelopment. Perhaps the most common redevelopment initiative is the sale of discounted, or "written-down" land as an incentive for redevelopment. Under a write down program, land is sold to a developer at a reduced price so that the developer will have an incentive to take a redevelopment risk. Given that land costs normally represent a relatively small element of total project costs (as low as 20%), land discounts must be significant in order to create a compelling incentive for risk taking. The criticism of land write-downs is therefore that the program is essentially a "developer give-a-way."

Land write-downs have often been used in the urban redevelopment context. In these cases, the redevelopment agencies acquire slum and blighted land, clear the land, and then dispose of it at a discounted value in order to attract developers to what is otherwise viewed as a risky investment. A creative example of this approach was employed by a community redevelopment agency in a South Florida city. The agency acquired a 30-acre failed shopping center in a downtown that had been declared slum and blighted. The agency demolished the shopping center and then constructed site improvements including a central plaza, roads, a linear park, an outdoor music pavilion and parking on 20 acres of the site. The agency then leased a selected developer 10 acres of land for residential, retail and office use. The cost of the 10 acres was not actually written down. However, the effect of the transaction included a write-down because the public agency had substantially increased the value of the 10 acres by the construction of regionally significant amenities which the selected developer in effect received for free. Had the developer undertaken his development on a typical suburban site, he would have had to construct the amenities at his own cost.

Housing agencies have also used land write-downs as incentives for the development of affordable housing. The agency acquires the land, improves the land, and then conveys it to a qualifying developer at a nominal value provided that the developer constructs affordable housing on the land. For example, the City of Monterey, California uses Community Development Block Grant and redevelopment set-asides to purchase sites for lease to other agencies, developers or non-profits for construction of affordable housing. The agency may act

as agent, purchaser and developer of the units and the City leases the land at no cost or donates the property to the project. Housing may be constructed under a state HFA program that provides low interest loans; other units are rented under HUD's Section 8 program. To ensure that the housing remains affordable, ownership units carry deed restrictions for the life of the project. To date, only six sites have been purchased under the program because of the high land costs in Monterey. A total of 194 units have been developed on the sites and one additional site was purchased in 1991 which will provide an additional nineteen units.

At least in the context of housing, the advantages to write-down programs include the following: (1) control of selection of sites and location of lower-cost housing; (2) encouragement of private sector participation in housing assistance programs by making the write-down available only to those developers that agree to use the assisted housing programs; (4) increased feasibility of assisted units under Section 8 housing assistance and other programs by allowing the developer or the Housing Authority to provide the units within the limits of the subsidy program; (5) leveraging of Federal and state funds; and (6) reduction in costs when available funds are not sufficient to carry out a land acquisition program.

Some of the disadvantages to write-down programs include: (1) substantial administrative costs and responsibilities, including bookkeeping and monitoring of maintenance and availability of lower cost units; (2) risk that the developer will fail to provide the required lower-cost units (this risk can be reduced by carefully drafting agreements that discourage abuse of the program); (3) without the use of assisted housing programs, the write-down programs usually make housing available only for moderate- or middle-income households; (4) the location of a site is rarely an important consideration in a write-down program; and (5) without affirmative marketing and counseling efforts, there is little within the programs themselves that prevents discrimination in the sale or rental of housing.

One alternative to write-downs is land disposition by way of flexible, participation-rent leases. Instead of writing down the value of the land, the redevelopment agency leases the land to the developer on a participating basis, such that net revenue is shared. The developer receives the incentive he or she needs -- no land cost risk until net revenues reach some specified level -- while at the same time the agency retains the economic value of the land when it is redeveloped. However, such leases are not always possible since the agency must own the property on a debt-free basis to avoid carrying costs. Where available, however, they can be very effective.

f. Land Trust

Land trusts can serve as an effective mechanism for encouraging development that is considered desirable. With this mechanism, a land trust can retain fee ownership of a parcel of land, yet lease it to a developer willing to undertake a project in accordance with the land trust's expressed priorities for the property. This mechanism is particularly useful because it alters the economic relationship governing the relationship between public agency and private developer.

The economics of traditional redevelopment efforts leave substantial risk with the public agency, while the opportunity for gain resides with the private developer. Under the traditional approach, land is conveyed to a qualified developer at a large discount against fair market value, in return for a commitment to develop the property in a specified way. Once the redevelopment initiative takes hold, however, appreciation in property value accrues to the developer, rather than to the redevelopment agency, which bore the entrepreneurial risk. One

example will illustrate. In order to provide sufficient incentive, a redevelopment agency discounted the land by 40% of the total acquisition, demolition, and remediation cost. Within two years, however, other redevelopment activities had generated a rapid appreciation in land value. The developer recaptured not only the discount, but gained an additional 40%. The total return to the developer of 133% sparked great political controversy, and stymied proposed redevelopment efforts.

In contrast, the economics of the land trust arrangement leave the "up-side" opportunities predominantly with the public agency. The equity in the land is retained by the land trust, which makes the property available to the developer in exchange for a rental or participation fee. The developer has incentive to proceed; without the land acquisition cost, the developer still can reap a substantial benefit from the income stream available after development. The incremental increase in equity value that results from the redevelopment, however, benefits the public agency. This retained and increased value may be used to refund land investment costs and facilitate future development.

In Lincoln, Massachusetts, for example, a local land trust has, over the past twenty years, acquired lands totalling nearly half of the vacant land in the entire community. In order to finance these purchases initially, the land trust bonded for sufficient funds to acquire available parcels. In many instances, the land trust entered into a rental agreement with a developer, whereby the developer would construct housing or community facilities, clustered on a portion of the property with the remainder as open space. These undertakings were sufficiently successful to allow the land trust to retire all outstanding debt on its acquisitions and cover its administrative costs. Moreover, one of the projects built on land trust property provided sufficient affordable housing to bring Lincoln into compliance with the Massachusetts "anti-snob" zoning law, whereby a fixed percentage of housing within every community must be made available significantly below market rate. Additionally, the land trust continues to hold the fee interest on the town's largest commercial district, the value of which has increased dramatically since its development in the mid-1970s.

g. Cooperatives

Cooperatives are a time-tested method of spreading economic risk among public and private sponsors and beneficiaries. One method of creating incentives for economic development would be to establish a cooperative that would spread the economic risk and benefits of development and redevelopment among public and private investors.

Cooperatives differ from the more traditional type of business enterprise in that ownership and employment are undivided. In a co-op, the risks and rewards of responsibility and ownership are shared. A co-op is a self-governing organization. However, as with most democratic governance systems, responsibilities for running the business are divided among employee-owners, board of directors, committees, and management. Decision-making is done by consensus, whenever possible, and when voting does occur, it is on the basis of one person, one vote. Despite the breakdown of cooperatives into governance groups, the underlying tenet is that organizational devices are meant to increase member influence over co-op policies, and to ensure that the rights of individual members are adequately protected and regularly exercised.

There are five basic tenets that comprise the philosophy of the cooperative movement. The Principles of the International Cooperative Alliance have been adopted by many co-ops, and include the following: (1) open membership and commitment to affirmative action;

(2) democratic control (co-op members are usually equal co-owners, one person is entitled to one vote, and there is a commitment to information sharing and employee participation); (3) profit sharing (profits are usually divided by reinvestment in the co-op, by distribution to members, and often by contribution of a portion to the community); (4) education of members and the public about the benefits of cooperatives; and (5) cooperation among cooperatives.

Objectives and guidelines establish the governance policies of a co-op, and as such, organizers should be clear about what they intend to accomplish. The organizational policies should be responsible to the wishes of the co-op members, should be well understood, and should be accepted throughout the organization. Among the kinds of policies the governance system should examine include: (1) how fast the co-op should grow; (2) whether to expand products or services; (3) how it will choose between pay cuts and selective layoffs in times of financial difficulty; (4) what kind of grievance procedures should be established; and (5) what type of mechanism should handle policy making. It should be clear to all co-op members what people or groups are responsible for which decisions and activities.

The foundation of any cooperative is its members. Unlike consumer co-ops (where members can remain passive in the sense that they may choose whether or not to purchase goods from the co-op), the nature of other co-ops (such as producer or worker co-ops) engenders the notion that members bear the ultimate responsibility for the co-op's success or failure. The responsibility of co-op members often includes making a cash investment of a base dollar amount, attending staff meetings and retreats, staying informed about business matters, contributing a certain number of hours per month, cooperating with other members, and maintaining a commitment to worker-ownership.

Members of a co-op should have interests in the organization that extend far beyond questions of its survival and profitability. Co-op members should care about issues like the rate of growth, the quality of the co-op's product or service, and the personnel policies of the organization. For this reason, members of a co-op should be involved in any decision that affects the basic character of the organization, and co-op bylaws often contain provisions that restrict the unilateral decision-making power of the board of directors.

The cooperative will be liable for contracts and torts committed by members or employees while on cooperative business. The co-op confers limited liability on its members in that the members are financially liable only to the extent of the amount of money they have invested in the co-op. This investment is usually represented by the dollar value of the shares or membership they have purchased.

A cooperative has three essential capitalization considerations: (1) a determination of the amount of capital that should reasonably be invested; (2) a determination of the amount of capital required to develop a specific site (this includes the cost of buying and repairing equipment, leasehold improvements, inventory, working capital and deposits); and (3) a determination of the sources of the required capital. For many co-ops, the sources of required capital are the sale of shares, loans from members, and commercial notes. These co-ops found capital to begin operation by borrowing money, by purchasing goods or services on credit, and by selling memberships and stock.

There are a number of successful examples where cooperatives have been used in redevelopment scenarios. Among the more recent experiences is the Panhandle Plaza in Scottsbluff, Nebraska. A cooperative there responded to the changing demands of the

community by redeveloping a retail shopping center that it owns. Where member farmers once were the prime component of the cooperative's business, a new clientele populating the growing community had different priorities. As a result, the shopping center had degenerated significantly, providing an ever declining source of revenue to the cooperative. With its redevelopment, the shopping center now occupies a specialty niche attuned to the wants of the non-farm population, while continuing to serve its members' demands.

2. Funding Sources and Mechanisms

The re-use of MSP will require substantial funding for capital investment, as well as funds for operating and maintenance costs over time. The form of governance that is employed to implement the re-use plan will have a lot to do with defining the opportunities for funding that are available. For example, if the re-use of MSP were managed by an interagency panel representing local and regional governments, there would be very little funding available to the interagency panel absent significant legislative authorization.

a. Revenue Sharing with New Airport

The concept of revenue sharing is predicated on the idea that the development of a new airport and the re-use of MSP are two sides of the same program of public policy and that the users of the two sites are the primary beneficiaries of the program and that the cost of implementing both aspects of this policy should be shared. Revenues generated by the development and redevelopment of MSP could be used to pay for cost incurred in conjunction with new development. On the other hand, revenues derived from the new airport could be used to finance re-use of MSP on the theory that the re-use strategy is essential to the success of the new airport.

Revenue sharing has been successful in several metropolitan areas. In New York, for example, the Tri-Borough Bridge and Tunnel Authority contributes over two-thirds of its toll revenues to the Metropolitan Transportation Authority, which operates the subway and commuter rail systems in New York City and surrounding communities. In the San Francisco Bay area, recent legislation increased bridge tolls. The increased revenue will be shared with the Metropolitan Transportation Commission, which will spend the money to improve public transportation.

b. Dedicated Sales Tax

Many areas have used a dedicated sales tax as a basis for financing a particular program of public improvement. The concept is simple. A redevelopment of MSP is in the best interests of the state and/or the region and it is "worth it" to the general public to pay an additional sales tax to facilitate the desired redevelopment. Based on recent retail sales figures, a one cent sales tax in the Minneapolis/St. Paul area would generate approximately $75,350,000 and a one cent sales tax on the state level would generate approximately $330,955,000 per year. These revenue streams translate into bonding capacities approaching $895 million and $3.93 billion respectively. Such a scheme has been used in Metropolitan Dade County, Florida, where a referendum-authorized two cent sales tax financed the mass transit system.

It is not necessary that the sales tax be a general tax on all sales. A common practice is to target sales taxes on activities that are particularly benefitted. For example, the hotel or bed tax is a common form of special purpose sales tax that is used to finance a particular program of public policy.

c. Property Tax

Property taxes are the most common revenue source for funding local government. Special, ad valorem property taxes have often been used to fund capital improvements or on-going costs of particular projects. Typically, because they are taxes, special legislation is necessary to authorize the use of such ad valorem taxes, unless they are to be levied in a home rule jurisdiction.

The potential benefits can be illustrated easily. Assume, for example, the MSP re-use plan results in 20 million square feet of office space (or its equivalent, based on traffic generation) with an average assessed valuation of $100 per square foot. Under these circumstances, a special tax levy of $1 per $1,000 would generate $2 million; this in turn could support a $22 million bonding capacity.

Other jurisdictions have used property taxes with great success for funding specific redevelopment projects. In Washington state, for example, local improvement districts have been established within which a special property taxes are levied to pay for public libraries serving local communities. Colorado Springs, Colorado has been particularly aggressive in its use of ad valorem taxes. For example, the infrastructure for one commercial and residential development on 1,100 acres near the Air Force Academy is being financed in large part by an ad valorem tax that is retiring originally issued bonds. Other ad valorem taxes in Colorado Springs have financed roadway segments.

d. Development Exactions

A common method of financing needed capital improvements is through a development exaction whereby each unit of development pays its fair share of the cost of needed improvements. Exactions are now well-settled in practice and the law. In the late 60s and early 70s, there was some doubt as to how the courts would respond to impact fees; however, there appears to be little question today in regard to the general validity of impact fees as an impact mitigation regulation. There is some uncertainty remaining in regard to whether impact fees are authorized by general zoning enabling acts in those states where local governments do not have home rule powers; however, even in a majority of those states, the courts have concluded that impact fees are valid as zoning and subdivision regulations.

As a general proposition, any uncertainty about the constitutional validity of development exactions was resolved by the United States Supreme Court in 1987. In the Nollan case, Justice Scalia, writing for a majority of the court, validated building permit conditions so long as the condition had an "essential nexus" to a legitimate public purpose.

The commission argues that a permit condition that serves the same legitimate police-power purpose as a refusal to issue the permit should not be found to be a taking if the refusal to issue the permit would not constitute a taking. We agree....If a prohibition designed to accomplish that purpose would be a legitimate exercise of the police power rather than a taking, it would be strange to conclude that providing the owner an alternative to that prohibition which accomplishes the same purpose is not.

According to Justice Scalia's opinion, a development exaction would be valid unless "the condition substituted for [a regulatory limitation] utterly fails to further the end advanced as the justification for the prohibition." Justice Scalia's opinion, written by a conservative on what is

now a conservative court, appears extremely deferential to organized mitigation impact programs--development exactions--so long as the "essential nexus" between impact and mitigation exists.

The point is that as a matter of general law, development exactions are now widely accepted and the constitutional underpinnings have been validated by the United States Supreme Court. This is also reflected by a recent decision of the Florida Supreme Court which revalidated the famous Dunedin decision in a case challenging the constitutionality of educational facilities impact fees on a number of grounds. The Florida Supreme Court sustained the concept of school fees in very broad language that reflected public policy concerns about the need to ensure that adequate public facilities are available to serve new growth and development. The Court also upheld the legitimacy of requiring new growth and development to pay a pro rata share of the cost of new facilities needed to serve new growth and development as a constitutional alternative to restricting the pace or intensity of development. The court specifically referred to what is known as the "dual rational nexus" test as satisfying the required relationship between an exaction and the impact being mitigated. The dual rational nexus test has two elements: 1) the exaction must be proportional to the impact of development; and 2) the funds collected must be earmarked for expenditure for the benefit of the development that pays by funding the facilities needed to mitigate the impact of the development.

The validity of exactions is not the only pertinent question. For example, if the cost of compliance is such that it actually creates an economic disincentive, then the use of a development exaction to finance necessary improvements needed by desired economic development will be frustrated. Recently, a major commercial airplane manufacturer in the Pacific northwest reported to a study committee examining the desirability of using development exactions as a capital facilities financing mechanism that it had decided not to expand a local facility because the expected development exaction was too high. Instead, the manufacturer built a new facility in another state.

This illustration, however, may be an aberration. Even in some hard-to-redevelop areas, a development exaction of less that $4.00 per square foot of office space has had no adverse impact on the attractiveness of the redevelopment area to potential developers and redevelopers, provided that the needed facilities are committed to and will be available on an established schedule.

e. Sale of On-Site Resources

Another method of generating needed revenues is through the sale of resources on site. For example, significant groundwater resources are thought to underlie the MSP site. Those resources could be exploited in a manner consistent with the re-use of the MSP site, raising revenues to help defray the cost of needed capital improvements.

Another example of a potentially marketable resource is pollution credits. The airport must meet certain criteria for the pollution credits to be a viable source of money. Most importantly, the airport must be a "major stationary source" (emitting over 100 tons/year) of one of the following criteria pollutants: sulfur dioxide, total suspended particles (TSP), ozone, carbon monoxide, hydrocarbons, or lead. If the airport can meet the requirement of the Clean Air Act, it may be able to sell offset credits to allow new sources of pollution in the area. Also the airport could sell offsets to allow a non-complying entity to continue its level of pollution without being fined.

Pollution credit trading has only recently gone into practice. One of the first trades was between Wisconsin Power and Light (WPL) and the Tennessee Valley Authority (TVA) in May of 1992. Wisconsin sold the TVA the right to emit 10,000 tons of sulfur dioxide per year at a rate of $250-$400 per ton of emissions. Clean Air Capital Markets, a D.C. based investment banking company, brokered the deal.

WPL made a second trade with Duquesne Light Co. of Pittsburgh. These arrangements are probably the first of many and will help lower the cost of pollution reduction. Companies can choose to buy credits instead of installing expensive pollution control technology and wait until new and perhaps cheaper technology develops. Companies that can reduce their emissions are now given a greater incentive to do so. Daniel Dudek, Senior Economist for the Environmental Defense Fund, views pollution credits as a way to accomplish environmental goals with the least pain possible to the economy.

Another on-site resource that could provide revenue is the sale of construction materials or salvage material, including aggregate from the demolition of runways. While the value of the structures on MSP may be limited, creative re-use could generate value that could be used to finance needed improvements.

f. Public Debt

Issuing revenue or general obligation bonds is the most common source for public project financing. Such public debt requires an issuer to pledge a portion of future revenue streams, either special or general, to service the debt. Debt of this sort must be used to finance a public purpose; because MSP re-use is unquestionably a public purpose, the relevant question for considering use of public debt asks whether it is prudent and desirable to pledge future revenues to finance capital improvements.

This question is frequently answered affirmatively, so long as the proceeds are perceived to benefit the public directly. In such circumstances, the benefits of the public undertaking are thought to outweigh the resulting limitation on the availability of funds for other, as yet unanticipated public needs. Examples abound. Environmental protection facilities, such as for solid and hazardous waste disposal and for waste water treatment, are often financed with public debt issues. Low-income housing sponsored by a public agency is also frequently funded with bonds. Community redevelopment itself has often been financed with debt. Among the most popular projects for public debt financing is open space acquisition. If the MSP re-use area contains a significant open space element, the palatability of public debt is likely to increase markedly.

g. Income Tax

Income taxation is among the most common sources of general fund revenue for the Federal and state governments. While income taxes are typically levied generally, without regard to specific project needs, state governments do occasionally increase income taxes specifically in response to a particular initiative. Similarly, local governments, when authorized by state legislation, sometimes levy an income tax to fund policy or program initiatives. Naturally, in either circumstance, the public support for such a project must be substantial in order to make the tax increase politically acceptable. If such support exists, the revenue generated can be significant, making income taxation a potentially powerful revenue raising tool for a project such as the MSP re-use plan.

h. Federal/State/Regional Grants

Grant programs are widely used to finance public and private projects whose benefits are expected to extend far beyond their own borders. Many grant programs seek to foster a particular type of activity or endeavor, at miscellaneous locations throughout the country. This has often been the case with HUD grants from the Federal government being used to fund redevelopment efforts, particularly for low-income housing, or other socially desirable public projects. The EPA has routinely granted money to municipalities, regional authorities, and state governments for pollution control and remediation facilities. Other grant programs are designed to aid specific, identified projects. These most often occur at the state and regional level, where funds are granted to municipalities or other jurisdictional subdivisions in exchange for that entity's commitment of funds.

i. Real Estate Transfer Tax

In most jurisdictions, a transfer tax is typically levied on all real property transactions. Raising the transfer tax moderately in order to help finance the MSP re-use is an attractive option, at least in part because the re-use project will itself prompt a large number of real property transactions. This, of course, also comes with a potential down-side in that an excessive tax increase might prove a marginal disincentive to property transfers within the jurisdiction where the increase is applied. It is likely, however, that such a negative feedback is a remote possibility, since a real estate transfer tax typically forms only a minute portion of the total costs associated with a real property transaction.

j. User Fees and Tolls

User fees and tolls allocate the cost of capital improvements to the developers and their customers who need and benefit from the facilities. A user fee is a fee that is charged as an incident of receiving a service; if the fee is not paid, there will be no service. Toll roads are the classic example of a facilities financed largely by user fees. If the toll is not paid, the driver cannot use the road.

In their purest form, user fees and tolls are the ideal pay-as-you-go technique. When people use a road, they pay a fee. The toll is used to re-pay the capital cost of building the road and the operating cost of running it. If people use the road a lot, they pay a lot of tolls. In contrast, if people do not use the road, they do not pay for either its capital or operating costs. User taxes and fees are now commonly used for water, sewer and solid waste disposal, although, until recently, the capital costs of these facilities were financed through Federal grants.

There are other, less-direct, yet equally effective approaches, to levying a user fee. For example, gas taxes are in reality a user fee. If people drive frequently, then they contribute a greater amount to the cost of construction and maintenance of roads. The system is an indirect "user fee" and contains a number of variables that do not relate directly to actual road use, such as the impact of motor fuel efficiency on the amount of gas actually purchased. Another variable, for instance, involves the differential impact of various types of vehicles (e.g. cars versus trucks) on the type and maintenance of roads. Notwithstanding these minor variations among users, the gas tax retains its essential character as a user fee.

k. Special Assessments

The premise behind special assessments is that a special benefit, above that accruing to the general public, is bestowed upon the owners of the property adjacent to newly constructed public facilities. The assessment is the rough benefit from this construction, typically measured by the enhancement in the market value of the property. A special assessment is generally regarded as a form of taxation, although the Internal Revenue Code is ambiguous in regard to the treatment of special assessments as state taxation. A local government's authority to charge a special assessment is usually derived from the government's taxing powers, and must be specifically authorized under state statute or constitution.

Originally developed as a means of assessing the cost of particular facilities of special benefit, the special assessment has principally been used to finance road paving, sidewalk construction, sewers, drains, and water and gas main improvements and, to a lesser extent, other facilities and services such as parks and fire protection. Typically, those properties that would be served by a proposed road improvement, for instance, are assessed a pro rata share of the cost of the improvement, usually on a front foot basis. The assessments may pay for a wide range of costs that include the construction, repair and replacement of the facility. Unlike other types of exactions such as impact fees that may only be levied on new development, special assessments may be charged to both new and existing development.

The law of special assessments is fairly well settled and contains three components. First, the assessed property must be "specially" benefitted in that the benefits to the property must be above and beyond the general benefits that all properties receive as a result of collective public improvements. For instance, the paving of a road on which a parcel of land fronts is obviously of special benefit to that parcel. However, an improvement can be of both special and general benefit. For example, a road improvement may improve community-wide circulation, and at the same time improve direct access to a particular parcel of land.

The second element of the special assessment is that the amount of the assessment cannot exceed the value of the benefit to the assessed parcel of land. Therefore, an improvement of modest or indirect benefit to a particular parcel of land may not be assessed for a significant share of the facility's cost. The third element is that a special assessment program must also make available to each assessed property owner an opportunity to challenge the reasonableness of the assessment.

Special assessments have a number of disadvantages for major community-wide improvements, not the least of which is the administrative framework required to accommodate the property owner's challenges. Further, the benefits of many capital facilities are in actuality of general benefit. This public benefit often makes it difficult to demonstrate, under traditional special assessment precedents, the required direct special benefit.

On the other hand, there are a number of important advantages to special assessments, including the ability to finance an improvement with a series of assessments over a period of time. In addition, financial markets have ordinarily been receptive to debt instruments based on special assessments.

l. General Assessments

General assessments are the valuation of property in a district to enable the levy of a tax for the purpose of generally supporting government and public needs. General assessments are made against personal and real property within a taxing district. An assessment is an official estimate of the valuation of property from which a tax can be apportioned among the individual subjects of the tax in a district. The purpose of the assessment is to apportion taxes levied to raise revenue for the support of government and public needs. The money raised is used to administer laws, provide public protection, and generally to further the public good.

m. Ad Valorem Tax

Special tax districts are mechanisms that allow developers to tax themselves on an ad valorem basis to pay for needed public facility improvements. Ad valorem assessments are made in proportion to the value of the property within the improvement district. The property value is assessed and a tax is apportioned. The ad valorem assessments are tied to the value of the property, not to the benefit to be received from the expenditure of the money collected.

Local governments have traditionally relied on ad valorem taxes as their main source of general revenue. However, ad valorem taxes are not responsive to rapid growth and development because there is generally a lag time between costs and revenues. Infrastructure is often needed many years before the additional value of the property makes up for new capital facilities. In addition, state and local governments are often faced with constitutional and statutory restraints while attempting to generate revenue for new capital facilities.

n. Tax Increment District

Tax increment financing (TIF) is a relatively new financing device, developed in the 1970s in times of rapid inflation and appreciation of property values. Public improvements which serve as a catalyst to private reinvestment within the TIF district are paid for with earmarked tax revenues from the resulting increase (or increment) in the value of assessable property within the district.

Government bodies carve out tax increment districts where they want to encourage economic development. Valuation of property is frozen at a base level, and any taxes recovered from added valuation to the base level are allocated to a special fund for development. The fund may pay directly for improvements in the district or be pledged toward repayment of a general obligation or tax allocation bonds.

TIF gives taxing authorities a way to directly finance development. When development increases the valuation of land or other revenues, other taxing authorities often receive a windfall in the form of additional revenues at the expense of the taxing authority that undertook the development. TIF takes the position that before the other agencies receive a windfall, the additional revenue should be directed to the development agency to pay for the development initiative that created the additional revenues. By allocating funds received from added valuation over the base frozen assessment, TIF assists municipalities in receiving the benefits of the increased valuation brought about by the development.

The designation of the district is a key factor in the success of TIF. The district boundaries should be carefully chosen, focusing on the low value of the land and its potential of a higher reassessment after development.

The advantage of TIF to property owners is that the tax rate is usually not increased to finance public improvements in the districts. Instead, the money is raised through the increased valuation of the property in the district. A disadvantage of TIF is that tax revenues from TIFs are not available to other taxing entities until the development initiative is repaid. Due to this restriction, other taxing entities are frequently opposed to TIF and make establishment of a district politically difficult.

o. Land Lease

Leasing the land can also be a source of revenue. The chosen governance authority can opt to lease all or part of the land to a public or private entity for a term of years. A major advantage of leasing is that control of the property is retained, even while it generates an income stream. The land is leased for a limited period of time on terms dictated by the governance authority. Various leasing options are available. For example, the property may be leased pursuant to a gross lease where the tenant pays rent periodically and the governance authority pays taxes and assumes other burdens involved in the ownership of land. Another option is the net lease which requires the tenant to pay real estate taxes, special assessments, insurance premiums and other charges normally borne by the land owner. The tenant assumes risks that taxes may increase or that a special assessment may be levied. This form of a lease would allow the governance authority a stable income without assuming risks commonly associated with land ownership.

p. Public Industrial Revenue Bonds

Industrial revenue bonds (IRB) are issued by municipalities to attract private business and industry. The municipality markets the bonds and uses the revenue to build a private business or industrial facility. The municipality then leases the facility to business or industry for a rent equal to the amount necessary to pay interest and amortize the principal on the bond. A distinguishing feature of these bonds is that their holders have no claim upon funds raised or to be raised by taxation in order to secure payment of their obligations. The obligation to repay the bond is limited to the pledge of revenues to be raised from the facility. IRBs encourage development of business and industry at a relatively low risk to the municipality. IRBs are also attractive to taxpayers because taxpayers are not responsible for IRBs because the bonds are funded solely through the revenues generated from the facilities.

D. Real Estate Ownership

The land at MSP is divided into separate ownership status in at least eight ways:

1. Land owned by the Minneapolis Park Board;

2. Land transferred to the Minnesota Airports Commission by the Federal government;

3. Land acquired by the Minnesota Airports Commission with Federal grants;

4. Land acquired by the Minnesota Airports Commission with local funds;

5. Land owned by the Federal government;

6. Land owned by the state;

7. Land owned by private interests;

8. Land subject to long-term lease agreements.

Each category of land tends to present a unique set of legal issues. For most MSP land, discontinuation of all airport functions will result in a reversion of ownership or control to the original owner, which in most cases is either the Minneapolis Park Board or the Federal government.

1. Land Owned by the Minneapolis Park Board

   Approximately 614 acres at MSP is owned by the Minneapolis Park Board. (Area 8 on the Land Inventory Map.) When the Metropolitan Airports Commission was created in 1943, the legislature gave operational control of the St. Paul Downtown Airport (Holman Field) and Wold Chamberlain Field to the Metropolitan Airports Commission. The title to the land occupied by these airports in 1943 remains with the respective cities. Section 473.621(5) of the Minnesota Statutes provides that "in the event that the airport land owned by either city should no longer be used for airport purposes, the [MAC's] control thereof shall cease, and title to the land and all improvements shall be and remain in the city." This reversionary interest provides a unique opportunity associated with the MSP re-use. Since open space will constitute a substantial component of the re-use of MSP, it is possible that the Park Board could be interested in a land trade to obtain more naturally suitable land than the parcel currently owned by the Park Board.

2. Land Transferred to the MAC by the United States Government.

   Approximately 611 acres at MSP was transferred to MAC by various Federal agencies. (Areas 1, 2, 3, 4, 5, 13A and 13B on the Land Inventory Map.) According to the deeds, there were seven land transfers of land between 1955 and 1980: four surplus property grants from the General Services Administration (15.1 acres in May, 1962; 28.3 acres in June, 1974; 39.1 acres in September, 1979; and 8.6 acres in April, 1980), two from the Veteran's Administration (427 acres in June, 1955 and 78 acres in December, 1966), and one from the Secretary of the Army (24.8 acres in January, 1967). Typically, the transfer deeds contain reversionary clauses if the property is not used for airport purposes.

   The deeds that transferred property from the General Services Administration or other Federal agencies to MAC typically contain reversion clauses that provide for the automatic reversion of the land if it ceases to be used for airport purposes. Once the property has reverted, the disposition process is fairly lengthy. First, there must be a determination that the property is surplus property. In the case of property that reverts to the FAA, the determination would be made by the FAA Administrator after an investigation of the site by a GSA realty specialist. Once a determination has been made that the property is surplus, Federal agencies have 30 days to notify the GSA of their interest in acquiring the property. If no Federal agencies are interested, GSA then has an appraiser determine the fair market value of the property before offering it to state and local agencies. Fair market value will be based on the highest and best use. Notice is then sent to the governor, county commissioners, and governing bodies of local governments. No preference is

given to the state, and GSA does not like to choose between local and state agencies. If a redevelopment entity wants to get the airport property back, it would have to pay fair market value, and might not get all of the property if there is more than one bidder. If no state or local agency wanted the property at that point, it would be offered for public auction.

Even though the property automatically reverts if all airport functions are discontinued, reversion can be avoided. Reversion only occurs if all airport functions cease. The airport concept is fairly liberal and maintaining the land as an occasional landing point might be enough to ward off reversion. The determination of whether the land is no longer being used for airport purposes would be made by the FAA Administrator after an investigation of the site by a GSA realty specialist.

The FAA has developed regulations permitting the release of airport property from surplus property disposal restrictions imposed by section 13 of the Surplus Property Act of 1944. They are provided at Part 155 of Title 14 of the Code of Federal Regulations. Generally, the FAA will, when requested, release, modify, reform, or amend any airport agreement to the extent that such action will protect or benefit the public interest in civil aviation. A total release, permitting the sale and disposal of real property acquired for airport purposes under the Surplus Property Act, will not be granted unless it can be shown clearly that the sale of such property will benefit civil aviation. If property acquired for airport purposes under the Surplus Property Act is no longer needed to support an airport purpose or activity directly, it may be released for sale or disposal upon a demonstration that such disposal will produce an equal or greater benefit (for example, to another public airport) than the continued retention of the land. One such justification may be showing that the expected net proceeds from the sale of the airport property at its current market value will be required to finance items of airport development and improvement, the need for which is concurred in by the FAA.

These regulations apply only to property acquired by MAC under the Surplus Property Act. The regulations do not apply to land transferred from the United States to MAC under other authority. There is no authority for the FAA to modify the conditions of a conveyance or to grant release from any of the terms and conditions outlined in the agreements. This applies to lands conveyed pursuant to Section 16 of the Federal Airport Act of 1946, Section 23 of the Airport and Airway Development Act of 1970, and Section 516 of the Airport and Airway Improvement Act of 1982.

The specific limitations imposed by the Federal deeds are set forth here in part:

a. Transfer from the Administrator of Veterans Affairs to MAC (June, 1955) (Area 1 on the Land Inventory Map)

   This transfer occurred under the authority of the Federal Airport Act. The deed contains numerous restrictions, which require, in part, that:

   > The property interest hereby conveyed shall automatically revert to the United States pursuant to Section 16 of the Federal Airport Act . . . in the event that the lands herein described are not developed, or cease to be used for public airport purposes; and a determination by the Administrator of Civil Aeronautics, United States Department of Commerce, or his successor in function, that the lands have not been developed, or have ceased to be used, for public airport purposes shall be conclusive of such fact.

> ...Any subsequent transfer of the property interest conveyed hereby will be made subject to all of the reservations, conditions, and covenants contained in this instrument.

This parcel contains approximately 427.31 acres.

b. Transfer from the Administrator of General Services to MAC (September,1979) (Area 2 on the Land Inventory Map)

This transfer occurred under the authority of Federal Property and Administrative Services Act of 1949 and the Surplus Property Act of 1944.

The deed provides that:

> no property transferred by this instrument shall be used, leased, sold, salvaged, or disposed of by [MAC] for other that the airport purposes without the written consent of the Administrator of the FAA. The term property as used herein is deemed to include revenues or proceeds derived therefrom.

In the event that the MAC is unable to fulfill the obligations of the agreement,

> the title, right of possession and all other rights transferred by this instrument to the [MAC], or any portion thereof, shall at the option of the [Administrator of General Services] revert to the [GSA] in its then existing condition 60 days following the date upon which demand for reversion is made in writing by the Administrator of the FAA or is successor in function.

The parcel contains approximately 39.1 acres.

c. Transfer from the Secretary of the Army to MAC (January, 1967) (Area 3 on the Land Inventory Map)

This transfer occurred under the authority of the Federal Airport Act, as amended by the Federal Aviation Act of 1958.

Pursuant to the deed:

> the property interest hereby conveyed shall automatically revert to the UNITED STATES OF AMERICA in the event that the lands in question are not developed for airport purposes within a period of three years from the date of conveyance or cease to be used for airport purposes for a period of six months; the grantee agreeing by the acceptance of the conveyance or the rights granted herein that a determination by the Administrator of the Federal Aviation Agency or its successor in function, that the lands are not developed or have ceased to be used for airport purposes shall be conclusive of the facts.

This parcel incorporates approximately 24.8 acres.

d. Transfer from the Administrator of Veterans Affairs to MAC (December, 1966) (Parcel 4 on the Land Inventory Map)

This transfer occurred pursuant to the authority contained in the Federal Airport Act as amended by the Federal Aviation Act of 1958.

The deed contains the condition that:

> the property interest hereby conveyed shall automatically revert to the United States in the event that the lands in question are not developed for airport purposes within a period of three years from the date of conveyance or cease to be used for airport purposes for a period of six months; the grantee agreeing by the acceptance of this conveyance or the rights granted herein that a determination by the Federal Aviation Agency or its successor in function, that the lands are not developed or have ceased to be used for airport purposes, shall be conclusive of the facts.

The area constitutes approximately 78 acres.

e. Transfer from the Administrator of General Services to MAC (May, 1962) (Area 5 on the Land Inventory Map)

This transfer occurred under the authority of the Surplus Property Act of 1944 and the Federal Property and Administrative Services Act of 1949.

Pursuant to the deed, the MAC is subject to the following conditions subsequent:

> [N]one of the property transferred hereby shall be used, leased, sold, salvaged, or disposed of by the [MAC] or transferee for other than airport purposes without the written consent of the Administrator of the Federal Aviation Agency, which consent shall be granted only if the Administrator of the Federal Aviation Agency determines that the property can be used, leased, sold, salvaged, or disposed of for other than airport purposes without materially and adversely affecting the development, improvement, operation, or maintenance of the airport at which such property is located.

The deed further requires that:

> [I]n the event that any of the terms, conditions, reservations, and restrictions upon or subject to which the property is disposed of are not met, reserved, or complied with, whether due to legal inability or otherwise, the title, right of possession, and all other rights transferred shall at the option of the United States revert in then existing condition to the United States upon demand made in writing by the Administrator of the Federal Aviation Agency, or its successor, at least 60 days prior to the date fixed for the revesting of such title, right of possession, or other rights transferred, provided the breach shall not have been remedied within such 60 day period.

This area contains approximately 15.10 acres.

f. Transfer of Land from the Administrator of General Services to MAC (June, 1974) (Area 13A on the Land Inventory Map)

This transfer occurred under the authority of the Federal Property and Administrative Services Act of 1949 and the Surplus Property Act of 1944.

The deed contains the following restrictions:

> [N]o property transferred by this instrument shall be used, leased, sold, salvaged, or disposed of by the grantee for other that the airport purposes without the written consent of the Administrator of the FAA. The term property as used herein is deemed to include revenues or proceeds derived therefrom.

The deed further provides that in the event that any of the conditions of the deed are not complied with, the title, right of possession, and all other rights transferred by the deed to the MAC, or any portion thereof, shall at the option of the Administrator of General Services revert to the Administrator of General Services in its then existing condition 60 days following the date upon which demand for reversion is made in writing by the Administrator of the FAA or its successor in function, unless within the 60 days the default or violation has been cured.

The land constitutes approximately 28.3 acres.

g. Transfer from the Administrator of General Services to MAC (April, 1980) (Area 13B on the Land Inventory Map)

This transfer occurred under the authority of the Federal Property and Administrative Services Act of 1949 and the Surplus Property Act of 1944.

Pursuant to the terms of the quit claim deed,

> no property transferred by this instrument shall be used, leased, sold, salvaged, or disposed of by the [MAC] for other than the airport purposes without the written consent of the Administrator of the FAA. The term property as used herein is deemed to include revenues or proceeds derived therefrom.

In the event of any breach of the conditions of the deed,

> title, right of possession and all other rights transferred by this instrument to the [MAC], or any portion thereof, shall at the option of the Administrator of General Services revert to the Administrator of General Services in its then existing condition 60 days following the date upon which demand for reversion is made in writing by the Administrator of the FAA or its successor in function, unless within the 60 days the default has been cured.

The area of this transfer encompasses approximately 8.6 acres.

3. Land Acquired with FAAP/ADAP/AIP Grants

Approximately 1759 acres on the MSP site were acquired by MAC with Federal assistance in the form of FAAP/ADAP/AIP grants. (Areas 6, 9, 10, 11 and 12 on the Land Inventory Map.) These lands comprise the western half of the total MSP property.

FAA regulations require FAA approval for the use of any land for other than the purposes specified in the grant. If the property is sold, the Federal share of the original purchase price must be paid to the Secretary of Transportation for deposit in the aviation trust fund. Sale of this type of airport property is a lengthy process that would require FAA Airport District Office involvement.

Chapter 7 of FAA Order 5190.6A is entitled "Release, Modification, Reformation or Amendment of Airport Agreements," and sets forth applicable procedures that pertain to releasing property from restrictions contained in surplus property agreements and grant agreements. Subsection 7-19 pertains to the sale or other disposal of airport land acquired by FAAP/ADAP/AIP funds, and provides for the reinvestment of proceeds from the sale or other disposal of airport land into a replacement airport, for those sponsors that did not receive a grant after 1987. Reinvestment of the total net proceeds is required if the sponsor continues to own or control a replacement or an operating public airport.

Subsection 7-20(b) provides for the release of an entire airport in the event of a replacement airport. In this situation, Order 5190.6A provides that the general policy is to treat the proposal as a trade-in of the land and facilities developed with Federal aid at the old airport toward the acquisition and development of better facilities at the new airport. The release would become effective when the new airport is placed in operation. Development costs for the new airport that are in excess of the value of existing land and facilities at the old airport would be eligible for AIP (Airport Improvement Program) assistance.

For land which the MAC acquired with FAA grant money, the following process will apply if the land is no longer needed for airport purposes, which need not be "the same aeronautical purpose for which it was originally acquired." First, MAC will dispose of the land at fair market value. Second, MAC may trade land no longer needed for airport purposes for land to be used for airport purposes. Third, any disposition of land will be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with the operation of the airport. Fourth, that portion of the proceeds of such disposition which is proportionate to the United States share of the cost of acquisition of such land will be paid to the Secretary or deposited in the trust fund. Fifth, if the old airport is being disposed of as a result of the construction of a new airport, the sale land of the old airport will be treated as "trade in" on the cost of the new airport.

With respect to land purchased for airport noise compatibility, when the land is no longer needed for airport noise compatibility purposes: a) the MAC must dispose of the land at fair market value at the earliest practicable time; b) the disposition will be subject to the retention or reservation of any interest or right in the land necessary to ensure that the land will only be used for purposes which are compatible with noise levels associated with the operation of the airport and any height restrictions that are necessary to protect the airport; and, c) the portion of the proceeds of such disposition which is proportionate to the United States share of the cost of acquisition of the land will, at the discretion of the Secretary, be deposited in the trust fund or reinvested, as prescribed by the Secretary.

Airport land acquired with FAAP/ADAP/AIP funds may be released from the FAA grant assurances for sale or other disposal. Such a release must be conditioned on the assurance that the Federal government will be reimbursed for the grant expenditures or that the total net proceeds will be reinvested in the airport, in a replacement airport, or in another operating public airport.

The concurrence of the FAA is required before granting any release from the obligations of a grant agreement which would enable an airport sponsor to abandon or dispose of an entire airport for nonairport purposes. Each request to release an entire airport is considered by the FAA on a case-by-case basis without limitations to FAA guidelines. On receipt of a request to release an entire airport that is to be replaced by another new or existing airport, the applicable requirements of the airport improvement program shall be considered in recommending appropriate action. In this situation, the general policies to treat the proposal as a trade in of the land and facilities developed with Federal aid at the old airport toward the acquisition and development of better facilities at the new airport. If an airport which accommodates local civil aviation requirements, as well as or better than an existing FAAP/ADAP/AIP airport can be acquired or developed at a cost less than the present market value of the Federally financed land and facilities, a complete release can be granted on the old airport provided that the continuing grant obligations are transferred to the new airport. The availability of public use of a new and better airport is the basis for determining that the old one is no longer needed and that its useful life having expired, the original grant agreement is terminated.

The reversion of airport property resulting in the revestment of title in the United States is ordinarily the last resort when a grantee of Federal property for airport purposes continues in default of the terms of the document of conveyance.

FAA action with respect to the release of a sponsor from obligations under the grant agreements or Surplus Property Act agreements may require an environmental assessment in accordance with the provisions of Paragraph 24 of FAA Order 5050.4A.

4. Property Purchased by MAC with Local Funds Only

Approximately 16 acres at MSP were purchased with local funds only. (Area 15 on the Land Inventory Map.) Pursuant to Section 473.608, subdivision 2 of the Minnesota Statutes, if this land ceases to be used for airport purposes, all income received from disposing of the property must be used for purposes of the metropolitan airport system. Most of this land was used for road construction. Any re-use of MSP should not affect the continued use of the roadway land.

5. U.S. Government Land

U.S. Government land includes the 600-acre Fort Snelling National Cemetery and land owned by the Navy, GSA, Air Force, Army, Veterans Administration and U.S. Bureau of Mines. The National Cemetery will retain its current use. If a Federal agency wants to sell land, the land must first be declared surplus property and be offered to other Federal agencies before it is offered to state and local agencies and private parties. To date, only one small parcel (2-3 acres in Ft. Snelling) has been transferred from the GSA to a private owner. The property was Federal surplus property auctioned off to an Alaskan Company called Cook Inlet.

6. State of Minnesota Land

The Fort Snelling State Park comprises almost 150 acres within the ring road. This land could be used as part of the open space component of any re-use scenario or traded for more suitable land.

The Minnesota Department of Transportation also owns land within the MSP ring road. Much of this land is right-of-way currently being used for highway purposes. The use of this land would probably not change under any of the re-use scenarios.

7. Private Ownership

One small parcel (2-3 acres near the historic Ft. Snelling) was transferred from GSA to a private owner. The parcel was Federal surplus property auctioned off to an Alaskan company called Cook Inlet. Besides the Cook Inlet parcel, there may be other privately owned parcels that were acquired from entities other than the Federal government. If necessary, these properties could be acquired through negotiations with the owners, or, if necessary, by condemnation.

8. Long-Term Leases

Two types of long-term leases may constrain re-use of the MSP site: those held by government agencies such as the Departments of Defense and Interior; and those held by private interests, many of which are airport dependant, such as airlines.

Airport dependant leaseholders should be willing to negotiate new leases as the leaseholders should want to relocate near the new airport. Condemnation of the leasehold interest is also a possibility. Moreover, upon the renewal of shorter-term leases, clauses may be placed in the lease to provide for the contingency of moving the airport.

E. Environmental Issues

Any re-use of the MSP site will need to address numerous environmental issues. Perhaps foremost among these issues are the potential constraints placed on the redevelopment of the site because of contaminated property and the Federal requirements related to the release of the restrictions related to land acquired with Federal airport development grants or land acquired through a conveyance of Federal surplus property for airport purposes. The Federal requirements, along with some state laws, emphasize the need to preserve some of the natural and historic features of the site. These concerns are discussed more fully below.

Other environmental issues will potentially include permitting issues related to the ultimate redevelopment of the site to insure compliance with laws protecting air and water. For example, a parking lot for a new commercial development on the site may require an indirect source permit under the Federal Clean Air Act and stormwater runoff will require a permit under the Federal Clean Water Act.

1. Development of Contaminated Property

A large portion of the MSP site is contaminated from various industrial pollutants. Because of the potential liabilities for owners of contaminated property under federal and state laws, developers

and lenders are very reluctant to become involved with contaminated property. These contamination problems will need to be address before any redevelopment scenario of the MSP site can succeed. In conformance with state and Federal requirements, the MAC is currently remediating some of the contaminated areas on the MSP site. As long as there are contaminated areas on the MSP site, it will be essential to consider potential liability issues under federal and state environmental laws.

In 1980, Congress enacted the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), commonly known as "Superfund." 42 U.S.C. §§ 9601-9675. CERCLA authorizes the state and Federal governments to initiate actions for the containment, clean-up, and removal of hazardous wastes from contaminated sites. The clean-up costs are to be paid for by those parties responsible for contaminating the site. Those parties liable for the costs include current or former owners or operators of a contaminated site, those that generated waste that was disposed of at the site, and those that transported or otherwise arranged for the disposal of hazardous waste they owned or possessed at a site. The liability for the costs is usually joint and several. Therefore, a party that caused only 1 percent of the contamination can be responsible for 100 percent of the clean-up costs.

If a site is contaminated, the EPA may take immediate removal action or it may conduct a remedial investigation and feasibility study. The study determines the optimum clean-up strategy and evaluates the effectiveness and costs of alternatives. The EPA may then take an initial action against potentially responsible parties to pay for the clean-up.

There are several ways to limit superfund liability. One is the statutory innocent purchaser defense to Superfund actions. The defense has been narrowly interpreted by the courts to limit its application. The defense requires that the contamination pre-date ownership of the property; the purchaser must not know or have reason to know that hazardous substances were present; the purchaser must exercise due care with respect to the contamination; the purchaser must take precautions to prevent releases by foreseeable acts of third parties; and the purchaser must not of caused or contributed to the release or threatened release of a hazardous substance. 42 U.S.C. §§ 9601(35)(A) and 9607(b)(3). Another way to limit liability is to enter into a settlement with the EPA. See, e.g., 42 U.S.C. § 9622(g). In addition, indemnification agreements could be used to contractually transfer liability from one party to another. 42 U.S.C. § 9607(e).

Minnesota's "Superfund" law, known as the Minnesota Environmental Response Liability Act ("MERLA"), Minn. Stat. §§ 115B.01-.24, is essentially the same as the federal law with several exceptions. One exception is that MERLA does not impose liability on transporters of household and general commercial waste unless the transporter knew that the waste contained hazardous substances. Another exception is the $400,000 liability limit for local governments. In addition, Minnesota's eminent domain laws provide an exclusion from liability for contaminated property that the government acquires through the use of eminent domain. Minn. Stat. § 115B.03, subd. 5 (1991 Suppl.) Minnesota's eminent domain laws also authorize the condemnation commissioners to make a finding of the estimated cost of remediation actions that will be necessary on condemned property because of environmental contamination. Minn. Stat. § 117.085 (1991 Suppl.) The 1992 Legislature also passed the Land Recycling Act, 1992 Minn. Laws ch. 512, which provides that if lenders and developers agree to clean up contaminated land they will not have to pay for additional cleanup projects. The Commissioner of the Minnesota Pollution Control Agency ("MPCA") is also able to issue a "no action" letter to a purchaser indicating that the Commissioner and MPCA staff

will not recommend to the MPCA Board that certain actions be taken against the purchaser. The protection provided by these provision, however, is limited because they are not contained in CERCLA, and private parties will often sue municipalities under CERCLA.

2. Protection of Historic and Natural Resources

FAA action will be required to release the MAC from the Federal obligations on the MAC property before MAC can dispose of the property. This action is normally categorically excluded from the requirements of the National Environmental Policy Act, but the action may require an environmental assessment in accordance with the provisions of Paragraph 24 of FAA Order 5050.4A. If an assessment is required, it must address the known and immediately foreseeable environmental consequences of the action releasing the land. The assessment will be coordinated with Federal, state, and local agencies for applicable areas of environmental consideration (e.g., historic and archaeologic site considerations, Section 4(f) lands, wetlands, and endangered species). If the environmental assessment details potential significant environmental impacts, an environmental impact statement may be required.

Whether or not an environmental assessment is required, current laws dictate that any redevelopment of the MSP site must attempt to avoid historic and natural resources which may be located on the site. Rather than posing a barrier to redevelopment of the site, any reuse scenario could work to enhance the historic and natural resources of the site. The following summarizes the major laws which will need to be considered for any redevelopment at the MSP site.

a. Historic and Archaeologic Site Considerations

The National Historic Preservation Act of 1966 requires that Federal agencies conduct an initial review to determine if any properties in or eligible for inclusion in the National Register of Historic Places are within the area of the proposed Federal action's potential environmental impact. The state historic preservation officer must be consulted. The state historic preservation officer may recommend the need for a professional cultural resource survey. If there is a determination that the proposed federal action will have an adverse effect on a National Register or eligible property, feasible and prudent alternatives to avoid the adverse effects must be considered. Mitigation measures and/or accepting the adverse effects of the action are also possible.

The Archeological and Historic Preservation Act of 1974 provides for the survey, recovery, and preservation of significant scientific, prehistorical, historical, archeological, or paleontological data when such data may be destroyed or irreparably lost due to federal action.

Currently, a large portion of the area around the historic Fort Snelling is included on the National Register of Historic places. There are also potential archaeologic sites in that area. Under the historic preservation laws, the destruction of the historic and archaeologic sites would be discouraged. The state historic preservation office generally uses a 50 year minimum for properties to be eligible for inclusion on the National Register of Historic Places. By the time any re-use scenario for the MSP site would be implemented, many of the aviation structures at MSP will be eligible for inclusion in the National Register. An historic and archeological site survey of the MSP site will need to be conducted.

b. Department of Transportation Act, Section 4(f) Lands

Section 4(f) of the Federal Department of Transportation Act, 49 U.S.C. § 303, provides that Federal agencies cannot approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land of an historic site of national, state or local significance unless there is no feasible and prudent alternative to the use of such land and the program or project includes all possible planning to minimize harm resulting from the use. FAA Order 5050.4A, ¶ 47(e)(7).

Numerous Section 4(f) lands are located on or around the MSP site such as the property controlled by the Minnesota Department of Natural Resources and the State Historical Society. Efforts will need to be made to insure that the re-use of the MSP site minimizes the harm to these lands.

d. Wetlands

Both federal and state laws emphasize the need to protect wetlands. The federal Clean Water Act, 33 U.S.C. § 1344 ("Section 404"), prohibits the discharge of dredge or fill material into the waters of the United States, including wetlands, without a permit from the United States Army Corps of Engineers. As part of the permitting process, the Corps will balance the benefits of the proposed activity versus the detriments to the wetlands. The Corps will also explore whether practicable alternatives have been investigated in order to pursue the least environmentally damaging alternative. Federal regulations provide the following priorities for mitigation of wetland impacts: (1) avoid direct or indirect impacts on wetlands; (2) minimize the impact by limiting the degree or magnitude of the wetland action; (3) rectify the impact by repairing, rehabilitating, or restoring the affected wetland environment; (4) reduce the impact over time by preservation and maintenance operations during the life of the action; and (5) compensating for the impact by replacing or providing substitute wetland resources or environments. 40 C.F.R. 1508.20.

In 1991, the Minnesota Legislature passed the Wetland Conservation Act. The goal of the Act is to increase the quality and quantity of wetlands in Minnesota. The Act generally prohibits draining or filling wetlands unless they are replaced. The replacements wetlands must be in the same watershed or county as the original wetlands. On noncropped land, there must be two replacement acres for every one acre drained or filled. The Minnesota Board of Water and Soil Resources is the lead state agency in performing many of the administrative aspects of the Act. Regulations are currently being prepared to implement the Act. The regulations will outline the criteria to determine the public value of wetlands; the wetland value replacement plans; the criteria for protecting high priority wetland areas; and the Wetland Establishment and Restoration Program which will provide compensation to landowners for protection of wetlands. The regulations are scheduled to become effective July 1, 1993.

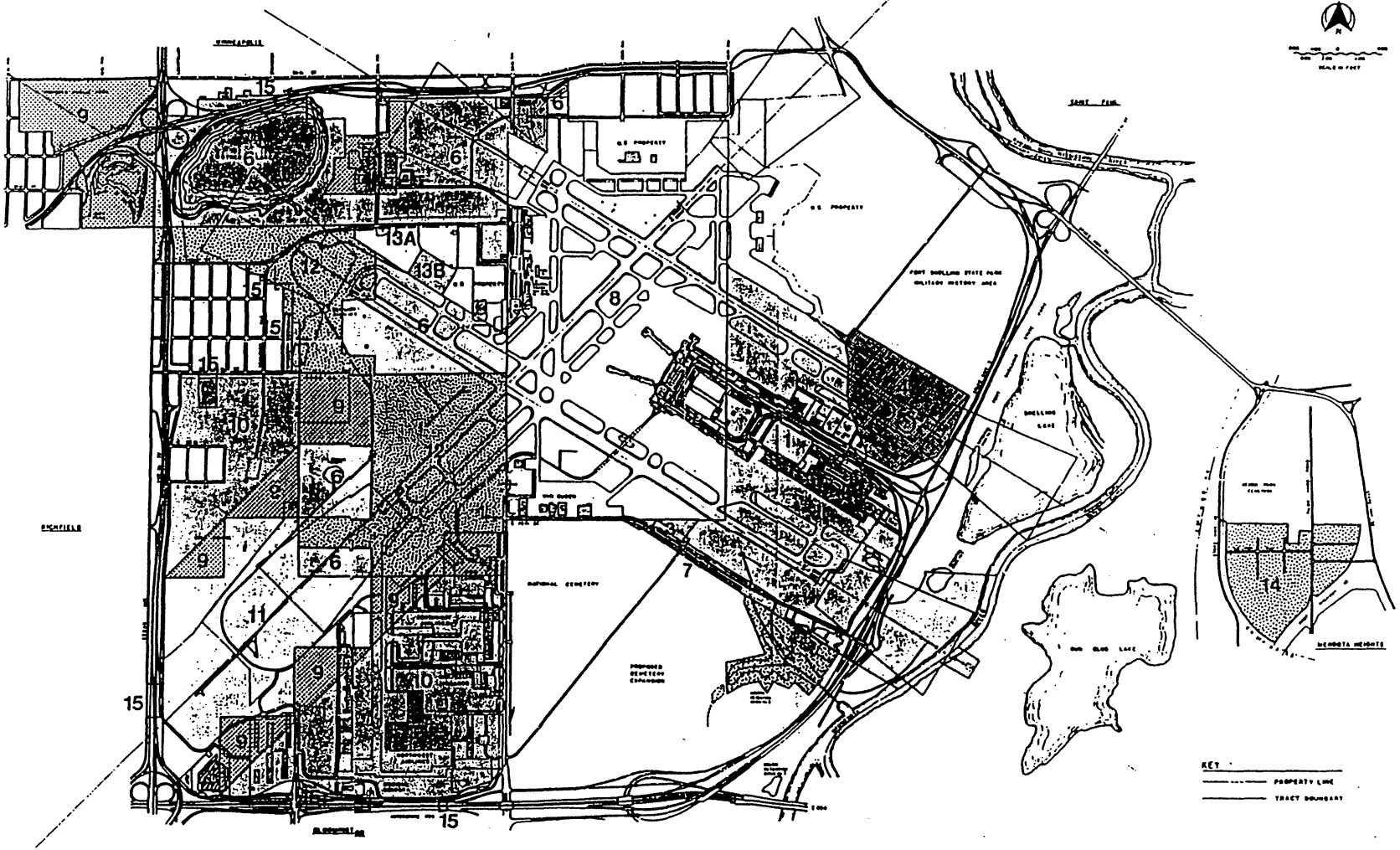
The MSP site contains several wetlands. The re-use activities will need to comply with the requirements of Federal and state laws. Any re-use scenario should attempt to avoid wetlands.

d. Endangered Species

Pursuant to the Endangered Species Act of 1973, the FAA must insure that its action of releasing the restrictions on the airport property do "not jeopardize the continued existence of

the endangered species or result in the destruction or modification of the habit of such species to an extent which is determined by the Secretary of the Interior to be critical." FAA Order 1050.1D, ¶ 7(h); 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.01. This will also be a consideration for other Federal agencies which may be involved in the re-use of the MSP site.

The records of the Minnesota Department of Natural Resources include historical data related to the siting of several threatened or endangered species on or near the MSP site. If threatened or endangered species may be present and may be impacted by a re-use scenario, a biological assessment of the area must be conducted under the requirements of the Endangered Species Act.



LAND INVENTORY MAP LEGEND

AREA	TRANSACTION	DATE	AREA	TRANSACTION	DATE
1	TRANSFER - ADMINISTRATOR OF VETERAN'S AFFAIRS TO M.A.C.	6/1935	9	LAND ACQUIRED W/FEDERAL ASSIST. PAAP 3-27-046-0015	6/1962
2	TRANSFER - ADMINISTRATOR OF GENERAL SERVICES TO M.A.C.	9/1970	10	LAND ACQUIRED W/FEDERAL ASSIST. PAAP 3-27-046-0316	6/1963
3	TRANSFER - SECRETARY OF ARMY TO M.A.C.	11/1947	11	LAND ACQUIRED W/FEDERAL ASSIST. PAAP 3-27-046-044	5/1951
4	TRANSFER - ADMINISTRATOR OF VETERAN'S AFFAIRS TO M.A.C.	12/1948	12	LAND ACQUIRED W/FEDERAL ASSIST. PAAP 3-27-046-306	6/1953
5	TRANSFER - ADMINISTRATOR OF GENERAL SERVICES TO M.A.C.	4/1948	13A	TRANSFER - ADMINISTRATOR OF GENERAL SERVICES TO M.A.C.	6/1974
6	LAND ACQUIRED W/FEDERAL ASSIST. PAAP 3-27-046-067	6/1955	13B	TRANSFER - ADMINISTRATOR OF GENERAL SERVICES TO M.A.C.	6/1980
7	TRANSFER - M.A.C. TO VETERANS ADMINISTRATION	5/1951	14	LAND ACQUIRED W/FEDERAL ASSIST. PAAP 3-27-0046-04	6/1977
8	LAND OWNED BY MINNEAPOLIS PARK BOARD/OPERATIONAL CONTROL TO M.A.C.	1943	15	PROPERTY PURCHASED WITH LOCAL FUNDS ONLY	

MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT
WOLD-CHAMBERLAIN FIELD

LAND INVENTORY MAP

Metropolitan Airports Commission

TKDA

A. Summary of Discussion and Focus Groups: April/May 1992

Corporate, Bio-Tech & High-Tech, Open Space & Environmental, Urban Design, Historic Resources Transportation (Transit and Highways), and Aviation

1. Corporate

   a. Twin Cities Locational Decision Factors:

   - Customers.
   - Rail/highway access.
   - Land costs.
   - Property taxes.
   - CEO residence is the key locational factor.
   - MSP is centrally located (not a current factor except for access/time conscious who are few).
   - Headquarters function likely to stay in Minnesota but not manufacturing due to business climate (taxes, workers comp, regulations).

   b. Twin Cities Corporate Development

   - Research facilities must be will designed to attract and retain good staff.
   - Good support facilities: hotels, restaurants, retail, daycare, open space amenities.
   - Fiber optics technology growing; need good telecommunications links.
   - Concentrations of talent are very attractive; need to support the University of Minnesota and research and development activities by private business.

   c. MSP Re-Use & Corporate Development Issues

   - Contamination of the site; need to be indemnified or corporate entities will be to "green field" sites.
   - Corporate cultures (some companies are culturally and historically tied to certain places like the downtowns, Metro East, Minneapolis West, I-494 Strip).
   - Many businesses and key decision-makers are oriented to West and Southwest.
   - Location of employees becomes more important as the firm size increases.
   - Suburban, "country feel" important for corporate campuses.

- Single government entity for re-use site very important.
- Access to new airport and downtowns will be very important for re-use.
- Need to overcome business climate -- enterprise zone.
- Mix of commercial-residential-open space very important to establish different niche in corporate campus developments.
- What different things will the re-use site offer?
- Highway congestion around the site will be a problem.
- Cost of re-use may hinder certain types of development without incentives (manufacturing/processing).

d. Minnesota Business Climate and MSP Re-Use

- Minnesota does not attract new headquarters or businesses because of high personal, business and property taxes.
- Small businesses are being hurt by taxes, workers compensation rates, and regulations.
- Bio-tech research may leave Minnesota if additional onerous regulations are enacted.
- Manufacturing is very likely to leave; corporate offices will likely stay because of their roots.

2. Bio-Tech & High Tech

a. Twin Cities Locational Decision Factors:

- Location determined by residence of founder/principals or near another company which spun it off.
- After start-up, location becomes a matter of incentives and factors such as finance, quality of life, and political considerations (regulations).
- Proximity to similar or complementary industries is important.
- Proximity to University of Minnesota not a key.
- Employee residence location not as important as job satisfaction.

b. Twin Cities Corporate Development

- University of Minnesota is major reason for bio-tech activity; professor/researcher/scientist consultations to companies is a major asset.
- Political climate is causing a slowdown of innovation and research.

- New products need to be introduced outside Minnesota and U.S.
- Business climate is a prime issue.
- Quality of airport service for passengers and air cargo is important (direct flights to a great number of cities).

c. MSP Re-Use & Bio-Tech Development Issues

- University of Minnesota is inextricably linked to bio-tech development (financial support for university research pays huge dividends).
- Need to put together a research triangle like North Carolina; the critical mass is here but the incentives are not.
- Leasehold improvements and "build to suit" incentives would be attractive (shared facilities less attractive).
- Business climate major issue for attracting, retaining or expanding bio-tech companies.
- Research Institute as a part of re-use is attractive; university research activities could be relocated to the site.
- Strategic vision for bio-tech industry and its role in the state is needed.
- Marketing the state and its potential is needed.

d. Minnesota Business Climate and MSP Re-Use

- Minnesota does not attract new headquarters or businesses because of high personal, business and property taxes.
- Small businesses are being hurt by taxes, workers compensation rates, and regulations.
- Bio-tech research may leave Minnesota if additional onerous regulations are enacted.
- Manufacturing is very likely to leave; corporate offices will likely stay because of their roots.

3. Open Space & Environmental
Historic Resources
Urban Design

a. The development of networks of open space is an important performance criterion for the re-use of MSP. The historic development of the region shows the power of the physical configuration of open space and natural features in shaping development.

b. There is a tradition of creating continuous networks of open space based on natural features. The systems incomplete and the MSP site, located at the confluence of the Mississippi and Minnesota River valleys can be a key in completing this system.

c. Connect existing open space networks outside the site to new amenities inside.

d. Connect to the Minnesota River Valley and the confluence of the Mississippi and Minnesota Rivers.

e. Expressway network is a major obstacle. Need to consider the full range of types of roads in accommodating traffic: parkways, boulevards, collectors, arterials, local streets and expressways.

f. The "emerald necklace" concept was developed in the Twin Cities in a series of interconnected parks, boulevards and recreational areas. Schools, colleges, and other institutions were developed along them. The quality and stability of the neighborhoods indicates their importance. Many of the connections are incomplete. It would be and important public policy to bridge the remaining gaps to extend this network.

g. The river valleys are a major open space feature and they are connected to the land on either side by streambeds flowing into them. The parks and open space program in the region, particularly early this century, took advantage of these streambeds to physically link development to the river.

h. Fort Snelling has been a prime factor in the development of the region.

i. The physical form of the region has been defined by the major rivers suggests that the site of Fort Snelling is in many ways the center of the region. The downtowns are the center of the region -- with Minneapolis being the geographic center of the urbanized/developed portion of the region.

j. Fort Snelling was a large military reservation extending as far north as the southern edge of the current Minneapolis downtown and as far east as downtown St. Paul. When the first non-military settlements were established they were located just outside the reservation. As the reservation was sold off, the cities expanded into the territory. Fort Snelling remained a major facility through the Second World War. The urban growth of the region avoided the military base and developed generally along an east-west axis and along the Mississippi River to the north of St. Anthony Falls. Much of this was developed on wetlands in spite of the fact that the land around Fort Snelling was prairie and easier to develop.

k. The southeast quadrant of the region is much less densely developed. Fort Snelling and later MSP could be seen as creating a "cork-in-the-bottle" blocking a concentric pattern of development.

4. Transportation

a. Regional transportation system provides excellent region-wide access for the site.

b. Capacity limits and congestion on the regional system will limit or shape the development potential of the site.

c. Re-use site does not have an internal system nor does it connect well to the surrounding communities.

d. Natural features, the river valleys, form a significant boundary for additional transportation links.

e. Movements from St. Paul to Bloomington and from Minneapolis to northern Dakota County need to be accommodated.

5. Aviation Re-Use

a. Need to insure that no passenger service will be allowed at MSP; difficult to do and passenger airlines will demand a single airport for passenger service.

b. Military (Air Force Reserve, Minnesota Air National Guard) users would like to remain at MSP. Cost of new facilities might prevent continuation of military functions. Would need someone to pay for new facilities. Consolidation of facilities are difficult at MSP without some new facilities due to dispersed current locations at MSP. USAF could exercise reversion rights at MSP to get a 5000 foot runway and its own land effectively becoming an Air Force base; however, operation economics would be difficult.

c. One runway only would be needed for military operations (7,500 feet).

d. Corporate/General Aviation (GA) users would rather stay at MSP; St. Paul downtown or new airport would not be as attractive for current corporate users at MSP.

e. One runway and a crosswind would be optimum for corporate/GA.

f. Reliever airports are subsidized by MSP revenue; a corporate/GA facility at MSP would also require subsidy.

g. Corporate CEO residence/office location determines location of corporate jet facility.

h. Industrial park in conjunction with corporate/GA facility.

i. A commercial helicopter or vertical take-off and landing facility is not seen needed or economically viable.

j. Air cargo will need to be a new airport but MSP is centrally located. Split operations not economical. Cost sensitive industry and facilities at new airport would be a important item. Would like 24-hour operation option (noise a current issue with night flights).

k. Runway requirements for air cargo depend on aircraft, largest currently (DC-10's and 747's) need 10,000 to 12,000 foot runways.

B. Developer Perspectives on MSP Re-Use

A Panel Discussion Concerning:

- **Market Potential--Office, Retail, Industrial, Residential**
- **Fit in the Urban Fabric**
- **Locational Merits and Issues**

Panel Discussion Purpose: To Assist the Task Force Develop Frameworks to Guide the Re-Use of MSP

1. Office Market Comments

   a. Current Office Space Market in the Twin Cities

      - Minneapolis - 19 million sq. ft.; 4 million vacant (21%).
      - St. Paul - 5.7 million sq. ft.; 1 million vacant (17.5%).
      - Suburban - 22.7 million sq. ft.; 4.3 million vacant (18.9%).

   b. I-494 Strip

      - The largest submarket in the Suburban area; 13 million sq. ft. from MSP to Eden Prairie, 2.5 million vacant (19.2%).
      - Development started in the 1960's with Metro Office Park in eastern Bloomington, now 550,000 sq. ft. and with Pentagon Office Park in Edina, now with 700,000 sq. ft.
      - Three main areas: MSP-35W - 2.5 million sq. ft.; 35W-Bush Lake Road - 6.8 million sq. ft.; and Bush Lake Road-Eden Prairie 3.8 million sq. ft.

   c. Executive Housing Location

      - It is the overriding consideration for location decision of small/medium sized tenants; many suburban office tower and office park tenants are within sight of the homes of the manager or "local decision-maker".
      - Key executive housing areas: West Bloomington, Edina, Minnetonka, Wayzata.
      - In Atlanta the executive housing is north and the airport is south; office development is north.

   d. Suburban Office Absorption Rates

      - Current figures from CB Commercial: Average annual rate over last 6-7 years is about 520.000 sq. ft.
      - Comparable figures from NAIOP: 460,000 sq. ft.

- With today's vacancy rate it will take 5 years to work off the inventory.
- In 1991 there was an negative absorption indicating that for the short term we might not be able to match the annual average; however, over the long term we should be able to do it.

e. Employment Growth

- Employment growth is a key indicator.
- Employment growth in non-ag sectors is expected to average 1.4% per year over the next 20 years.
- Using office employment shares of that growth, plus average area per employee, the long-term absorption rates look realistic.

f. Available Sites on the I-494 Strip

- From Mendota Heights/Eagan to Eden Prairie an additional 6 to 8 million sq. ft. of office space could be built.
- This would be a 14 to 16 year supply for this suburban area without MSP land area being used.

g. MSP Re-Use Office Market

- Larger Users need larger, campus-like surroundings and space; not many of this type of land area left.
- Corporate Office Relocation is a potential market.
- Corporate, build-to-suit market is not the same as the multi-tenant market because the housing for executives is not as key, it is housing location convenience of the employees.

2. Industrial Market Comments

a. Executive Housing Location

- Key ingredient for location decisions for manufacturing/industrial firms (mostly under $50.0 million in annual sales).
- Southwest Quadrant of the Twin Cities -- I-394 to Highway 5.

b. Tax Policy in the State of Minnesota

- Tax policy (property, corporate, personal income, sales) are a major deterrent for industrial relocations to the Twin Cities.
- Major distribution operations are moving out (Twin Cities property tax rate of $1 to $1.70 per sq. ft. compared to Sioux Falls, S.D. with $0.10 per sq. ft.)

c. Workers Compensation Rates

- Major factor in the industrial area for location and operation decisions; again Minnesota is at a competitive disadvantage.

d. MSP Re-Use Industrial Potential

- There has been a positive absorption of industrial space however the market is relatively small; the MSP site of 3,000 acres is 2/3 of the all the industrial space in the Twin Cities.

3. Residential Market Comments

a. Residential Growth Factors

- Job formation.
- Household formation.
- Population growth.

All three factors have been strong in the last five years, particularly in the Minneapolis suburbs (west, southwest and south--Eagan/Apple Valley).

b. Twin Cities Residential Development

- Single Family (Owner Occupied--Single Family, Townhouse, Condo) 2/3 of annual construction.
- Multi-Family (Renter Occupied) 1/3 annual construction.
- Market demand for Single Family -- 10,000 to 12,000 units annually.
- Market demand for Multi-family -- 3,000 to 5,000 units annually.
- Overbuilt Multi-family in 1987-88-89; over 12,000 each year resulting in a huge imbalance.
- Good long-term indicators for Multi-family; next 1 to 2 years might only average 1,000 units however to take up the slack. State tax policies negative for multi-family--property taxes out-of-line and anti-corporate relocations. Federal section 8 program in doubt and is needed at the lower end market.
- Single family market is strong with lower interest rates and fed/state tax policies; construction may be in 15,000 to 18,000 units for each 1992 and 1993.
- Executive housing areas are west of Minneapolis--Lake Minnetonka, Edina, Eden Prairie--people desire natural environmental setting.

c. MSP Re-Use Potential

- MSP re-use, no redeeming natural value apparent for higher end housing; residential plans should focus on moderate price. However, a successful corporate campus with "built in amenity" could change it.

- Housing needs services; need to build them in at MSP--medical, shopping, convenience.
- Potential for 9,000 to 50,000 units given the land area of 3,000 acres.
- Suburban residential land pricing-- Single family $16,000 to $20,000 per acre; Multi family $30,000 to $40,000 per acre (approximately $4,000 per unit).
- Moving the airport would have a beneficial impact on the residential areas surrounding MSP; the absence of aircraft noise would help preserve these older neighborhoods.

4. Retail Market Comments

   a. Mall of America

   - Major influence (proximity and size) on any retail re-use at MSP.
   - Impact on the Twin Cities marketplace yet to be determined.
   - Estimated $800 million is first year sales will equal Southdale.

   b. Retail Markets

   - Generally responsive to market; few developments have created or been expansive, Southdale did, the Mall of America will need to.
   - Serve development on-site.
   - Serve residential areas around.
   - Complimentary to adjacent retail; in the case of the Mall of America this type of complimentary development may take a long time.

   c. Site Potential

   - River is a barrier to access; bridges and distance to residential development.
   - I-494 and the office-commercial-industrial development is a barrier to residential access.
   - Need to look at population density in 1, 3, and 5 mile radius to determine market.
   - North (Minneapolis is particularly under served) and East edge of MSP offer the best opportunity.

5. Additional Comments and Discussion

   a. Aircraft Noise

   - The quality of housing and neighborhoods around MSP is quite good. Over the next 10 to 25 years there will be a more difficult time marketing their quality. These are strong inner city housing areas today.

b. Development Potential at a New Airport Site

- Office development -- limited; airport is not a major locational factor; dependent on executive housing; no speculative development; owner-build and occupy possible.
- Industrial -- limited, little impact on industrial market expected; manufacturing particularly not attracted to airports; current experience does not indicate much relationship (vacancy rate around MSP as high as elsewhere); airport low priority for location.
- Retail -- area is remote, non-existent base.
- Residential -- generally negative until noise impact known; airport employment may be a plus; existing Twin Cities pattern strong.

c. Minnesota Business Climate

- Major impediment to attracting relocation and expansion.
- Corporate office park type development would be a prime re-use option but limited by business climate issues; may be addressed by the time re-use but not without change of public policy. Need to get out of the "business climate box."

d. What lead to the Development of I-494 Strip? Where are its competitors?

- Suburban residential development, particularly upper income single family.
- Transportation advantages of the freeway.
- Office market not driven by the airport but executive housing and amenities.
- Major competitor is I-394 because of executive housing; secretarial/support staff housing proximity and downtown Minneapolis. The airport is not a factor.
- Downtown Minneapolis is strong and vibrant and a different market.

e. Models or Lessons for Looking at MSP Re-Use?

- Las Colinas - not particularly good; its residential development has been spotty, market is still north Dallas, multi-family units are for sale at 80% of cost; retail not strong; office market depends on relocations due to Texas tax climate.
- Edinburgh in Brooklyn Park is a good example; built an amenity in an area without any natural ones; multi-family and single family markets strong even in this current economic climate.
- Big user, corporate office park a strong possibility. How to get a big user thinking about the site?
- The experience of DFW and Kansas City may be instructive; however there are differences of opinion to the degree of applicability.

- It will take years to bring about the re-use.
- Multi-use development concepts would help multi-family residential absorption.
- Industrial re-uses might be particularly attractive with the traffic demand management needs of the subregion.
- Industrial development would be limited to med tech and high tech not traditional manufacturers.
- University of Minnesota might need space; plan for a "U" of the 21st Century.
- Need to see a "vision" for the whole site; not necessarily all market driven.
- Park and open space may be the best option, may not have a compelling public reason to develop. At least consider a major public purpose element for the site.
- Government policy and influence may be a major problem.
- Global economy role for Twin Cities should be focus for re-use, what will move and support the evolving position? Focus on specific types of applied research from University of Minnesota or other research facilities. Build bridges for the application of research, there is a research-to-market gap.
- It will be very difficult to be market responsive; hard to know the government climate, business climate of the next 15-20 years. Focus on the infrastructure for an ever changing government-business-institutional climate. Spend energy on market expansion not market responsiveness. Provide something special and competitive.

ECONOMIC DEVELOPMENT ISSUES AND STRATEGIES FOR REUSE

Hammer, Siler, George Associates

This technical background report contains Hammer, Siler, George Associate's (HSGA) inputs to the proposed reuse study for the Minneapolis-St. Paul International Airport (MSP). It contains four sections as follows:

PART I. Economic Development Issues (Pages 2 - 6).

PART II. The Existing Airport Area Business Locational Affinity and Probable Future Actions (Pages 7 - 19).

PART III. Financing and Strategy Recommendations for the MSP Reuse Design Scenarios -- Instructive Projects (Pages 20 - 51).

PART IV. Site Preparation Costs as Part of the Public/Private Development Strategy (Pages 52 - 55).

PART I. Economic Development Issues

The focus groups, one-on one interviews, task force meetings and other consultant tasks identified a variety of opportunities and constraints related to the future development of the MSP site. These issues are discussed below.

Unique Land Resource

The MSP site represents a unique, 3,100-acre large land resource, unmatched in size and location in the metropolitan area and especially within the I-494 Corridor. This large land resource offers many opportunities including:

- the opportunity for the project to create its own unique environment and market identity;

- the opportunity to develop a significant, large-scale, mixed-use integrated project in the metropolitan area, a mixed-use project with a high quality image to set a new standard for the region;

- The opportunity to serve specialized market niches as they evolve in the metropolitan area. Current gaps include a campus-type, research and development facility to capitalize on the region's and state's existing high tech economy and an urban regional recreational facility to satisfy the area's need for year-round, active recreation; and

- The opportunity to create a unique development that because of its critical mass and high quality becomes competitive on a national and multi-state basis rather than just on a metropolitan basis. Such a project can substantially add to an area's overall growth by attracting development that otherwise might not have located within the metropolitan area.

One of the weaknesses of the development of such a large land resource is that it will take a long time to be fully built out and thus, for all of the positive impacts to occur. Additionally, some feel that the reuse of MSP would take a share of its absorption from already existing and planned projects thereby affecting their feasibility.

Access

The MSP site has strong regional highway access, necessitated by its use as the metropolitan area's primary airport facility. I-494 connects it with metropolitan area suburbs while 35W and 35E provide it with convenient access to downtown Minneapolis and downtown St. Paul, respectively.

Location

The MSP site is well located in terms of a number of considerations:

- Its central location with regards to downtown Minneapolis and downtown St. Paul and other metro area commercial nodes.

- Its location in the eastern end of the I-494 strip, the metropolitan area's strongest and largest office submarket. As the survey of corridor businesses indicates, (see appendix) this node will continue to grow even if the airport is relocated because the overwhelming majority of current tenants have primarily located in the I-494 submarket for reasons other than airport proximity. While another six to eight million square feet of office space is planned over the long-term in this submarket, the MSP site could be highly competitive for future development because of its high quality standards and image;

- Its proximity to the new airport. With a new airport site located in Dakota County, the MSP site could represent a midpoint between downtown Minneapolis and the new airport. Additionally, mass transit could make this site very accessible to the new airport thereby increasing its competitiveness;

- Its relative proximity to the existing executive housing located in West Bloomington, Eden Prairie, and Edina and the emerging high quality residential areas of Eagan and Apple Valley. Proximity to executive housing is a critical factor for corporate locational decisions. Many area companies have choosen to locate in the extreme southwestern portion of the region to be near this housing. Given current and projected congestion patterns and dependent upon land costs, the MSP site may prove to be an attractive alternative to these southwestern locations, especially given its proximity to the two downtowns and to the new airport site.

Adjacent Land Use

The MSP site is surrounded by a variety of residential and commercial uses.

Residential Development. Strong middle-income residential neighborhoods are located to the north and east. In addition there are strong residential neighborhoods in nearby Bloomington, Eagan and Mendota Heights. These neighborhoods could provide housing for new workers at the MSP site. They also indicate that the area is well received as a residential location. The strength and vitality of these neighborhoods bodes well for any comparable residential development on-site. Additionally, the relocation of the airport can only serve to increase the marketability of many of these adjoining residential neighborhoods due to the significant decrease in airport-related noise.

Commercial Uses. Commercial uses are scattered along the I-494 corridor. The 6,100 hotel rooms that serve the range of lodging market needs and the 2.9 million square footage of retail space (not including the Mall of America) and restaurant space provide good support services for existing office, R&D and residential uses in the corridor and could provide such support for similar types of development at the MSP site. Many of the existing office projects in the immediate area, such as Appletree Square and International Plaza, are known throughout the region as high quality projects, indicative of the MSP vicinity's acceptance and marketability for office development. While occupancy rates have become somewhat lower along the I-494 corridor in recent years, this reduction is an indication of regional overbuilding and growth trends rather than any reduction in the area's marketability.

The MSP environs will gain more visibility once the Mall of America is opened. The Mall could significantly increase the area's image, generate spin-off demand at nearby restaurants, retail and lodging facilities and over the long term generate further retail potential in its vicinity.

Recreational Uses. Within the immediate vicinity of the site is historic Fort Snelling and the Mississippi River gorge. These two resources contribute to the site's uniqueness and could form the foundation of any open space and recreational offering on site.

Overall, the mix of uses adjacent to the MSP site can be supportive and contribute to its marketability for various types of commercial and residential development.

Economic Impacts

Reuse of the MSP site will generate a number of economic impacts, but most importantly, should favorably impact property tax revenues and jobs, depending upon the ultimate use of the site and density patterns. As a government function, the existing MSP airport it tax exempt. Reuse of the site could put up to 3,100 acres back on the property tax rolls.

The current jobs at the site are all airport-related, with the vast majority being service-oriented. A corporate headquarters, R&D business park could serve to increase the total wages generated by the site while existing jobs would not be lost but be relocated to the new airport. Thus, the mix of jobs generated by the new development at MSP could be more diverse, more high-paying and could require a higher level of skills and education. This relocation, of course, could cause some workers to move, but many might move to a residential project at MSP because of proximity to the new airport, especially in comparison to the northern parts of the metro area.

Development Costs

A number of development issues will have to be addressed as the project evolves and its development plan is finalized. These issues will affect the ultimate cost of developing the property and thus its competitiveness in the corridor region and nation. They include:

- The nature and degree of environmental hazards existing at the site, related to both the buildings and the land.

- The suitability of the terminal, hanger and other buildings for reuse purposes. The cost of adaptively reusing these structures will have to be weighed against the cost of their demolition and subsequent new construction if a suitable reuse is found.

- The suitability of the existing utility system to serve future development at the site in terms of the system on site, its capacity, location and the system to the site.

- The capacity of the highway system serving the site which though not presently constrained may be increasingly constrained just from the Mall of America and associated development.

- Other unique site development costs not related to infrastructure and environmental concerns but to the removal of the fuel storage facilities and the vast amount of concrete presently used for the runways, aprons and existing circulation systems.

All of these issues will have a significant impact on the land sales prices that will have to be generated to make the investment in MSP reuse viable.

Business Climate

The business climate of the region and the state not only affects the marketability of the MSP site but also of other sites in the region. But a large project and one with high visibility such as the MSP reuse site will have to be competitive in a larger context that just the local metropolitan area. In this larger context, real estate and business location experts about be concerned with the relative competitiveness of the state and the metropolitan area as a location for doing business. Concerns have been expressed about the area's ability to retain and attract certain types of businesses that represent new and emerging strengths in the local and national economies. These concerns will have to be addressed before the site can be successfully marketed to a national audience.

PART II. The Existing Airport Area Business Locational Affinity and Probable Future Actions

There has been considerable concern that the relocation of MSP Airport would heavily impact the commercial viability of the I-494 corridor and vicinity. To ascertain the probable impacts from the possible MSP relocation, a mail and follow-up telephone survey was conducted of four types of commercial businesses in the corridor.

- Airport-dependent businesses including rental car companies, air freight carriers and hotels.

- Airport-influenced businesses including office and industrial tenants.

While there are also a substantial number of restaurants and retail businesses along the corridor, these businesses were assumed to be primarily resident- and nearby employee-supported and therefore not dependent upon nor heavily influenced by reuse of the airport.

The results of the survey and its implications for the corridor and site reuse are summarized below:

Airport-Dependent Businesses

Three types of airport-dependent uses were surveyed, car rental agencies, freight carriers and hotels.

Car Rental Agencies. The car rental agencies do not heavily influence land use along the I-494 corridor as almost all are located at the MSP site. Only three out of the eight respondents are located away from the airport in the I-494 strip. Two of the non-MSP car rental agencies and all of the MSP agencies because they are airport-dependent would relocate to the new airport. Together, the two non-MSP facilities only lease approximately 3,500 square feet of space and therefore would not heavily impact office occupancy rates within the corridor. A small number of rental facilities would stay to serve the local and lodging markets.

Air Freight Carriers. The freight carrier respondents are located in close proximity to the airport in nearby Minneapolis, Bloomington or Eagan. Because they are airport-

dependent, as to be expected, 75 percent of the respondents stated that they would relocate to the new airport, most in time for its opening. The yes respondents would vacate approximately 200,000 square feet of leased space or approximately 12 acres of land. Assuming the non-respondents have similar propensities in terms of relocation and space needs, then approximately 425,000 square feet of leased carrier space would be vacated in the corridor or 26 acres of land as a result of MSP reuse.

Hotels. The I-494 corridor is a logical location for lodging facilities. A total of 32 hotel/motel facilities are located in the corridor in Eagan and Bloomington. These facilities serve airport users, visitors to the office and industrial parks surveyed above and area residents. They are also centrally located and convenient to downtown Minneapolis and downtown St. Paul.

Occupancy Rates. The respondent hotels range in size from 47 to 575 rooms and contain 3666 rooms or 60 percent of the total corridor inventory, estimated at approximately 6,100 rooms. Occupancy at the respondent hotels ranges from 50 to 73 percent or 64 percent on average which is consistent with industry standards. Generally, the chain and medium to higher-priced facilities have the highest occupancy rates. There appears to be no correlation between proximity to the airport and occupancy.

Over half of the respondents have experienced a stabile occupancy rate over the last few years and 20 percent have experienced an increased occupancy rate. This is surprising given concerns about overbuilding in the area.

The MSP Airport and I-494 strip are important generators of roomnights in the corridor. According to the survey of corridor hotel managers, 57 percent of corridor occupancy is related to the airport proximity and 75 percent of the total lodging business is attributable to commercial business (non-meeting and meeting). This predominance of commercial business and synergistic relationship between commercial occupancy and airport proximity is related to a number of factors:

1. Most of the hotels surveyed are high quality commercial facilities that cater to upscale commercial clients, who largely travel by airplane.

2. The 6.7 million square feet of office space along the I-494 corridor generates substantial commercial roomnight demand. Additionally, the majority of visitors to these high quality office projects arrive by airplane.

3. The I-494 corridor is the logical location for overnight accommodations for

commercial travelers to Twin Cities suburban commercial nodes and for those conducting business in both suburban and downtown locations.

With reuse of the MSP site and relocation of the airport, lodging facilities along the I-494 corridor, because of the critical mass of commercial activity in the corridor, will continue to attract commercial travelers. The corridor, with a convenient location vis-a-vis downtown and the new airport, could be an attractive alternative for visitors wishing convenient access to both locations. On the other hand, some travelers will choose to stay near the new airport. The number of such travelers will be dependent to a large extent on the quality and number of facilities available at the new airport, but more importantly, on the amount and quality of office and commercial activity in its vicinity. The propensity of future visitors to stay along the corridor versus at the new airport would be best analyzed through a survey of current hotel occupants.

As fixed base operations, hotels are unable to move just because their demand is reduced for one reason or another. In fact, none of the facilities said that they would close as a result of the airport relocation.

MSP-Reuse Implications. Neither the car rental companies nor freight carriers will heavily impact reuse of the MSP site. The number and quality of accommodations in the corridor and current occupancy rates indicate that hotel use at the site would not be viable. On the other hand, uses that support the existing lodging facilities such as a research and development park, recreational and tourist attractions and institutional uses should be emphasized.

Airport-Influenced Businesses

One type of airport-influenced uses was surveyed, office and industrial tenants. Surveys were distributed to office and industrial tenants at the major multi-tenant complexes in the I-494 corridor located between Eagan's eastern boundary and Normandale Boulevard.

Office and Industrial Tenants. Although the surveys were distributed multi-tenant and single-tenant office and industrial firms along the I-494 corridor, 100 percent of the respondents are office users, 80 percent were located in a high-rise building and 100 percent lease the space. This predominance of office versus industrial, high-rise versus low-rise, and leased versus owner-occupied space matches commercial land use patterns within the Corridor.

Relocation. Out of the 204 respondents, only 13 or 6.4 percent indicated that they would relocate to a site near the new airport. These companies would vacate only 58,000 square feet of space, most of which would be in high-rise buildings.

If the non-respondents are assumed to have similar propensities in terms of relocation and space needs as the survey respondents, then a total of 65 companies would relocate from the corridor generating a vacancy of approximately 290,000 square feet or 4.3 percent of the corridor's existing 6.7 million square feet of office space. Thus, the relocation of MSP would cause a modest increase in the corridor's vacancy rate, primarily immediately proceeding the opening of the airport.

Absorption Impacts. Besides the increased vacancy, relocation of MSP will most likely affect, to a small degree, the pace of future absorption within the corridor. The survey indicated that 30 percent of the companies responding (occupying 22 percent of the total space of companies responding) located in the corridor because of MSP. Thus, in the future, a portion of the corridor's absorption, perhaps up to 11 percent or half of the space previously occupied due to airport proximity could be captured by the new airport location. Absorption in the southwest corridor, the submarket in which the airport is located, has been averaging approximately 450,000 square feet per year. An 11 percent loss of absorption, due to the MSP airport relocation, would total only approximately 50,000 square feet per year along this corridor if past absorption trends continue.

This possible 11 percent reduction in annual absorption could be offset by a number of factors. Not to be underestimated is an increase in the area's desirability as an office location caused by the Mall of America if successful, the elimination of airport noise and the strategies implemented to develop the MSP site especially if the site becomes competitive a multi-state and national basis. All of these factors should have a positive spin-off on the I-494 corridor.

MSP Reuse Implications. Relocation of the airport could modestly impact future absorption within the corridor and cause a one-time increase in vacancy rates. This implies that multi-tenant office, competitive with existing and planned I-494 facilities, should not be a predominant land use at the reuse site. Uses that complement or

support the present office market, corporate headquarters and research and development space for example, should be included in the strategy.

Tables summarizing the results of the various surveys follow:

Table 1. TYPE OF OFFICE RESPONDENT FACILITY

Type	Number	Percent
Headquarters	104	51.0%
Other	100	49.0
Total	204	100.0%

Note: Other includes branch and regional offices.

Source: HSGA

Table 2. BREAKDOWN OF OFFICE SPACE BY TYPE

Type of Space	Square Feet	Percentage
Office	1,032,264	93.0%
Research & Development	22,199	2.0
Other	55,498	5.0
	1,109,961	100.0%

Source: HSGA

Table 3. TYPE OF OFFICE BUILDING

Type of Building	Number	Percentage
High Rise (5+)	164	80.4%
Mid-Rise (2-4)	36	17.7
One-Story	4	2.0
Total	204	100.0%

Source: HSGA

Table 4. TENURE OF OFFICE RESPONDENTS

Tenure	Number	Percentage
Own	0	0.0%
Lease	204	100.0
Total	204	100.0%

Source: HSGA

Table 5. AGE OF OFFICE RESPONDENT COMPANY

Period	Number	Percentage
<1900	19	9.3%
1900-1950	37	18.1
1951-1980	62	30.4
1981-1992	83	40.7
Unknown	3	1.5
Total	204	100.0%

Source: HSGA

Table 6. WHEN DID COMPANY LOCATE AT PRESENT SITE?

Period	Number	Percentage
<1970	1	0.4%
1971-1980	26	12.8
1981-1990	126	61.8
1991-1992	51	25.0
Total	204	100.0%

Source: HSGA

Table 7. PRIMARY REASON FOR LOCATING AT PRESENT SITE

Reason	Number	Percentage
Proximity of Airport	61	29.9%
Interstate Access	37	18.1
Proximity to Owner's Place of Residence	19	9.8
Proximity to Employees	12	5.9
Proximity to Clients	44	21.1
Other	27	13.2
Unknown	4	2.0
Total	204	100.0%

Note: Other includes costs, centrality with regard to Minneapolis and St. Paul, proximity to parent company and free parking.
Source: HSGA

Table 8. HOW IMPORTANT IS PROXIMITY TO THE AIRPORT FOR DOING BUSINESS AT THIS SITE?

Importance	Number	Percentage
Very Essential	29	14.2%
Essential	66	32.8%
Less Important	108	52.9%
Not Sure	1	0.1%
Total	204	100.0%

Source: HSGA

Table 9. HOW MANY OFFICE USERS WOULD RELOCATE TO THE NEW AIRPORT?

Relocation	Number	Percentage
Yes	15	7.4%
No	132	64.7%
Not Sure	57	27.9%
Total	204	100.0%

Source: HSGA

Table 10. IF YES, WHEN WOULD OFFICE USER RELOCATE?

Time Period	Number	Percentage
Airport Opening	12	80.0%
Within Five Years	2	13.3
Within Six to 10 Years	0	0.0
Not Sure	1	6.7%
Total	15	100.0%
If yes, how much space?	66,868 Sq. Ft.	

Source: HSGA

Table 11. IF YES, WHAT TYPE OF OFFICE BUILDING?

Building Type	Number	Percentage
High-rise (5+)	12	80.0%
Mid-rise (3-4)	3	20.0
One-story	0	0.0
Total	15	100.0%

Source: HSGA

Table 12. IF YES, WHAT TYPE OF OFFICE SPACE?

Space Type	Number	Percentage
Office	64,862	97.0%
R&D	669	1.0
Other	1,337	2.0
Total	66,868	100.0%

Source: HSGA

Table 13. IF YES, WHAT TYPE OF OFFICE USER?

Company Type	Number	Percentage
Airport-Dependent	5	33.3%
Sales Office	3	20.0
Consultant	3	20.0
Financial Services	3	20.0
Other Business Services	1	6.7
Total	15	100.0%

Note: Airport-Dependent includes two airline offices, one travel agent, one freight carrier and one car rental.

Source: HSGA

Table 14. CURRENT LOCATION OF AIR FREIGHT RESPONDENTS

Location	Number	Percentage
Bloomington	6	24.0%
Eagan	5	20.0
Eden Prairie	1	4.0
Mendota Heights	1	4.0
Minneapolis	12	48.0
Total	25	100.0%

Source: HSGA

Table 15. HOW IMPORTANT IS PROXIMITY TO MSP FOR AIR FREIGHT RESPONDENTS?

Importance	Number	Percentage
Very Essential	19	76.0%
Essential	4	16.0
Less Important	2	8.0
Total	25	100.0%

Source: HSGA

Table 16. WOULD AIR FREIGHT RESPONDENTS RELOCATE TO THE NEW AIRPORT?

Relocation	Number	Percentage
Yes -	20	75.0%
No	2	10.0
Not Sure	3	15.0
Total	25	100.0%

Source: HSGA

Table 17. IF YES, WHEN WOULD AIR FREIGHT RESPONDENTS MOVE?

Time Period	Number	Percentage
Opening	17	68.0%
Within 5 Years	3	12.0
Not Sure	5	20.0
Total	25	100.0%

If yes, how much square footage? 208,700 Sq. Ft.

Source: HSGA

Table 18. TENURE OF AIR FREIGHT RESPONDENTS

Tenure	Number	Percentage
Lease	23	92.0%
Own	2	8.0
Total	25	100.0%

Source: HSGA

Table 19. AGE OF RESPONDENT HOTELS

Period	Number	Percentage
<1960	1	7.0%
1960-1969	3	20.0
1970-1979	6	40.0
1980-1989	5	33.0
Total	15	100.0%

Source: HSGA

Table 20. CHANGE IN OCCUPANCY RATE OVER LAST THREE YEARS AT RESPONDENT HOTELS

Occupancy Rate	Number	Percentage
Increase	3	20.0%
Decrease	4	27.0
Stable	8	53.0
Total	15	100.0%

Source: HSGA

Table 21. WOULD YOUR COMPANY BUILD A NEW HOTEL NEAR THE AIRPORT?

New Facility	Number	Percentage
Yes	2	13.0%
No	8	54.0
Not Sure	5	33.0
Total	15	100.0%

Source: HSGA

Table 22. CURRENT LOCATION OF RENTAL CAR RESPONDENTS

Location	Number	Percentage
At MSP	5	63.0%
Near MSP	3	37.0
Total	8	100.0%

Source: HSGA

Table 23. WOULD RENTAL CAR COMPANY RELOCATE TO THE AIRPORT?

Relocation	Number	Percentage
Yes	7	88.0%
No	1	12.0
Not Sure	0	0.0
Total	8	100.0%

Source: HSGA

Table 24. IF YES, WHEN WOULD RENTAL CAR COMPANY RELOCATE?

Time Period	Number	Percentage
Airport Opening	5	72.0
Within Five Years	1	14.0
Within Six to Ten Years	0	-
Not Sure	1	14.0
	7	100.0

Source: HSGA

Table 25. NUMBER OF QUESTIONNAIRES DISTRIBUTED AND RESPONDENTS BY TYPE

	Questionnaires Distributed	Respondents
Corridor Tenants	1,027	204
Rent-A-Car	10	8
Hotel	32	15
Freight Forwarders	53	25

Source: HSGA

PART III. Financing and Strategy Recommendations for the MSP Reuse Design Scenarios -- Instructive Projects

This section presents a summary of the instructive projects that provided the strategy recommendations in terms of organization, finance and marketing for each of the design scenarios. The approach was to draw on our own experience in many metropolitan markets and on a telephone survey of development officials nationwide to identify the public private development projects which in our judgement would provide guidance for the Task Force recommendations for MSP reuse. The strategies identified and evaluated for each of these instructive projects were examined first for overall project management/control and then for each individual major use in the project. Master planning, that is the initial and continuing determination of what the project should be was presented as a separate category of development action.

The organization, finance and marketing techniques identified for each use in the instructure projects were considered the potential "tools" that could be used for each of the hybird scenarios.

The instructive projects have been selected as described because we judge them to have perfected and utilized techniques which would have value for us in MSP reuse. Thus, they are instructive. They are not called "comparable" because they include downtown, urban, suburban and exurban projects. Some are multi-use and some have few uses. Some pertain to very large undeveloped parcels and some projects are largely built up and are subject to redevelopment. Lastly, some of the instructive projects are dominantly public and some are dominantly private. They are not called comparable because we do not want to focus discussion on whether or not they are "like" MSP.

Design Concepts

Parkway Design Concepts

- The open space framework builds on the legacy of the Minneapolis park system and regional open space networks. Hiawatha Boulevard is extended and linked to a new recreational area that includes the Lake Nakomis and Minnehaha Parkway system.

- A secondary scale of local open space amenities are created for new communities that utilize pedestrian trail networks, local streets and neighborhood parks.

- The Parkway creates a series of high quality addresses within the site that now do not have direct exposure or frontage along the new regional highway.

- The proposed street network builds on existing capacity of arterials and parkways.

- Land uses are distributed to take advantage of the different addresses along the perimeter of the site. High quality residential development adjacent to Richfield and Minneapolis can be developed as a mix of different housing types and at different densities to meet future needs. These new communities can enhance the reinvestment into the existing communities.

- The Minnesota River Valley is connected by street and pedestrian trails to the developments on site, the new parkway and the surrounding communities.

- Employment uses in the southwest complement the I-494 uses and enhance the potential for continued desirability of existing developments in Bloomington and Richfield.

- Fort Snelling becomes integrated into a technology research campus. The existing recreation facilities are expanded and the officers' row housing is adapted for reuse.

- Prairie grasslands are re-established along Highway 5 as both a restoration of environmental heritage and an amenity for economic development.

- Access points are distributed to minimize conflict with the Cedar Ave/I-77 interchanges.

New Neighborhoods Design Concept

- Extends the Minneapolis Parkway system in a visionary way that gives form to new neighborhoods.

- Development is organized as a network of mixed-use districts and neighborhoods to reduce the dependence on automobile trips.

- Major open space elements such as Fort Snelling, the National Cemetery, the expanded Lake Nakomis/Minnehaha Parkway system and a consolidation of the Richfield and Fort Snelling Golf and Recreation Facilities are located along the perimeter of the site to permit greater regional access.

- Local streets are extended with similar character and scale to linking compatible land uses and traffic characteristics.

- The site can be developed incrementally over time as cohesive neighborhoods.

- Regional expressways are built over at key points to provide reintegration of existing communities with new development.

- Fort Snelling is physically reunited with the officers' row housing by reconfiguring regional traffic circulation and building new local access.

Compact Development Design Concept

- Compact development patterns integrate uses and open space amenities in a new way.

- The form of this kind of development is pedestrian-oriented to reduce the dependency on the automobile.

- The development does not adversely affect local street systems. Access to the site is from regional highways and links to existing arterial streets.

- A continuous open space network with both active and passive recreation is developed around the perimeter of the site providing an amenity for existing communities and new development.

- The Fort Snelling complex is integrated into a new residential community by configuring the regional interchange at I-62 and Highway 5.

- The National Cemetery is expanded to create an open space resource adjacent to the I-494 Expressway and Bloomington.

- The Research and Development Center is sited along the Minnesota River bluffs and is integrated with residential development.

- Transit service including a light rail corridor serves the employment centers.

Instructive Project

Pennsylvania Avenue

Project History and Land Uses

Pennsylvania Avenue has been designated "America's Main Street," following the path of power from the White House to the Capitol in Washington, D.C. Nevertheless, the street was lined with a hodgepodge of unsightly uses when President John F. Kennedy announced his plan for the beautification and rejuvenation of this important thoroughfare in 1962.

Kennedy's plan has been implemented by the Pennsylvania Avenue Development Corporation (PADC), an independent agency of the federal government. Unique in its federal scope, PADC is nonetheless an urban redevelopment authority with a mission similar to those in numerous cities nationwide.

PADC began by improving the public infrastructure, through rebuilt streetscape, roads and public spaces. The agency assembled land through eminent domain and purchased sites with federal funds for sale to private developers. Developers were encouraged to construct high-quality product according to design standards and master plan guidelines. The federal government also set requirements for provision of affordable housing and ground-floor retail activity. These requirements have been met through land write-downs for developers.

Today, the area served by PADC has more than 5.0 million square feet of office, 700,000 square feet of retail, 5,000 parking spaces, 1,000 housing units, 1,100 hotel rooms, over 100,000 square feet in community arts facilities and numerous public plazas, parks and monuments.

Organization

PADC was created as a federal agency by act of Congress. It is governed by an 21-member board, one-third of whom are voting members appointed by the President, one-third are voting members designated by Congress, and one-third are non-voting representatives of the arts community also designated by Congress.

PADC also has a working permanent staff of 30 to 35 people to oversee all demolition and land sales, enter into developer negotiations, and determine appropriate design guidelines.

Financing

PADC financed the acquisition of land through unique, direct loans from the U.S. Treasury. Profits made early on from the sale of land were fed back to Treasury. Infrastructure improvements were paid with direct appropriations from federal agencies. The federal government also made direct grants to developers for historic preservation. In-house PADC functions are paid for through federally budgeted appropriations.

Much of the development was possible through land write-downs whereby the price of land was reduced according to the amount of retail space or housing put into the project. Financing for construction came from the development companies, foreign and other equity investors and traditional bank financing. Several projects, including the International Cultural and Trade Center (ICTC), now under construction, were federally funded.

Marketing

PADC has its own marketing budget, much of which is consumed for events programming and an annual report. Overall marketing is best achieved for this project through public speeches and articles. Each of the projects is marketed individually by the respective developer. However, a marketing cooperative has been recently formed among the residential developers along the Pennsylvania Avenue corridor.

Implications for MSP

PADC is an example of a special purpose development agency created from above with responsibilities and resources to accomplish a major public objective of private development. The parallel at MSP would be a state created agency.

The use of land write downs (subsidy) and federal Economic Development Administration funding for infrastructure also have important potential for MSP.

Mall of America

Project History and Land Uses

Mall of America (MOA) provides an example of a local Twin Cities project which involved public-private cooperation for site reuse. MOA, located on the site of the former Metropolitan Stadium, opened this summer as the largest enclosed shopping mall and entertainment facility in the United States.

MOA was developed through a partnership agreement between Melvin Simon & Associates (MSA) and Triple Five Corporation, Ltd. MSA is leasing, managing and marketing the mall. Public involvement by the City of Bloomington was important in the overall development and financing of the basic infrastructure. With its major league teams moved to Minneapolis, Bloomington was interested in maintaining its crucial role in the metropolitan economy.

The 4.2 million square-foot, $625 million MOA complex includes a seven-acre indoor theme park and 2.5 million square feet of retail space. More than 12,000 parking spaces surround the facility. Eventually, hotels and other types of development will locate near the mall to serve the estimated 40 percent of shoppers who are out-of-town visitors.

Organization

MOA is owned by a subsidiary of MSA and Triple Five, and managed through the experienced retail leadership of MSA. The Bloomington Port Authority assisted the developers through marketing the project and financing initial infrastructure.

Financing

Construction of MOA was privately financed through several foreign-owned financial institutions. A domestic annuity association has assumed permanent financing and is equity partner in the project.

The Bloomington Port Authority provided land, site preparation, sewer, parking and traffic signals for the site, financed through a combination of General Obligation and Tax Increment Revenue bonds, as well as developer notes and reserves. The State of Minnesota contributed $1.1 million for construction of a bus and taxi transit station at the mall.

Most of the City of Bloomington (and State) bonded investments will be repaid through hotel-motel and liquor taxes, tax increment financing, and earnings on cash flow interest.

Marketing

MSA markets the project through press releases, all-media advertising and mailings. In addition, individual retailers new to the area have marketed heavily in anticipation of their openings.

Implications For MSP

The Mall of America is an example of the local government entity providing major financial support in land, infrastructure and supporting facilities for a private development venture which will generate impressive jobs, tax revenue and other economic benefits.

Baltimore Inner Harbor

Project History and Land Use

The growth of container shipping after WWII signalled the end of the shallow (22-foot) inner harbor's importance for Baltimore shipping, which moved to the city's outer harbor. Left in the wake of this transition were vacant warehouses, flop houses, bars and unattractive industrial uses at the city's waterfront.

In the late 1950's, the business community partnered with the city to clean up the area and shore up the city's tax base. A non-profit development organization was chartered by the state in 1959 to manage the mixed-use redevelopment of a 33-acre parcel north-west of the harbor, to be known as Charles Center.

At the same time, 50 CEOs of Baltimore's largest companies together contributed $250,000 for a 30-year Master Plan for a 300-acre area along the waterfront, including Charles Center and the "Inner Harbor." The Master Plan divided the 300 acres into eight segments, to be phased for development. Charles Center was the first development segment, with the remaining Inner Harbor's seven phases underway by 1967.

The city acquired parcels for Urban Renewal through the process of eminent domain. Among the displaced businesses were fertilizer, fish oil and bottling plants. McCormick Spice and the Hearst newspaper plants stayed until relatively recently. Each landowner was provided with satisfactory "kid gloves" relocation.

The Baltimore Inner Harbor, which now includes Charles Center, consists of the following components:

- Retail: 280,000 s.f. (Harbor Place and Gallery).
- Office: 12,000,000 s.f.

- Residential: 1,500 d.u. (500 elderly subsidized, 500 middle-income market housing, and 500 upscale condos).
- Hotel: 5,000 rooms (2,500 built 1981-1985).
- National Aquarium.
- MD Academy of Sciences Science Center.
- Baltimore Convention Center: 115,000 s.f.

And the following $3.0 billion of private investment under construction or in the pipeline:

- Christopher Columbus Center of Marine Research and Exploration.
- Sports USA Museum and Entertainment Complex.
- Residential: 1,050 d.u. (Harbor View- 250 luxury condos opens 1993; Inner Harbor East- 800 d.u. plus commercial).
- Convention Center: 115,000 s.f. expansion.
- Med-Mart: 2,000,000 s.f. proposed. Similar to Merchandise Mart of Chicago.
- Office: 300,000 s.f. GSA under construction. Plus, finalist for federal Health Care Financing Administration HQ.

While not part of the original 300-acre Master Plan, nearby Oriole Park at Camden Yards resulted partially because of the renewal of the city's Inner Harbor.

Organization

The newly-reorganized Baltimore Development Corporation (BDC) is a state-chartered non-profit 501 (c)(3) with the City of Baltimore as its sole client. Its staff of 16 professionals and 6 support personnel essentially implement the Urban Renewal plans for the city.

The organization's scope of services include acquisition of land, developer negotiations, open space planning, and coordination of all departments on behalf of the City, in development of the Inner Harbor. A former organization with a specific role for Inner Harbor development recently merged with the City's Economic Development Corporation (BEDCO) to form this new, consolidated office and create economies of scale in promoting development.

The president of BDC is appointed by the Mayor, who takes an unwritten (but politically expedient) oath to support the organization. Receiving an annual salary of one dollar, the president is generally a successful businessperson who works well with the development community. The board and staff are basically a self-perpetuating group without the government and civil service regulations of a public agency to dictate operations.

Financing

There have been over $2.5 billion is public and private investments made in Baltimore's Inner Harbor. About 75 percent has been private investment, with public investments split between federal (17 percent) and local (8 percent) sources.

City funds have been raised through issuance of bonds, approved by voters 16 times since the original $25 million bond referendum in 1958. Federal funding came originally through Title 1 of the U.S. Housing Act (Urban Renewal), and later through Block Grant programs. Another $30 million was received through UDAG grants for eight projects.

Because a primary purpose is to increase the city's tax base, no special tax abatements or incentives have been offered. Developer incentives come through the simplification of the bureaucracy: Developers have access to cleared sites with writedowns, because of government ownership, for land acquisition. Developers thus pay less than if they had to purchase and clear the land themselves. Also, they have the "comfort" of a master plan which precludes noxious uses adjoining their site. Finally, there is the perk of having a businessperson at the helm of the agency that understands their needs.

Marketing

There is no marketing staff or promotions budget. This is a "low-key, home-spun" operation with no advertising campaigns or expensive media. The only marketing comes in the form of a prospectus which is advertised in major real estate publications for each site. The BDC charges $35 for copies of the prospectus.

Successful Elements

The PR people attribute the success of Inner Harbor to:

1. Private Business Community Involvement. From the Master Plan development to the president of the BDC.

2. Amount of Private Investment. Commitment to make it work.

3. Architectural Review Board. The Deans of Harvard, MIT and Penn Architecture Schools provide objective review of proposals to the city, from schematic drawings through final plans. Baltimore has received more (33) awards for design excellence from AIA than any other American city.

Implications for MSP

The best lesson from the Inner Harbor is just how much can be achieved if public and business leadership are fully and activtely behind a project. The support of the Mayor and the business leadership was so strong that to many the Inner Harbor was Baltimore and the project achieved continuing high priority for federal and state funding which attracted impressive private investment.

Mud Island

Project History and Land Use

The 50-acre "island" was created through the accumulation of centuries of silt in the Mississippi River. Actually a sand bar connected to downtown Memphis, Mud Island surfaced in the early 20th century and became a nuisance for shipping until channels around it were dredged in the 1960s. At that time, part of the island was raised above the floodplain, allowing for potential development.

While a small commercial airport was operated there by the City for a brief period, most of Mud Island remained undeveloped. In 1969, a downtown planning study recommended recreation use for the island; and in 1975 a concept plan was approved which recommended educational and recreational uses tied to the story of the river. Construction began in 1977 and the park opened in 1982, attracting 1.2 million visitors. Seventy percent of visitors were from the Memphis area.

The City owned and operated the park from 1982 until 1989, when it was sold to Island Management Authority, a subsidiary of The Pyramid Companies. Meanwhile, attendance declined as tourism and marketing have fallen off. Pyramid recently filed for Chapter 7 bankruptcy, and ownership has reverted back to the City as of August 1992. The park season has been curtailed from year-round to five months.

This City-owned park offers the following attractions:

- Riverwalk: Scale model of Mississippi River.
- Mississippi River Museum: 35,000 s.f.
- Outdoor Amphitheater: 5,000 seats.
- Banquet Facility: Originally built for restaurants.
- Memphis Yacht Club: Private 20,000 s.f. marina.
- Swimming Pool/Beach: Added 1989.
- Retail: Three local concessionaires.
- Pizza Hut.
- Playgrounds, picnic areas, lookout points.

While not part of the Mud Island complex, the Memphis Pyramid sports and entertainment arena complex has been developed in conjunction with the island.

Organization

The City of Memphis developed, owned and operated the park during its formative stages. A non-profit 501(c)(3) organization, the Mud Island Foundation, assisted in long-range planning and fundraising. However, all operations and management functions fell to the City's Park Commission. Unlike other Memphis parks, Mud Island was granted its own on-site maintenance staff and advertising budget, estimated at $1.0 million its first year.

Even though the park generated significant attendance, the operation of the facility required a substantial subsidy. The City therefore transferred ownership to the aforementioned private investor, a local development organization, which had also bid to operate the Pyramid complex. Island Management lost that bid, which meant that the company could not recoup losses on the island from the arena's anticipated profits.

Staffing at the park has declined precipitously, from over 350 at opening, to 108 today, including 100 seasonal employees plus eight managers.

Financing

Memphis never had to acquire the sand bar because of its legal designation as an extension of the City. The construction and initial operations of the park were financed through $63 million in 20-year general obligation bonds. The 1989 swimming pool and beach addition was financed through corporate sponsorship from Anheiser-Busch. In return, the pool was named "Bud Boogie Beach."

The island's original marketing budget of $1.0 million has been reduced to zero since 1989. At the park's opening, television, radio, newspaper, and billboard ads ran in markets up to 500 miles from Memphis.

Renaissance Center

Project History and Land Use

The Renaissance Center was first proposed in 1971 by Henry Ford II and the Detroit Renaissance Foundation, a non-profit organization of 26 corporate CEOs concerned for the revitalization of downtown Detroit. The business community wanted to demonstrate that the private sector could spur the revival of the inner city without a major public commitment.

A major mixed-use center at a scale worthy of national attention would be the focal point for this revival. All 26 corporations, including the city's major financial institutions, would contribute towards equity in the project. Ford Land Development

Corporation, a division of Detroit's Ford Motor Company, was the largest contributor and accepted the role of developer and manager during its initial stages.

Ford Land and Portman Properties acquired 33 acres from seven willing owners, including Packard Automotive, parking and railroad companies. There were no write downs or public incentives for the purchase, and the project's plan was easily approved by the City. Detroit had no downtown master plan.

Renaissance Center was built in two phases. Phase I, which opened in 1977, includes four 39-story office towers, a shopping center, restaurants, and niteclubs surrounding the 73-story Westin Hotel. In 1981, Phase II opened with two 21-story office towers adjacent to the initial project. While a major remodeling program in 1987 created street-level retail space, professional plaza and more restaurants, Renaissance has been criticized for creating physical barriers between itself and surrounding communities. Nevertheless, occupancy remains high even today, with 97 percent of office and 88 percent of retail leased.

- Office: 2,770,000 s.f. (Phase I= 2.2 million; Phase II= 570,000).
- Retail: 220,000 s.f. (70 stores, plus restaurants).
- Hotel: 1,400 rooms, recently remodeled.

Organization

Renaissance Center Venture, comprised of Ford Land Development Corporation and four insurance companies with the greatest equity in the site, developed and own Phase I of the project. Phase II was developed by Ford Motor Land and Rockefeller Center, Inc., but sold to American Natural Resources Corporation in 1984. Both projects are now managed by Rubloff, Inc. of Chicago.

Financing

The $350 million project was financed originally through a $200 million first mortgage loan by four insurance companies and Ford Motor Credit. The strength of Ford Motor as the primary investor promoted the success of the project. There were major pre-leasing commitments for the office and retail by prestigious corporate and professional firms, including Manufacturers National Bank and Ford Motor Company.

To insure additional financial support for the project, the Detroit Downtown Development Corporation (a subsidiary of Ford Motor Land Development) was created. A 1987 facelift cost an estimated $27 million.

Phase II was privately financed through a $70 million joint venture between Ford Motor Land and Rockefeller Center, Inc.

Marketing

Rubloff contracts advertising functions to BK & M of Ann Arbor and public relations to Anthony M. Franco, Inc. in Detroit.

Implications for MSP

Renaissance Center is an important example of the role that a major local corporation can play in generating momentum to a new development area. Ford Motors invested their money and leaned on other corporations to do likewise. They made leasing and hotel occupancy commitments and leaned on supplier corporations and other corporations to do likewise. The results is a major catalyst project.

Mission Bay

Project History and Land Use

Originally part of San Francisco Bay, Mission Bay was later used as landfill and given to Southern Pacific railroad company to encourage the extension of rail to California. Southern Pacific has used the property for its switching yards, warehousing and spurs. Additional recent uses have included bus repair, trucking/warehousing, gravel plants and other heavy industry.

In 1985, the City and County of San Francisco sought to encourage the redevelopment of this underutilized property, located one mile from the center of downtown. Catellus Development Corporation of New Jersey now controls 60 percent of the property and the City owns 40 percent, although Southern Pacific still retains use of much of the facility. An original capital plan submitted by the railroad was rejected, but Master Plan, Development Agreement and rezoning were approved in April, 1992. The City and Catellus will provide site location and referral assistance for displaced firms.

As part of the Development Agreement, Catellus will remediate toxins from all 313 acres of the property and will give the City sites and construction funding for police and fire stations, parkland (68 acres), and cultural/recreational centers, as well as land for a school. Catellus will also meet affordable housing requirements. Several land transfers will result in the City controlling 60.3 percent of the land at buildout. The City will construct a light rail station at the site and has granted an exemption to the project from the Downtown Plan, which limits density of new office construction.

Mission Bay is to be the city's major site for "back-office" space. It is suited for the floor space required by telecommunications, accounting and order processing functions because its eight-story office structures will have floor plates of 50,000 to 60,000 square feet. The basic program is outlined below:

- Back Office: 4.8 million s.f.

- Commercial/Industrial: 900,000 s.f.
- Hotel: 500 rooms.
- Retail: 750,000 s.f.
- Residential: 8,700 to 8,770 d.u. (including 250 subsidized, 150 artist live/work units, and 3,200 affordable units provided by Catellus and City).
- Park: 68 acres, including wetlands.
- Public Safety Facilities: 11 acres

Organization

Management for the development will be retained by Catellus. There is no public "authority," per se, although an open door policy encourages housing advisory committees and other public input into the planning process.

Financing

Total development cost is estimated at $2.0 billion for this 20-year project. The developer will finance 80 to 82 percent of infrastructure costs, while the City will finance the remaining infrastructure and transit station through $54 million in federal transportation grants.

Private development will be financed by Catellus, which will provide for environmental cleanup and affordable housing commitments. Catellus will pay $60 million for licensure of Port of San Francisco land for open space and $16.5 million in a land exchange with the Port. Catellus will also pay a School Impact Fee and Transit Impact development Fee, construct child care centers within two of its office buildings, and pay fees for office and commercial/industrial space. Catellus will also fund health and job training services.

In addition to 965 affordable housing units constructed or subsidized by Catellus, the City will construct another 2,385. Catellus will also provide $4.0 million to the City for acquisition of 250 very low income units off-site.

Marketing

Marketing for the project will be handled by the developer.

Implications for MSP

The Mission Bay project is an example of the public body achieving a number of public objectives such as affordable housing, child care, school and other public facility sites and infrastructure and the development of recreation and open space by incorporating these into an agreement with the private developer. Obviously, this can only be done to the extent that the probable cash flow from the project supports it.

Metro Center

Project History and Land Use

Like other cities, Nashville has attempted to promote a "New Town-In-Town" project as a revitalization tool. Metro Center was first conceived in 1971 by corporate leaders, including Victor Johnson of Alladin Industries. Located 13 blocks north of downtown Nashville on the city's inner-loop Interstate 265, the property had remained as undeveloped farmland because most of it was in the floodplain of the Cumberland River. The site was unique in its lack of development in close proximity to an urban core.

A local broker/developer encouraged Alladin that TVA dams had reduced flooding and that construction of a levee would open the huge tract of inner-city land for development. Alladin and the local brokerage firm of R.C. Mathews entered into a partnership and a master plan was developed.

Alladin agreed to infuse $30 million of its own capital to purchase the land, construct the levee and build the infrastructure. In return for developing the site and generating tax revenues, Alladin asked in return that the State relocate TN Highway 41A (Metro Center Boulevard) from the interstate, and that Nashville's Metro government construct a community facility (The Alexander J. Looby Center) and an 18-hole public golf course (Ted Rhodes Golf Course).

Metro Center has not developed into the New Town its creators envisioned, but rather into a moderately successful mixed-use park. Metro Center is an 850-acre "mixed-use business community" with corporate and regional headquarters, back office operations, data centers, warehouse/distribution facilities, hotel/motel, retail and residential uses. Prestige offices located in the park include the corporate headquarters of Service Merchandise and the U.S. headquarters of Northern Telecom.

A retail center, Fountain Square, was envisioned as an office-serving retail amenity to attract office users. The center could offer below-market rents because of its ownership of the land. Unfortunately, the project did not succeed partly because of the retail mix (non-office serving) and partly because of poor design. However, the retail anchor, a 14-theater complex, has succeeded as a destination facility.

The current developer claims one flaw of Metro Center was the original project preparation, where all infrastructure was put in place from the beginning. There was no phasing for the project, which did not build out at the speed envisioned by the original developer. Furthermore, many potential market users (manufacturing, distribution) were turned away because they were not seen as quality-image users for the park. Finally, the developer refused to sell parcels to other developers for fear of competition.

As a result of carrying the infrastructure costs, the development company (a subsidiary of Alladin) filed chapter 11. It has since returned to solvency after selling off the retail center to the bank.

- Office: 1,554,000 s.f.
- Warehouse/Showroom: 2,173,000 s.f.
- Hotel: 422 rooms (238,000 s.f.)
- Retail: 210,000 s.f.
- Residential: 186,000 s.f.

Organization

Metro Center is today owned and operated by Metro Center Holdings, which has sole responsibility for sales and rentals through its subsidiary, Metro Center Properties, Inc.

Financing

Alladin Industries carried all infrastructure costs, including construction of four-lane roads throughout the project. The State relocated a highway to the site from the interstate and community facilities and a golf course were built for public use by the Metro government. Corporate sponsorship therefore carried most development costs with practically no public infusion.

Marketing

The pace of marketing has declined significantly in recent years and real estate markets have disappeared. However early marketing efforts resulted in landing the American headquarters of Northern Telecom. The developer also constructed Nashville House, an office complex constructed with financial assistance from the Prudential Companies, as a "seed" project which generated significant national attention and pre-leasing.

Implications for MSP

Metro Center is an example of the potential role of a major local corporation as primary developer of a large public/private project. It is also an example of the key financial role which the state may need to play in financing major infrastructure and a regional entity in financing the recreational amenities.

Navy Pier

Project History and Land Use

Navy Pier is a public recreation and festival project along downtown Chicago's waterfront. Constructed in 1914, it was originally a docking and cargo transport facility. This use diminished following World War II, and ownership was transferred to the State of Illinois. Through the 1960s it was used primarily to house classes for the University of Illinois at Chicago. Since the completion of the U of I campus on Chicago's south side, the pier has remained mostly vacant. However, several interim uses of the pier have included the East End Ballroom and minor festivals.

In 1985, the State Assembly created the Metropolitan Pier and Exposition Authority (MPEA) as Chicago began planning for a new World's Fair at the site. While the idea of a fair has diminished, MPEA has continued to plan the revival of the pier through recreation and mixed use development. Adjoining parcels formerly owned by the Chicago Park District, the U.S. General Accounting Office and Army Corps of Engineers, have been transferred to the City for a gateway park.

The pier's Master Plan has been approved by Chicago's City Council and an Inter-Governmental Agreement (IGA) is to be approved in August, 1992. The Mayor will also sign off on the plan soon and construction will begin.

The 30-acre pier, along with the 19-acre gateway area known as "The Headlands," are planned to include a park, exhibition space, pavilions, museum, seasonal retail, restaurant, festival area with ferris wheel, docking for boats, parking, and glass-enclosed "winter garden."

Organization

The MPEA was created by the Illinois State Assembly in 1985 with the responsibility of building out and operating Navy Pier. Later, MPEA was also charged with the expansion of McCormick Place convention center, on the south side. The MPEA is an independent authority with a two-member board. One member is appointed by the Governor, the other by the Mayor. MPEA owns the Navy Pier property on behalf of the State and is therefore a land development agency.

Financing

MPEA has received $150 million in funding towards the construction of Navy Pier and $937 million for the McCormick Place expansion from the State of Illinois. These funds are used for contracting environmental and other studies, construction of roads and infrastructure, and acquisition and relocation of existing buildings. In Addition, MPEA has secured $3.6 million in federal grants for a park at the Headlands site.

Marketing

MPEA is responsible for marketing the project from the aforementioned budget. Navy Pier has received enormous amounts of free coverage through the local press.

Implications for MSP

Navy Pier is an example of how local, sate and federal land ownership interests can be contributed to a project with strong public purpose. It is also an example of the creation of a special state agency.

Rickenbacker

Project History and Land Use

In 1979, The U.S. Department of Defense announced the closure of Lockbourne Air Force Base in Columbus, Ohio and redeployment of its Strategic Air Command (SAC) function. Because of its potential value, local officials proposed that Lockbourne be deeded over to a local governmental entity for joint use as a civilian and military facility. Although no longer a SAC base, the Air National Guard of Ohio and Air Force reserves continued to operate at the facility.

Creation of a special Port Authority to operate the airport as both a civilian air terminal and an air industrial park was then proposed to the GSA. In 1984, a quitclaim deed was executed which conveyed right, title and interest for 1,642 acres from the U.S. government to the Rickenbacker Port Authority (RPA). Nevertheless, the Air Force retained much of the 4,500-acre base and a 40-year Joint Use Agreement signed in 1986 allows for both civilian and military use of the airfield.

In 1985, a 70-year master lease was executed between RPA and Diversified/Turner (D/T), a joint venture between the Turner Construction Company and Diversified Investments. This agreement effectively leased 1,642 acres surrounding airport operations to D/T for development as an industrial park. A subsidiary of D/T, Rickenbacker Development Corporation (RDC), operates the park.

Rickenbacker is located on the fringe of the Columbus, Ohio urban area. As Columbus continues to expand outward towards the base, demand for space there is likely to increase. The only development so far, however, has been an Air Cargo Hub facility designed/built/leased back in 1986 to the Flying Tigers. In 1989, Flying Tigers was purchased by Federal Express, which surplussed the Rickenbacker operation. Federal Express continues to lease the property until termination.

Rickenbacker is marketed as a world trade, distribution and multi-modal transportation center. Its primary assets are its airfield and General Purpose Foreign Trade Zone (#138) designation. The Foreign Trade Zone (FTZ) exempts companies from personal property taxes and customs duties, defers federal Excise and Income taxes, and provides other light manufacturing and trade incentives.

Sites are available from small parcels to 1,000 unified acres for warehouse/distribution, light manufacturing/assembly, air cargo, general aviation and other airport-related uses.

- Airfield: 12,000-foot primary runway and 10,000-foot parallel runway. (General Aviation: 625 acres. Air Cargo: 225 acres).
- Manufacturing/Airport-Related: 350 acres.
- Commercial: 220 acres.
- Warehouse/Light Manufacturing: 265 acres.

Organization

The RPA has authority to lease, construct, maintain, repair, manage, operate and control the airfield and any contiguous development. RPA board members include county and city officials. The Rickenbacker Port Authority helps promote base facilities for both civil airport and industrial park uses.

Development of Rickenbacker is managed by the Rickenbacker Development Corporation, a subsidiary of The Turner Corporation. The RPA advertised for a developer through an RFP process. A Foreign Trade Zone at the site is managed by the RPA.

Financing

As was common in the years following WWII and up through the 1970s, surplus federal airports were conveyed to local government entities with the stipulation that they be operated in perpetuity as public airport facilities. Financing the purchase of the property was not an issue for the RPA and operation of the industrial park was quickly assumed by the private developer through a lease agreement.

Marketing

The former base facilities are marketed jointly by the Rickenbacker Port Authority and the Rickenbacker Development Corporation, through brochures, and advertisements in industrial development publications.

Implications for MSP Reuse

The Rickenbacker project is a good example of the potential role of a non profit development agency serving as the overall controlling entity for the reuse effort. In this case, because Ohio law was favorable, a new authority, the Rickenbacker Port Authority, was created to handle the overall project management.

The responsibility for planning, the financing and installation of infrastructure and the marketing of the property was in this case turned over to a developer joint venture through a long-term master lease.

Imeson Industrial Park

Project History and Land Use

Imeson was built as an Army base during World War II, and converted after the war for use as Jacksonville's civilian airport. Increased traffic resulted in the completion of a new airport facility to replace the 1,500-acre Imeson, which closed in 1967.

The Jacksonville Port Authority gained the airport as an asset following closure (there were no transfers through FAA because the City of Jacksonville owned the land) and rezoned for light industrial, office and waterfront to attract a developer. Vandalism was a major problem at the vacant airport site as the City attempted to find a developer as quickly as possible.

To insure quality, the City resisted selling off the land in parcels and finally sold it to a successful Florida developer after three years. The developer quickly attracted tenants like Sears, Roebuck (1.8 million square feet) who provided prestige in attracting other tenants.

- Distribution/Warehouse

Organization

The City chose a "like-minded" developer who would insure quality development at the site and ease the City's concerns over relinquishing control over the land. The developer, William C. Webb, has followed through on his commitment to quality and continues to manage all development on the site.

Financing

The private developer purchased the property with a large downpayment and a 20-year mortgage.

Marketing

The developer retains control over marketing and design criteria for the park.

Implications for MSP

The Imeson example shows how a large tract of land can be successfully reused as a totally private venture once the public has determined the optimum uses. Organization, financing and marketing for all parts of the development were in this case handled by the developer.

CentrePort

Project History and Land Use

Until the opening of DFW Airport, the 1,300-acre Greater Southwest Airport (GSWA) provided commercial service for Fort Worth and north-central Texas. After the GSWA closure, the site became an eyesore. CentrePort today is a successful office and residential mixed-use development, home to such companies as American Airlines and Mercedes. However, there are few public amenities and little open space.

The City of Fort Worth sold the property outright to a developer because vandalism and dumping at the site created a liability and because the City wanted the money from a sale. The City has paid back several million dollars allocated originally by FAA for the airport.

Fort Worth and Dallas welcomed the opportunity to link the two cities with development, although the project did cause some initial friction. The original concept plan called for mixed-use development, including light industrial (90%) and residential. About 700 acres has been developed.

- Residential: 1,400 units.
- Office/Flex:

Organization

Originally, Centre Development Company was in partnership with a large corporation. However, differences in the quality of development expected at the site drove Centre to buy out the partner. Today, Centre has complete control over development.

Financing

Centre Development Company signed a $14.8 million long-term purchase option on the site with the City in 1980. In addition to a $1.5 million downpayment, Centre Development Company pays the City $1.4 million per year in the lease/option plan. Total payments by 1998 will be $57 million, including interest. Title for unaquired land remains with the City.

The developer invested $60 million in demolishing the airport, including removal of one major runway and taxiways (300 acres of concrete); and for infrastructure improvement. It was essential to the developer to change the character and image of the site, which had fallen into disrepair. From the beginning, the developer did not expect a profit for at least one decade.

Marketing

The developer has successfully marketed the project through promotional materials and by personally contacting developers, brokers, and area executives. The developer also completed spec space before commitments were made by users to "seed the site" and speed up the process.

Implications for MSP

The CentrePort project is another example of the succesful reuse of a large tract of land through sale by the City to a private developer in conformance with agreed upon use plans. This approach, which works best in a reasonably strong market, insures an efficient development process unincumbered by a large series of time consuming, individual pubic decisions. The selection of the developer is extremely important.

Massachusetts Biotechnology Research Park

Project History and Land Use

Established in 1985 on surplus state-owned land, the Massachusetts Biotechnology Park in Worcester, 45 miles west of Boston, is one of the nation's leading biotechnology research parks. The U. Mass Medical Center is adjacent to the project and is one of the major tenants in one building.

The Worcester Business Development Corporation (WBDC) is the park's developer. As part of an agreement with the state, WBDC was required to create an Innovation Center to foster development of the bio-tech and other high-tech industries in Massachusetts. The non-profit Massachusetts Biotechnology Research Institute (MBRI), incorporated in 1984 to serve this purpose, includes representatives of six area colleges and universities and six local business people.

The 75-acre park has only 15 acres left for development. There are 18 tenants and 550 employees, one-third of whom work for U. Mass Medical Center. Acquisition for the remaining land is imminent.

- R/D: 300,000 s.f. (incl. 10,000 s.f. imaging center). Another R/D building u.c. Planned: BASF 485,000 s.f., with 265,000 s.f. by 1993.

- o Other: 80,000 s.f. (incl. 58-room hotel, conference facility, office, restaurant, bank and support retail).

Organization

The MBRI runs the Innovation Center for start-up companies and serves as a business council.

Financing

Infrastructure improvements were funded in part by a state grant and federal EDA grant. Speculative building construction was financed through a taxable industrial revenue bond and a second mortgage provided by a lender consortium.

A venture capital fund established by MBRI, Commonwealth BioVentures, has already produced three spin-off tenants.

Marketing

All marketing is done by the WBDC.

Implications for MSP

This project is an excellent example of how university, state and local bodies can coordinate operations and financing to generate an economic development project which creates jobs itself and serves as a catalyst for important private economic development.

Princeton Forrestal Center, Princeton University

Project History and Land Use

Princeton University purchased an 850-acre tract of land located adjacent to the town of Princeton, New Jersey from the Rockefeller Institute of Medical Research in 1951. By 1973, with additional land purchases, the University owned a 1,750-acre site, one of the largest undeveloped tracts of land between New York and Philadelphia. At that time, the University hired a team of consultants to prepare a development plan for the site.

The resultant development plan emphasized the three primary goals of the University:

1. Preservation of the rural character of the area.

2. Prevention of growth pressures from impacting the University campus and nearby areas and

3. Maximum of the University's profit.

The plan called for the development of a high quality mixed-use project composed of educational, residential, retail, office, hotel, and research and development uses with an abundance of open space. An east coast development firm was employed to manage the development of the site.

The first building was completed in 1972. To date 3.8 million square feet of office/R&D space has been completed along with an 800,000 square foot commercial core and the 250,000 square foot Scanticon Executive Conference Center. Another 200 acres are left for development.

Organization

Because such a large mixed use project was unprecedented in the area and the university was inexperienced with the development process, the hiring of an experienced development firm was thought to be essential. While the Board or Regents has the final say on all major decisions and deals, the development company is afforded the Authority to negotiate deals, secure financing, maintain and market the project.

The development company currently has a staff of five involved with the project. In earlier years, when the project was in its infancy, a staff of nine was required.

Financing

Acquisition of the property, and site preparation and infrastructure have been totally financed by the University though its endowment fund. Originally, the University sought to retain ownership of all of the land. The original occupants obtained 50 to 70 year land leases which were prepaid and returned to the University's endowment fund. Over the years, a small number of major corporations have been allowed to purchase land within the project.

Marketing

Princeton Forestal Center represents a mature project that requires very little marketing. In previous years, corporations within the New York City and Philadelphia region were targeted for relocation potential. Now marketing concentrates on retention and expansion of existing tenants.

Lessons Learned

Princeton University has always sought to maintain the high quality image of the project. This quality in conjunction with needed front-end infrastructure investment, have contributed to the success of the project.

Implications for MSP

The primary lesson is the catalytic role that can be played by a major university in the successful development of a business and research park.

The project is also a good example of the role of a skilled real estate developer as manager of a major project under incentive contract to the institutional owner.

The use of pre-paid land leases to retain land ownership but provide funds for infrastructure, operating income and profit is also instructive.

Las Colinas, Irving, Texas

Project History and Land Use

Las Colinas is a planned mixed-use project consisting of 12,000 acres of land. Development at the site began in 1973. To date 16 million square feet of office space, 6-8 million square feet of flex/R&D space, 3,800 single-family and 7,300 multi-family units, 450,000 square feet of retail, 1,325 hotel rooms and a wide range of recreational facilities have been developed. The project contains another 2,200 acres left for development.

Organization

The project was developed by Las Colinas Land Limited Partnership consisting of three partners: the Carper family, J&B Realty and Teachers Insurance Company. Until recently, this entity was totally responsible for development management and marketing.

Because of conflicts among the partners, a development management firm, Faison-Stone, was recently hired to oversee the project. Faison-Stone has a total of 40 employees engaged in marketing and managing the project.

Financing

Site acquisition and construction have been totally privately financed. The Town Center, however, was designated a Municipal Utility District as a tool for infrastructure financing. The Municipal Utility district can sell bonds to finance infrastructure, and then levy taxes within the district to pay off the bonds.

Marketing

Faison-Store is now responsible for marketing the projects. The company has identified target areas (California and the northeast) to market for corporation relocation purposes. These areas will be blanketed with brochures, site visits, etc. The remaining uses (residential and retail) are marketing locally. The company will not team up with national brokers because they believe that this method limits their visibility.

Lessons Learned

Quality control is essential for project success as is the provision of up front infrastructure. While up front infrastructure is costly and risky, it is also an important contributor to project image and viability.

Implications for MSP

An important feature of Las Colinas is the use of the special improvement district as a method of infrastructure financing.

It is also an example of how a private developer can run into financial difficulty carrying a large project alone through down market periods.

Crown Center, Kansas City, Missouri

Project History and Land Use. Crown Center is an 85 acre mixed-use development designed to revitalize a downtown Kansas City neighborhood surrounding the office and manufacturing facilities of a major corporation, Hallmark Cards. The site was originally occupied by parking lots and obsolete commercial and industrial buildings. Planning began in 1961. Approval of the master plan occurred in 1967 and initial construction in 1968.

To date, development of the site has included:

- 300,000 square feet of retail
- 250 residential units
- 2.1 million square feet of office
- 2 hotels with a total of 1,500 rooms

Planned development includes seven additional office buildings, exhibit space, and a 500-unit high rise residential tower.

Organization

The project is being developed by Crown Center Redevelopment Corporation, a subsidiary of Hallmark. The Corporation has a staff of 120 persons with responsibilities ranging from leasing and marketing, to design and construction.

The corporation was awarded the power of eminent domain under Statute 353 of the Missouri Urban Redevelopment Corporations Law, the purpose of which is to facilitate the assembly and redevelopment of blighted urban property. To date, however, eminent domain has only been used by the corporation to acquire a billboard property.

As a added inducement, property taxes on improvements within the redevelopment area are abated for the first 10 years of the project and only assessed at 50 percent of fair market value for the subsequent 15 years.

Financing

Project financing has been totally private except for one of the parking garages that was developed with IRBs.

The corporation has also been responsible for all infrastructure which upon completion has then been deeded to the City.

Marketing

Marketing is carried out by a staff of 12 within the Redevelopment Corporation. Each of the business units (residential, retail, office and entertainment) has its own marketing manager. Each unit, however, coordinates its activities with the other units to maximize spin-off. For example, the free summer Friday night concerts with major entertainers are aimed at promoting Crown Centre as a safe neighborhood in which to live and work.

The major outreach activity is well placed feature articles in national trade publications such as Successful Meeting and Midwest Real Estate News. The current marketing budget is insufficient for national advertising. Another outreach activity is relationships with national real estate brokers, in Los Angeles, New York and Chicago. This activity is less than a year old and is yet to produce results.

Important Lessons

Overall the project has been successful as a tool for reducing physical and economic blight and for retaining area jobs. One concern, however, with a long-term mixed-use project is its ability to retain a high quality image. That is, as tastes and needs change, the earlier development can become somewhat obsolete. Therefore, it is important to design facilities that remain flexible over time.

Implications for MSP

Crown Center is a good example of a major corporation taking responsibility for development of a major economic project. Crown Center is also an example of the important stimulus that real estate tax abatement can play in project finances.

The effective marketing effort by a single marketing staff for the entire project is also instructive.

Sky Harbor Center, Phoenix, Arizona

Project History and Land Use

Phoenix's Sky Harbor International Airport is located within the City of Phoenix. In the late 1970s concerns were expressed regarding the airport's clear zone and potential to further impact nearby residential and commercial areas as it expanded. The response to these concerns was the western approach land acquisition project which resulted in the acquisition of 850 acres of land adjacent to the airport. Sky Harbor Center represents 550 acres of the redevelopment area, 300 acres of which is in a Foreign Trade Zone.

To date, over 1 million square feet of office and manufacturing space has been developed at the site along with airport parking facilities.

Organization

The project is being development and marketed by the Economic Development Department of the City of Phoenix.

Four staff persons are assigned to the project and are responsible for the negotiations with occupants, maintenance of the property and analysis of the potential deals.

For a project to be considered viable by the City, it must drawn down 10-acres or more of land, meet a public purpose such as job create in and generate significant sales taxes since sales tax revenues comprise roughly one-third of Phoenix's budget.

Financing

The city retains ownership of the land and leases it for 65 years to occupants for 35 cents to 65 cents per acre, depending upon the use. Acquisition of the property was financed by City bonds and by FAA. Infrastructure is financed by bonds to be repaid through the land leases.

The commercial buildings themselves are privately financed.

Marketing

The City has hired a private marketing company to market the project. The marketing company highlights the project in its newsletter and is currently putting together a brochure which it will mail to its 2000 firm mailing list.

In addition, the economic development staff attend trade shows, especially those related to foreign trade zone.

Important Lessons

Absorption at the project has not been as aggressive as originally anticipated due to the recession. Other constraints include the 65-year lease which does not appear to be of sufficient length for many companies and the unavailability of vacant building space, which many companies are seeking.

Implications for MSP

This project is a good example of the role of central development entity being played by a city department. The project is also a good example of financing infrastructure with bonds to be retired with land lease revenues.

Glossary of Terms

Affordable: Housing constructed for sale at below-market rate prices, usually possible either through government subsidy or other public incentives.

Bank Financing: Traditional development loan financing through a bank or other financial institution.

City Department: Budgeted divisions of a City government.

Concessionaire: Private, for-profit operator with its own staff and budget, that is contracted by the owner of an enterprise.

Corporate Developer: Any private, for-profit corporation engaged in a primary activity other than real estate development, which pursues such development (either directly or through a subsidiary) as additional investment.

EIS: Environmental or Economic Impact Analysis required by statute prior to development of a real estate project.

Eminent Domain: The right of a government, or in limited cases a private developer, to appropriate private property for public use. Such appropriation usually involves compensation and/or relocation for the owner.

Federal Department: Full department of the U.S. government represented on the President's cabinet.

GO Bonds: General Obligation Bonds, a method of financing public investments through a multi-purpose bond issuance.

ID Bonds: Industrial Development Bonds, issued to finance investment such as public infrastructure targeted for economic or industrial development.

Impact Fees: Charges imposed on private developers for usage of specific public infrastructure or service associated with development, in order to finance construction or operations associated with that infrastructure or service.

Independent Federal Agency: An agency of the U.S. government independent of federal departments, with its own appropriation and staffing.

Infrastructure: Physical structures above or below ground, such as roads, water/sewer lines, and utilities, that serve a public function and are linked to larger networks.

Land Assembly: Research, coordination and negotiation for gathering individual land parcels together in order to develop a larger site.

Land Write Downs: Reductions in the price of land to below market value, often used on publicly-held land as an incentive for private development.

Non-Profit Development Agency: Any land development authority classified as a federal 501(c)(3) private, non-profit corporation that functions independently of the City, State or County government. Often, this agency will have powers beyond those of the government (eminent domain, bond issuance, special taxing authority), but will act in the public interest.

Private Developer: A private, for-profit company engaged in real estate development as its primary activity.

Private Foundation: A private, non-profit organization established to fund charitable activity or otherwise provide a public service, such as independent oversight of government agencies.

Revenue Bonds: Bonds issued by public agencies or private organizations to finance specific uses for a project, particularly water/sewer and other infrastructure improvements.

Special Taxing District: A geographic area determined by a local government where a public agency charges landowners or users a special fee in order to finance public improvements or services within that district.

Streetscape: Streets, sidewalks and accompanying structures and open space that together create an environment for integrated pedestrian and automotive use.

Tax Abatement: A tax reduction, especially on property taxes, for a designated amount over a specified period of time, as an incentive for development.

TIF: Tax Increment Financing. A method used by local governments to finance public investments associated with development in a specific district. Usually, notes or bonds sold by the government are repaid through increases in property tax revenues based on the increase in property values resulting from the development.

Title 1, Block Grants, UDAGs: Federal urban renewal grant programs for cities, used at varying times during the last forty years. Title 1 refers to the U.S. Housing Act, Block Grants are part of the Community Development Block Grant program and UDAGs are Urban Development Action Grants.

MATRIX 1: ORGANIZATION

INSTRUCTIVE CASE	OVERALL	MASTER PLAN	SITE PREP	LAND USE TYPE: RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Inner Harbor (Baltimore)	Non-Profit Development Agency	Non-Profit Development Agency	City: Land Acquistn (Em Domain), Land Assembly, Business Relocation, Clearance, Infrastructure Dev Agency: City Department Coordination	Private Developer (Per Parcel)	Private Developer (Per Parcel)	Private Developer (Per Parcel)	None	City: Aquarium, Convention Center Private Developers: Sports Museum, Hotels
Mud Island (Memphis)	City Department	City Department	City: Provide Land (No Aqstn), Infrastructure, Construction Priv. Foundation: Oversight	None	City: Construction Concessionaire: Operation	None	None	City: Visitor Attraction Private Corporation: Marina/Club
Renaissance Center (Detroit)	Corporate Developer: (Phase I) Private Developer: (Phase II)	Corporate Developer (Site Plan)	Corporate Developer: Land Acquistn, Infrastructure, Construction	None	Corporate Developer	Corporate Developer	None	Private Developer: Hotel
Mission Bay (San Francisco)	Private Developer	Private Developer	Private Developer: Land Acquistn, Environmental, Infrastructure Construct Public Facilities,Park City: Donate Land, Business Relocation Referrals, Rail Station, Construct School	Private Developer: Market Rate, Affordable City: Affordable	Private Developer	Private Developer	Private Developer	Private Developer: Industrial/Flex, Hotel, City: School, Fire/Police Stations Park, Community Facility, Roads

MATRIX 1: ORGANIZATION (Cont.)

INSTRUCTIVE CASE	OVERALL	MASTER PLAN	SITE PREP	LAND USE TYPE: RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Metro Center (Nashville)	Corporate Developer	Corporate Developer	Corporate Developer: Land Acquistn, Land Assembly, Infrastr Levee/Lakes State: Access Road City: Community Center Public Golf Course	Private Developer (Per Parcel)	Corporate Developer	Corporate Developer; Private Developers (Per Parcel)	None	Private Developers: Warehouse/Flex, Theaters
Navy Pier (Chicago)	Non-Profit Development Agency	Non-Profit Development Agency	Park District: Provide Land Federal Agencies: Provide Land State: Provide Land Development Agency: Environmental Infrastructure Bldg Relocation	None	Dev Agency: Construction Concessionaire: Operation	None	None	Dev Agency: Park Construction Exhibition Hall Festival Park Marina Construction Winter Garden Constructio Park District: Park Operation Marina Operation Winter Garden Operation City: Public Safety Private Corporation: Ballroom Operation
Rickenbacker (Columbus)	Non-Profit Development Agency	Non-Profit Development Agency	Dev Agency: Land Transfer Federal: EIS Private Developer: (Primary Leasee) Infrastructure Redevelopment, Site Development	None	Private Developer: Sub-Lease/Sale Per Parcel	Private Developer: Sub-Lease/Sale Per Parcel	Private Developer: Sub-Lease/Sale Per Parcel	Private Developer Sub-Lease/Sale Per Parcel: Manufacturing, Warehouse/Flex
Imeson Industrial Park (Jacksonville)	Private Developer	Private Developer	City: Land Transfer Private Developer: Infrastructure Redevelopment, Site Development	None	None	None	Private Developer: Lease/Sale Per Parcel	Private Developer: Lease/Sale Per Parcel

MATRIX 1: ORGANIZATION (Cont.)

INSTRUCTIVE CASE	OVERALL	MASTER PLAN	SITE PREP	LAND USE TYPE: RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Centreport (Fort Worth)	Private Developer	Private Developer	City: Land Transfer Private Developer: Airport Demolition, Runway Removal, Infrastructure Redevelopment	Private Developer	None	Private Developer	None	Private Developer
Crown Center (Kansas City)	Corporate Developer	Corporate Developer	Corporate Developer: Land Acquisition (Em Domain), Land Assembly, Demolition, Infrastructure (Deeded to City)	Corporate Developer	Corporate Developer	Corporate Developer	None	Corporate Developers: Hotel (Per Parcel)
Pennsylvania Avenue (Washington)	Independent Federal Agency	Independent Federal Agency	Federal Agency: Land Acquisition (Em Domain), Design Financial Planning, Demolition, Infrastructure, Public Spaces, Streetscape	Private Developer (Per Parcel): Market Rate, Affordable	Private Developer (Per Parcel)	Private Developer (Per Parcel); Federal Departments	None	Federal: Trade Center, Arts Programming Private Developers: Hotel, Theaters
Sky Harbor Center (Phoenix)	City Department		City: Land Acquisition, Land Assembly, Infrastructure	None	None	Private Developer (Per Parcel)	None	Private Developer (Per Parcel): Manufacturing
Massachusetts Bio-Tech Research Park (Wooster)	Private Developer		Private Developer: Land Acquisition, Innovation Center, Site Development State: Infrastructure	None	Primary Private Developer	Primary Private Developer	Private Developer (Per Parcel)	Private Developer: Hotel/Conference

MATRIX 1: ORGANIZATION (Cont.)

INSTRUCTIVE CASE	OVERALL	MASTER PLAN	SITE PREP	LAND USE TYPE: RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Mall of America (Bloomington, MN)	Private Developer (Partnrshp)	Private Developer (Site Plan)	City: Site Preparation, Infrastructure, Roads Private Developer: Land Acquisition, Land Assembly, Site Development	None	Private Developer	Private Developer (Per Parcel)	None	Private Developers (Per Parcel): Hotels City: Parking Garages
Forrestal Center (Princeton)	Institutn (Univ)/ Private Developer	Institutn (Univ)/ Private Developer	Institution: Land Acquisition, Site Preparation, Infrastructure	None	Private Developer	Private Developer	Private Developer, Corporate Developers	Private Developer: Conference Ctr
Las Colinas (Dallas)	Private/ Corporate Developer; Contract Management	Private/ Corporate Developer	Private/Corporate Developer: Land Acquisition, Site Preparation, Infrastructure Utility District: Infrastructure in Town Center	Private/ Corporate Developer; Contract Management	Private/ Corporate Developer; Contract Management	Private/ Corporate Developer; Contract Management	Private/ Corporate Developer; Contract Management	Private Developers: Hotel, Recreation

MATRIX I: FINANCING

INSTRUCTIVE CASE	OVERALL	MASTER PLAN	SITE PREP	LAND USE TYPE: RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Inner Harbor (Baltimore)	City, Private Developers (Per Parcel)	Corporate Contributns	City: GO Bonds Federal: Title 1, Block Grants, UDAGs	Private Developer (Per Parcel) Federal: Subsidized Units	Private Developer (Per Parcel)	Private Developer (Per Parcel) Federal: GSA	None	City: GO Bonds State: Capital Budget Federal: Agency Grants Private Developers
Mud Island (Memphis)	City	City Dept Funds	City: GO Bonds Corporate: Sponsorship (Swimming Pool)	None	City Department; Corporate	None	None	City: GO Bonds
Renaissance Center (Detroit)	Corporate Investor; Bank Financing	Corporate Contributns (Site Plan)	Corporate Investor; Insurance Companies (1st Mortgage loan)	None	Corporate; Loan; Major Pre-leasing Commitments	Corporate; Loan; Major Pre-leasing Commitments	None	Private Developer (Hotel)
Mission Bay (San Francisco)	Private Developer	Private Developer	Private Developer: (Bank Financing) Infrastructure (81%), Environmental, Licensure for Port Use, City: Infrastructure (19%) (Agency Funds) Exceptions for Developer Federal: DOT Grants	Private Developer Financing City: Affordable Units (Agency Funds)	Private Developer Financing	Private Developer Financing	Private Developer Financing	Private Developer: Financing (Public Facilities) City: Developer Impact Fees (School)

MATRIX I: ANCING (Cont.)

INSTRUCTIVE CASE	OVERALL	MASTER PLAN	SITE PREP	LAND USE TYPE: RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Metro Center (Nashville)	Corporate Developer	Corporate Funds	Corporate Investor (No Bank Financing) State: Highway (Departmental Capital Budget) City: Land Swap; Community Center, Golf Course (Departmental Capital Budget)	Private Developer	Corporate Developer: Bank Financing (Below Market Rents)	Corporate Developer (Build-to-Suit)	Corporate Developer (Build-to-Suit)	Corporate Developer (Build-to-Suit) Warehouse/Flex
Navy Pier (Chicago)	State	State Budget (In Coop with City)	State: Capital Budget Funds Federal: Park (Agency Grants)	None	State: Capital Budget	None	None	State: Capital Budget (Exhibition Hall, Festival Park, Marina, Parking, Winter Garden) Private Corporation: Capital Funds (Ballroom)
Rickenbacker (Columbus)	Private Developer	City, County	Private Developer: Land Lease, Infrastructure (Bank Financing)	None	Sub-Lease	Sub-Lease	Sub-Lease	Sub-Leases
Imeson Industrial Park (Jacksonville)	Private Developer	Private Developer	Private Developer: Land Acquisition (20-year mortgage) Infrastructure (Bank Financing)	None	None	None	Lease/Sale	Lease/Sale
Centreport (Fort Worth)	Private Developer	Private Developer	City: Refunds of unused Airport monies to FAA Private Developer: Long-Term Lease/ Purchase Agreement (Bank Financing) Infrastructure (Bank Financing)	Private Developer (Bank Financing)		Private Developer (Bank Financing)		

MATRIX I: FINANCING (Cont.)

INSTRUCTIVE CASE	OVERALL	MASTER PLAN	SITE PREP	LAND USE TYPE				
				RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Crown Center (Kansas City)	Corporate Developer	Corporate Funds	Corporate Developer: Land Acquisition, Infrastructure (Bank Financing) City: Property Tax Abatement	Corporate Developer: Bank Financing City: Property Tax Abatement	Corporate Developer: Bank Financing City: Property Tax Abatement	Corporate Developer: Bank Financing City: Property Tax Abatement	None	City: Parking Garage (ID Bonds) Corporate Developer: Hotel
Pennsylvania Avenue (Washington)	Federal Government, Private Developers (Per Parcel)	Federal Approprtns	Federal: Land Acquisition (Treasury Loan), Infrastructure (Appropriations), Historic Presvtn (Agency Grants to Private Developers)	Federal: Land Write Downs/Rebate Incentives Private Developers: Bank Financing (Per Parcel)	Federal: Land Write Downs/Rebate Incentives Private Developers: Bank Financing (Per Parcel)	Federal: Land Write Downs Private Developers: Bank Financing (Per Parcel)	None	Federal: Trade Center (GSA Budget) Private Developers: Hotel (Bank Financing) (Per Parcel)
Sky Harbor (Phoenix)	City, Private Developers (Per Parcel)	City Dept Budget	City: Land Acquisition (GO Bonds), Infrastructure (Revenue Bonds- Repayment thru Land Leases) Federal: Land Acquisition (FAA Budget)	None	None	Private Developer (Per Parcel)	None	Private Developer (Per Parcel): Manufacturing
Massachusetts Bio-Tech Research Park (Wooster)	State, Private Developers (Per Parcel)	University Endowment	State: Infrastructure (Agency Grants) Federal: Infrastructure (EDA Grants) Private Developer: Bank Financing	None	Private Developer Financing	Private Developer (Leases)	State: Speculative Construction (Taxable IR Bonds; 2nd Mortgage Thru Lender Consortium) Private Devlper: Leases	Corporate Developer: Hotel/Conference

MATRIX I: FINANCING (Cont.)

INSTRUCTIVE CASE	OVERALL	MASTER PLAN	SITE PREP	LAND USE TYPE				
				RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Mall of America (Minneapolis)	Private Developer	Private Developer (Site Plan)	City: Land Donation (G.O. Bonds), Infrastructure (TIF Revenue Bonds, Develpr Note, Reserves) State: Transit Station (Agency Grant), Share of G.O.Bonds Private Developer: Bank Financing	None	Private Developer: Bank Financing	Private Developer: Bank Financing (Per Parcel)	None	Private Developer: Bank Financing (Per Parcel)
Forrestal Center (Princeton)	University Endowment	University Endowment	Instn (Univ): Land Acquisition, Site Prep, Infrastructure (Endowment, Pre-Paid Leases) Corporate Funds	None	Private Developers	Private Developer	Private Developer; Corporate Funds	Private Developers
Las Colinas (Dallas)	Private/ Corporate Developer	Private/ Corporate Developer	Priv/Corp Developer: Land Acquisition, Site Prep, Infrastructure (Bank Financing) Utility District: Infrastructure in Town Center (Bonds, Taxes)	Private Developer: Bank Financing	Private Developer: Bank Financing	Private Developer: Bank Financing	Private Developer: Bank Financing	Private Developer: Bank Financing

MATRIX 1: MARKETING

INSTRUCTIVE CASE	OVERALL	LAND USE				
		RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Inner Harbor (Baltimore)	Non-Profit Development Agency, State Econ Development (At Project Start)	Private Developer (Per Project)	Private Developer, State Dept of Commerce .	Private Developer (Per Project)	None	Private Developer, State Dept of Commerce City Economic Development
Mud Island (Memphis)	City: TV, Radio, Newspaper, Billboards in 500-mile market	None	Corporate Marketing Budget	None	None	None
Renaissance Center (Detroit)	Private Management Company: Contracts with PR, Advertising Firms	None	Private Management Company: Contracts with PR, Advertising Firms	Private Management Company: Contracts with PR, Advertising Firms	None	Corporate Marketing Budget: Hotel
Mission Bay (San Francisco)	Private Developer Marketing Budget	Private Developer	Private Developer	Private Developer	Private Developer	Private Developer; Corporate Marketing Budget: Hotel
Metro Center (Nashville)	Corporate Developer On-Site Marketing Office (Brokerage Originally)	Private Developer	Corporate Developer On-Site Marketing Office (Originally)	Corporate Developer On-Site Marketing Office (Brochure, Magazine)	Corporate Developer On-Site Marketing Office	Corporate Developer On-Site Marketing Office

MATRIX 1: MARKETING (Cont.)

INSTRUCTIVE CASE	OVERALL	LAND USE				
		RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Navy Pier (Chicago)	Non-Profit Development Agency Marketing Budget	None	Corporate Concessionaire	None	None	Non-Profit Development Agency Marketing Budget
Rickenbacker (Columbus)	Non-Profit Development Agency Marketing Budget (Brochures, Ind Dev Pubs)	None	Primary Private Developer (Sites)	Primary Private Developer (Sites)	Primary Private Developer (Sites)	Primary Private Developer (Sites)
Imeson Industrial Park (Jacksonville)	Private Developer Marketing Budget	None	None	None	Private Developer (Sites)	Private Developer (Sites)
Centreport (Fort Worth)	Private Developer (Prmotional Materials, Personal Contacts)	Private Developer Marketing Budget	None	Private Developer (Spec Space Built as "Seed" Promotion)	None	Private Developer
Crown Center (Kansas City)	Corporate Developer Marketing Division (Feature Magazine Articles, Contacts)	Corporate Developer Marketing Sub-division	Corporate Developer Marketing Sub-division	Corporate Developer Marketing Sub-division	None	Corporate Developer: Marketing Sub-division Hotel Developer
Pennsylvania Avenue (Washington)	Federal Agency: Marketing Budget (Report, Events, Speeches)	Private Developer Cooperative	Private Developers (Per Project)	Private Developers (Per Project)	None	Hotel Developer Marketing Budget

MATRIX 1: MARKETING (Cont.)

INSTRUCTIVE CASE	OVERALL	LAND USE				
		RESIDENTIAL	RETAIL	OFFICE	R/D	OTHER
Sky Harbor (Phoenix)	City Department: Trade Shows; Contract with Private Marketing Company (Brochures, Newsletter)	None	None	City Department: Trade Shows; Contract with Private Marketing Company (Sites) Private Developer	None	City Department: Trade Shows; Contract with Private Marketing Company (Sites) Private Developer
Massachusetts Bio-Tech Research Park (Wooster)	Private Developer	None	Private Developer Marketing Budget	Private Developer Marketing Budget	Private Developer (Manufacturing) Marketing Budget	Corporate Developer: Hotel
Mall of America (Minneapolis)	Private Developer On-Site Marketing Office	None	Private Developer On-Site Marketing Office	Private Developer On-Site Marketing Office	None	Private Developer On-Site Marketing Office
Forrestal Center (Princeton)	Private Developer	None	Private Developer	Private Developer	Private Developer	Private Developer
Las Colinas (Dallas)	Contract Management	Contract Management (Local)	Contract Management (Local)	Contract Management (National-Brochures, Site Visits)	Contract Management (National-Brochures, Site Visits)	Contract Management

MATRIX 2: PARKWAY DESIGN CONCEPT

Type of Strategy	Overall	Master Plan	Site Prep	Land Use: R/D Office	Residential: Standard	Residential: Affordable	"Mixed Use Employment District": Retail	"Mixed Use Employment District": Flex	Major Open Space: Revenue-Generating	Major Open Space: Non-Revenue Generating
Organization	Corp Developer (5) Instl Devlpr (Univ) (14) Priv Devlpr (2)(3) Non-Profit Dev Agcy (1)	Non-Profit Dev Agency (1) City/County Dept (8) Instl Devlpr (14)	Non-Profit Dev Agency (9) Priv Devlpr: Per Site Overall (1)(2) Corp Devlpr (5) City/Co Dept (4) Contract Devlpr Pub-Priv Joint Venture	Instl Devlpr (Univ/Consortm) Univ/Priv Devlpr Partnership (14) Corp User/Devlpr (5) Specl Dev Corp Pub-Priv Joint Venture	Priv Devlpr (11) Corp Devlpr (13)	Non-Profit Dev Agency Priv Devlpr (6) City/Co Dept (6)	Experienced Priv Devlpr (12) Pub-Priv Joint Venture	Priv Devlpr: Lease/Sale Per Site (1)(2)(3) Corporate User/Devlpr (5) Non-Profit Dev Agency	Regl Authrty (5) Priv Developer (8) Priv Developer-Pub Operator (6) Pub Developer-Priv Operator (8)*	Regl Authrty (9)
Financing	Special Tax District Foundation Corporate City/County State Institution (Univ)	City/County (1) State (14) Fed (EDA) Corp Contribtn (12)	Special Tax District (13) GO Bonds (14)(15)(12) TIF (15) Priv Devlpr (1)(2) Revnue Bonds (4) Pre-Paid Lease (4) Fed (EDA) (14)(16) Corp Equity (10) State (14)(9)	Priv Developer Financing (14) Fed Rsch Ctr (12) Corp Rsch Ctr (14) Univ/State R Ctr (14)	City/Co/State Catalyst Priv Devlpr Financing (11)	Impact Fees Housing Swap (6) Land WriteDown (16) Low-Interest Govt Loans City/County Tax Abatement (13)	Priv Devlpr Financing (15)	Priv Financing (4)(2) Priv/Corp Equity Tax Abatement Pub Loans/Grants ID Bonds	Revenue Bonds Priv Financing (12) GO Bonds (8)	Impact Fees GO Bonds Revenue Bonds Priv Financing (6) Corp Sponsrshp (8) State (9)
Marketing	Dev Entity: Contract Mrktg Firm (10)(11) In-House Staff (1)(2)(3) Econ Dev Agcy (12)	City/Co Dept (6) Priv Developer Institl Devlpr (14)	(Not Applicable)	Dev Entity: Contract Mrktg Firm (10) In-House Staff (3) Econ Dev Agcy (12) Rsch Faculty Tech Trnsfr Ctr (14)	Dev Entity: Contract Mrktg Firm (12) Brokers (11) In-House Staff (6)	Dev Entity: Contract Mrktg Firm Brokers In-House Staff (6)	Dev Entity: Contract Mrktg Firm (10) Brokers In-House Staff (5)	Overall Devlpr (5) Site Developer Econ Dev Agcy (2)	Operating Entity (9)	Regl Authority (8)

Case Study Key

(1) Rickenbacker
(2) Imeson I.P.
(3) Centreport
(4) Sky Harbor Center
(5) Metro Center
(6) Mission Bay
(7) (HAC)
(8) Hud Island
(9) Navy Pier
(10) Renaissance Center
(11) Las Colinas
(12) Inner Harbor
(13) Crown Center
(14) Mass Bio-Tech Research Park
(15) Hall Of America
(16) Pennsylvania Avenue
(17) Forrestal Center

* Note: Former Private Operation

MATRIX 2: NEW NEIGHBORHOODS DESIGN CONCEPT

Type of Strategy	Overall	Master Plan	Site Prep	Land Use: R/D Office	Land Use: Residential Standard	Land Use: Residential Affordable	Land Use: Major Open Space Major Revenue-Generating	Land Use: Major Open Space Non-Revenue Generating
Organization	Corp Developer (5) Instl Developer (Univ) (14) Priv Devlpr (2)(3) Non-Profit Dev Agcy (1)	Non-Profit Dev Agcy (1) City/County Dept (8) Instl Devlpr (14)	Non-Profit Dev Agcy (9) Priv Devlpr: Per Site Overall (1)(2) Corp Devlpr (5) City/Co Dept (4) Contract Devlpr Pub-Private Joint Venture	Instl Developer (Univ/Consortm) Univ/Priv Devlpr Partnership (14) Corp User/Devlpr (5) Specl Dev Corp Pub-Priv Joint Venture	Priv Devlpr (11) Corp Devlpr (13)	Non-Profit Dev Agency Priv Devlpr (6) City/Co Dept (6)	Non-Profit Dev Agcy (9) Regl Authrty Priv Devlpr (12) Priv Devlpr-Pub Operator (12) Pub Devlpr-Priv Operator (8)*	Regl Authority (9)
Financing	Special Tax District Foundation Corporate City/County State Instn (Univ)	City/County (1) State (14) Fed (EDA) Corp Contribtn (12)	Special Tax District (13) GO Bonds (14)(15)(12) TIF (15) Priv Devlpr (1)(2) Revnue Bonds (4) Pre-Paid Lease (4) Fed (EDA) (14)(16) Corp Equity (10) State (14)(9)	Priv Developer Financing (14) Fed Rsch Ctr (12) Corp Rsch Ctr (14) Univ/State R Ctr (14)	City/Co/State Catalyst Priv Devlpr Financing (11)	Impact Fees Housing Swap (6) Land WriteDown (16) Low-Interest Govt Loans City/County Tax Abatement (13)	Revenue Bonds Priv Financing (12) GO Bonds (12)(8) State Grants (12) Fed Grants (12)	Impact Fees GO Bonds Revenue Bonds Priv Financing (6) Corp Sponsrshp (8) State (9)
Marketing	Dev Entity: Contract Mrktg Firm (10)(11) In-House Staff (1)(2)(3) Econ Dev Agcy (12)	City/Co Dept (6) Priv Developer Institnl Devlpr (14)	(Not Applicable)	Dev Entity: Contract Mrktg Firm (10) In-House Staff (3) Econ Dev Agcy (12) Rsch Faculty Tech Trnsfr Ctr (14)	Dev Entity: Contract Mrktg Firm (12) Brokers (11) In-House Staff (6)	Dev Entity: Contract Mrktg Firm Brokers In-House Staff (6)	Operating Entity (9) Econ Dev Agcy (12)	Regl Authrty (8)

Case Study Key

(1) Rickenbacker
(2) Imeson I.P.
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(7) (MAC)
(8) Mud Island
(9) Navy Pier
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(15) Mall Of America
(16) Pennsylvania Avenue
(17) Forrestal Center

* Note: Former Private Operation

MATRIX 2: COMPACT DEVELOPMENT DESIGN CONCEPT

Type of Strategy	Overall	Master Plan	Site Prep	Land Use: "High-Tech Park" R&D/ Office	Land Use: "Town Center" Retail/Office/Residential	Land Use: Residential Standard	Land Use: Residential Affordable	Major Open Space: Revenue-Generating	Major Open Space: Non-Revenue Generating
Organization	Corp Developer (5) Instl Developer (Univ) (14) Priv Devlpr (2)(3) Non-Profit Dev Agcy (1)	Non-Profit Dev Agcy (1) City/County Dept (8) Instl Devlpr (14)	Non-Profit Dev Agcy (9) Priv Devlpr: Per Site Overall (1)(2) Corp Devlpr (5) City/Co Dept (4) Contract Developer Pub-Private Joint Venture	Instl Developer (Univ/Consortm) Univ/Priv Devlpr Partnership (14) Corp User/Devlpr (5) Specl Dev Corp Pub-Priv ate Joint Venture	Experienced Priv Developer Pub-Private Joint Venture Corp Developer	Priv Devlpr (11) Corp Devlpr (13)	Non-Profit Dev Agency Priv Developer (6) City/Co Dept (6)	Regl Authority (5) Priv Devlpr (8) Priv Developer-Pub Operator (6) Pub Developer-Priv Operator (8)*	Regl Authority (9)
Financing	Special Tax District Foundation Corporate City/County State Institution (Univ)	City/County (1) State (14) Fed (EDA) Corp Contribtn (12)	Special Tax District (13) GO Bonds (14)(15)(12) TIF (15) Priv Devlpr (1)(2) Revnue Bonds (4) Pre-Paid Lease (4) Fed (EDA) (14)(16) Corp Equity (10) State (14)(9)	Priv Developer Financing (14) Fed Rsch Ctr (12) Corp Rsch Ctr (14) Univ/State R Ctr (14)	Priv Developer Financing (11) Specl Tax District (11) Pre-Paid Leases Land WriteDown (16) Corp Equity TIF ID Bonds (Parking) Tax Abatement (13)	City/Co/State Catalyst Priv Developer Financing (11)	Impact Fees Housing Swap (6) Land WriteDown (16) Low-Interest Govt Loans City/County Tax Abatement (13)	Revenue Bonds Priv Financing (12) GO Bonds (8)	Impact Fees GO Bonds Revenue Bonds Priv Financing (6) Corp Sponsrshp (8) State (9)
Marketing	Dev Entity: Contract Mrktg Firm (10)(11) In-House Staff (1)(2)(3) Econ Dev Agcy (12)	City/Co Dept (6) Priv Developer Institl Developer (14)	(Not Applicable)	Dev Entity: Contract Mrktg Firm (10) In-House Staff (3) Econ Dev Agcy (12) Rsch Faculty Tech Trnsfr Ctr (14)	Dev Entity: Contract Mrktg Firm (10) In-House Staff (3) Econ Dev Agcy (12)	Dev Entity: Contract Mrktg Firm (12) Brokers (11) In-House (3) Dev Entity: Contract	Dev Entity: Contract Mrktg Firm Brokers In-House Dev Entity: Contract	Operating Entity (9)	Regl Authority (8)

Case Study Key

(1) Rickenbacker
(2) Ameson I.P.
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PART IV. Site Preparation Costs as Part of the Public/Private Development Strategy

The reuse of the large, well located MSP property will occur over many years, involve many public and private development entities, and at any single point in time, will likely have new development and the clearance and site preparation required for the new development going on at several different locations within the large total property.

What follows is first, a brief discussion as to how clearance and site preparation aspects are considered by the potential development entity in a large, long-term development project and then, a discussion of the implications for MSP reuse.

Background on Large Project Financial Decisions

In public, public/private and private development projects of a large size, cash flow, profitability and value creation are the important financial measures. Cash flow is the "check book balance" dimension to project financial planning and analysis and measures whether the cash flowing into the project and the cash-on-hand are adequate to meet the cash requirements. Cash requirements include cash required for operations, financing and outside construction and development service contracts.

The decision has not been made as to what uses will ultimately be contained at the MSP property or the organizational approach which will be used for development purposes. The most logical concept would certainly have a single entity with control of the site, implementing a plan approved by the region and making arrangements with other development entities to develop the parts of the total MSP project when the controlling entity deemed were the most beneficial way to get the job done.

This controlling development entity would work to implement the strategy necessary to achieve the agreed upon plan. This strategy would set forth the actions required to implement the plan, who should be responsible for carrying out each action, when within the total development schedule it should take place and the sources and availability of operating and capital financing required to achieve the particular action or set of actions.

An essential requirement of the controlling development entity would be that it optimize the cash flow from total operations. Since the MSP plan alternatives to date all show substantial land in open space and other non income producing uses, the optimized cash flow would certainly need to include special purpose and general

purpose public funding as well as private equity and private borrowings amortized by the cash generated by the project.

When a controlling development entity seeks to optimize cash flow, it makes expenditures only when needed to generate the development which will most fully meet the market; or when making improvements today is more cost effective than making them tomorrow, and there is cash flow available to carry these cost effective improvements for the future.

The controlling development entity implementing the publically approved plan for MSP reuse will incorporate into its strategy for implementing the plan consideration of the very large size of the tract, the pace at which the private market is absorbing and can be expected to absorb the various kinds of real estate product incorporated in the adopted plan and the availability and timing of the public funding which is required.

The public funding will likely come from local, state and federal sources and there may be other non profit funding from foundations and institutions. Some of this funding will come from programs specifically set up to encourage economic development. Some of the public funding may be in the form of a grant, with no repayment required. Other public funding will be loans to the project to be repaid from available cash flow. But much of the public funding can best be termed an "investment" justified by the fact that the revenues which will be generated to the governmental units involved through real estate, excise and other taxes, directly and indirectly, will provide a return on the capital.

It is likely that the development strategy carried out by the controlling development entity as approved by the appropriate public bodies will seek to limit public financial participation and this may limit the pace of implementation to a pace slower than the private market absorption can support. If this occurs it will likely be because of competition for public funding.

The controlling development entity will respond to the essential need to optimize cash flow by proposing expenditures only when they have a financing source in place and, in the case of the expenditures to be covered by income from the project, when it is probable that income can be generated in immediate response to the public expenditure.

Implications for MSP Reuse Evaluation

In determining the implementation strategy the controlling development agency, in response to the requirement to optimize cash flow, will phase the project both geographically (parts of the total property) and chronologically (which projects in which years).

An important consideration in this geographic and chronological phasing will be the potential for using existing buildings, equipment and infrastructure as permanent parts of the plan or to generate income from "interim use" in the period before conversion to permanent use. This reuse potential of certain areas and the site preparation cost of others will be important inputs to the phasing.

Cash flow optimization will require that site preparation and improvement of any part of the MSP property only occur when there is financing available and the site preparation and improvement is essential to achieving private development which the market is ready to absorb or public development of non income supporting activities which the public has decided to undertake.

The controlling development entity then will select those buildings on the MSP property which can generate income in the short-term through leasing for other activities to capture this potential income source. They will select those geographic parts of the total property which have short-term market potential and where the site preparation costs are relatively less. These parts would logically be undeveloped areas of the site with access and utility proximity. This approach is the same approach which would be taken with any large development tract.

Because of the incremental, phased approach which must be used for the development of any large tract like MSP, the concept of estimating now the total cost of the site preparation and clearing does not have much utility because that is not how the implementation would take place. Rather this clearing and site preparation would take place only as needed and as justified by reuse potential over a twenty- to thirty-year period. There would be substantial project income, public revenue and other public benefit generated by the part of the adopted plan implemented during each time phase. Thus the estimating of total gross clearance and site preparation cost for the entire project is not very helpful. Much of this cost would be financed with project revenues and tax revenues from the phase of the development during which the clearance and site preparation costs were incurred. For many phases of the project, there will be no net clearance and site preparation costs, but rather a positive cash flow. For other parts of the project, the reuse of existing facilities will be permanent and there will be no major clearance and site preparation cost. For yet other parts of the project, important income will be generated from reuse of construction materials reclaimed through the clearance and site preparation for a particular phase. And for yet others, such as hazardous waste areas, funding for clean up and site preparation will necessarily come from the entity legally responsible for creating the problem.

Some discussion of examples may be helpful. In the case of the Fort Worth airport the private developer serving as the central development entity determined that by purchasing a "grinder" he could finance the cost of removing the parts of the runway that required removal for the completion of each phase by selling the ground-up aggregate for road and other heavy construction in the region.

Preliminary architectural studies at the Denver Stapleton Airport indicate that all air freight, aircraft maintenance and storage and related buildings have potential for warehouse, distribution and light industrial reuse. Local community college, college and manpower training institutions have indicated interest in converting the terminal and its supporting parking structure into a suburban educational complex and the preliminary architectural studies are supportive of this use.

In the Fort Worth case and proposed in the Stapleton case, clearance and site preparation cost would only be incurred in a particular phase when there was financing available and market absorption and private cash flow potential achievable by that phase.

Thus, the total dollars required for clearance and site preparation at the total MSP property will come from many public and private sources over many years. The various phases of this total clearance and site preparation will be carried out only when the combination of public funding and private revenue generation potential justifies the investment. There will be revenues from interim and permanent reuse for areas which will not require change.

The importance of MSP reuse financially is most importantly not cost but rather the important role which the development of this large well located tract can have on enhancing the competitive position and success of the region.

When cost is viewed, however, it is important that gross cost of all clearance and site improvement not be used as a measure. This "cost" would be incurred by many different public and private entities over many years with much of it being returned through project revenues and public fiscal benefits.

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