MINNEAPOLIS/ST. PAUL INTERNATIONAL AIRPORT

ASSESSMENT OF ENVIRONMENTAL EFFECTS METROPOLITAN AIRPORTS COMMISSION'S SEVEN YEAR CAPITAL IMPROVEMENT PLAN 1994-2000

FOR THE
METROPOLITAN AIRPORTS COMMISSION

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ASSESSMENT OF ENVIRONMENTAL EFFECTS

Minneapolis/St. Paul International Airport
Metropolitan Airports Commission Seven Year Capital Improvement Plan

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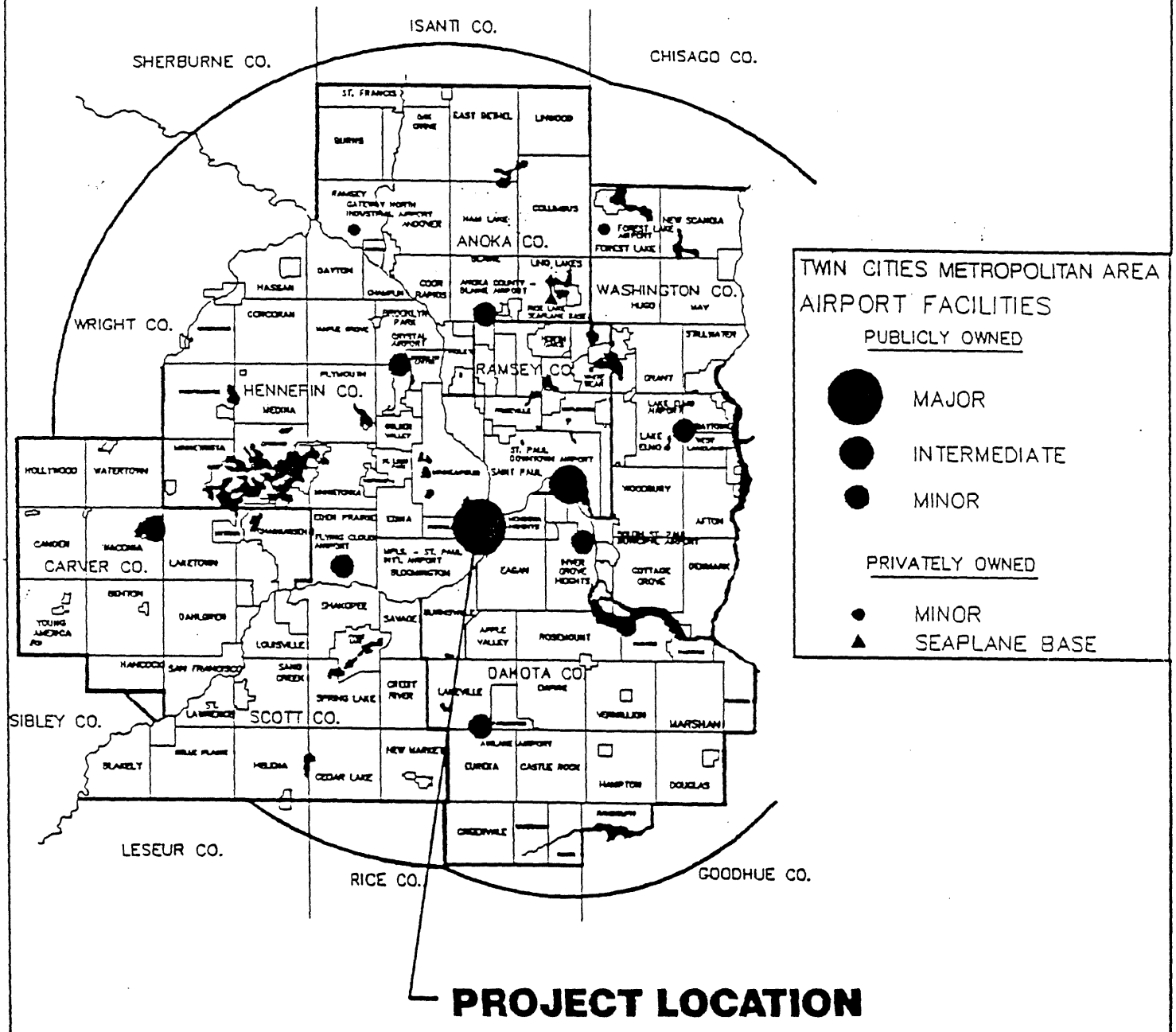

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ASSESSMENT OF ENVIRONMENTAL EFFECTS

Minneapolis/St. Paul International Airport
Metropolitan Airports Commission Seven Year Capital Improvement Plan

A. INTRODUCTION

This report, prepared in response to the requirements of Minnesota Statutes 1986, Chapter 473, amended by Minnesota Statutes 1988, Chapter 664, presents an assessment of the environmental effects of projects in the Metropolitan Airports Commission's Seven-Year Capital Improvement Plan (1994-2000) for Minneapolis-St. Paul International Airport.

This assessment examines the cumulative environmental effects of all the listed capital improvement projects at the airport from 1994 to 2000. Many of the projects listed entail only repair or rehabilitation of existing facilities. Such work would not affect the before/after usage of the facilities, and as such would not add to or subtract from the cumulative environmental effects. The anticipated measurable effects during construction are discussed in general terms under Paragraph C. The projects included in the cumulative evaluation are those that have the potential of altering, creating, or in some manner affecting the environmental impact categories listed below.

IMPACT CATEGORIES USED TO ASSESS ENVIRONMENTAL EFFECTS

Aircraft Noise

The types of projects which might impact the effects of noise on the environment are new or lengthened runways, new or lengthened taxiways, new maintenance hangars, additional aircraft gates or facilities that may increase operations, and noise insulation and other noise mitigation measures.

Vehicular Traffic

The types of projects which might impact the effects of traffic at the airport or to the surrounding community are new buildings or building additions, new parking spaces or structures, and new or modified roadways or roadway systems.

Air Quality

Air quality impacts at the airport will be primarily caused by changes in vehicular or aircraft activity. Projects which might have an impact will generally be the same projects which affect aircraft noise or vehicular traffic.

Water Quality

Projects which might affect water quality are those which create additional runoff (new pavements or buildings), fire suppression systems, new retention basins, or projects which might affect the groundwater.

Light Emissions

Projects evaluated under this category are airport beacons, lights associated with new runways or taxiways and lights associated with new roadways, parking lots, or ramps.

Sewage

Those projects which have the potential to increase sewage discharged into the sanitary sewer system are new or expanded buildings or other changes that significantly alter the number of people using a facility.

Wetland Impact

All projects are evaluated to see if they would entail the full or partial filling of wetlands.

Residential Relocation Impacts

Residential relocation impacts are associated with land acquisition projects that will displace occupied residential units.

B. PROJECTS WITH POTENTIAL ENVIRONMENTAL EFFECTS

Table 1 is a listing of all the projects included in the MAC's Capital Improvement Plan for the years 1994 through 2000. Those projects determined to not contribute to the cumulative environmental effects at the airport are so noted on Table 1 with a numerical code. The notations are coded by number in order to better explain the type of work the project entails and why this type of project will not contribute to the cumulative environmental effects. As further discussed in the next section, environmental effects of construction activities will also be controlled.

TABLE 1
MINNEAPOLIS / ST. PAUL INTERNATIONAL AIRPORT
METROPOLITAN AIRPORTS COMMISSION

See Notes	Project Description	1994	1995	1996	1997	1998	1999	2000
	FIELD & RUNWAYS							
*	Airfield Drainage Strip Removals		$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	
^ *	Airside Bituminous Construction	$250,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
(3)	Apron Lighting Upgrade	$250,000						
(1)	Electrical Modifications		$100,000		$100,000		$100,000	
(1)	Miscellaneous Construction	$350,000	$275,000	$275,000	$275,000	$275,000	$275,000	$275,000
(1)	Pavement Rehabilitation – Aprons, Taxiways, etc.	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000
(1)	Pavement Overlay – Runway 11L / 29R Seg. 2			$1,000,000				
(1)	Pavement Rehabilitation – Runway 11R / 29L		$2,600,000				$11,500,000	$23,500,000
(1)	Pavement Rehabilitation – Runway 4 / 22 Seg. 3				$10,200,000			
(1)	Pavement Rehab. – 4 / 22 & 11R / 29L Intersection		$800,000					
^ * *	Runway 4 / 22 Extension	$12,500,000						
^ * *	Runway 4 / 22 Noise Mitigation	$4,500,000	$4,500,000	$4,500,000	$4,500,000	$4,500,000		
(1)	Runway Tunnel / Tunnel Ventilation Rehabilitation	$100,000						
*	Storm Water Collection and Treatment System	$1,500,000	$5,000,000	$8,000,000	$25,000,000	$25,000,000	$25,000,000	
^ *	Taxiway B Construction						$6,000,000	$10,000,000
^ * *	Taxiway C / D Complex	$14,500,000						
	FIELD & RUNWAYS SUBTOTALS	**$36,450,000**	**$17,775,000**	**$18,275,000**	**$44,575,000**	**$34,275,000**	**$47,375,000**	**$36,775,000**
	ENVIRONMENTAL							
^ * *	Home Insulation / Home Buyouts	$11,400,000	$14,500,000	$17,300,000	$18,000,000	$18,000,000	$18,000,000	$18,000,000
^ * *	New Ford Town / Rich Acres Acquisition	$23,000,000	$23,800,000	$8,700,000				
^ *	School Noise Abatement Projects		$4,000,000	$4,000,000	$4,000,000	$4,000,000	$4,000,000	
^ *	Noise Suppressor	$6,000,000						
	ENVIRONMENTAL SUBTOTALS	**$40,400,000**	**$42,300,000**	**$30,000,000**	**$22,000,000**	**$22,000,000**	**$22,000,000**	**$18,000,000**
	SELF–LIQUIDATING							
(3)	NWA Concourse Modifications		$1,000,000					
	SELF–LIQUIDATING SUBTOTALS	**$0**	**$1,000,000**	**$0**	**$0**	**$0**	**$0**	**$0**

NOTES:

^ Items discussed in previous Assessment of Environmental Effects.

* The items marked with an asterisk have potential effects that are discussed in the text.

* * Projects which are covered in the text and also in other environmental d[illegible]ments (EA/EIS/EAW).

(1) A rehabilitation project which does not physically alter the original size.

(2) An electrical or mechanical device that monitors or indicates existing conditions.

(3) A structural, mechanical or electrical modification that does not increase size or passenger capacity.

TABLE 1
MINNEAPOLIS / ST. PAUL INTERNATIONAL AIRPORT
METROPOLITAN AIRPORTS COMMISSION

See Notes	Project Description	1994	1995	1996	1997	1998	1999	2000
	LANDSIDE							
(3)	Airport Security System Modifications	$50,000						
(1)	Auto Rental Building Refurbishing			$500,000				
^ * *	Automated People Movement System	$9,800,000	$7,000,000					
(1)	Communications / Operations Center Modifications	$400,000						
*	Commercial Vehicle Passenger Shelter			$2,000,000				
(1)	Concession Area Development	$500,000	$4,000,000					
^ * *	Elevated Roadways Construction		$6,900,000					
(3)	Fuel Farm Fire Supression System		$1,000,000					
*	Fuel Handling, Treatment and Storage Facility		$150,000					
^ * *	Ground Trans Center Finishes		$2,100,000					
(1)	Green Concourse Insulation Removal		$400,000					
(3)	Green Concourse Interior Rehabilitation		$500,000					
^ *	Green Concourse Mechanical Systems Conversion		$3,350,000					
^ *	Ground Level Roadways Construction			$1,800,000				
(1)	Humphrey Terminal Carpeting	$100,000						
(1)	In / Out Bound Roadway Signage Revisions	$400,000						
(1)	Incinerator Building Retrofit			$100,000				
(3)	Informational / Directional Signage Adjustments	$50,000		$50,000		$50,000		$50,000
*	Landside Bituminous Construction	$430,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000
*	Lindbergh Terminal Alternative Cooling System		$4,000,000			$2,000,000		
(3)	Lindbergh Terminal Electrical Modifications	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
(3)	Lindbergh Terminal Interior Rehabilitation	$500,000	$500,000	$500,000	$500,000	$500,000		
(3)	Lindbergh Terminal Mechanical Modifications	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000
(3)	Lindbergh Terminal Miscellaneous Modifications	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000
(3)	Lindbergh Terminal Office Modifications	$150,000						
(3)	Lindbergh Terminal Seating Replacement	$100,000						

NOTES:

^ Items discussed in previous Assessment of Environmental Effects.

* The items marked with an asterisk have potential effects that are discussed in the text.

* * Projects which are covered in the text and also in other environmental documents (EA/EIS/EAW).

(1) A rehabilitation project which does not physically alter the original size.

(2) An electrical or mechanical device that monitors or indicates existing conditions.

(3) A structural, mechanical or electrical modification that does not increase size or passenger capacity.

TABLE 1
MINNEAPOLIS / ST. PAUL INTERNATIONAL AIRPORT
METROPOLITAN AIRPORTS COMMISSION

See Notes	Project Description	1994	1995	1996	1997	1998	1999	2000
	LANDSIDE (Continued)							
(3)	Parking Ramp Exit Booth Replacement	$150,000						
(3)	Parking Structure Rehabilitation	$550,000		$500,000		$500,000		$500,000
(3)	Primary Distribution System Upgrade – Phase 3		$1,000,000					
^ *	Public Safety Storage Building	$270,000						
*	Revenue Control Building Addition		$300,000					
^ *	Terminal Area Equipment Storage Building		$400,000					
(3)	Terminal Complex Sprinkler System Additions	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
^ *	Trades Shop Building		$2,000,000					
(3)	Tug Drive Concrete Sealing	$250,000	$250,000					
*	Valet Car Wash			$600,000				
(1)	Valet Mechanical Consolodation	$1,000,000						
(3)	West Terminal Area Rehabilitation		$100,000		$100,000		$100,000	
	LANDSIDE SUBTOTALS	$15,300,000	$34,750,000	$6,850,000	$1,400,000	$3,850,000	$900,000	$1,350,000
	YEARLY TOTALS	**$92,150,000**	**$95,825,000**	**$55,125,000**	**$67,975,000**	**$60,125,000**	**$70,275,000**	**$56,125,000**

NOTES:

^ Items discussed in previous Assessment of Environmental Effects.

* The items marked with an asterisk have potential effects that are discussed in the text.

* * Projects which are covered in the text and also in other environmental documents (EA/EIS/EAW).

(1) A rehabilitation project which does not physically alter the original size.

(2) An electrical or mechanical device that monitors or indicates existing conditions.

(3) A structural, mechanical or electrical modification that does not increase size or passenger capacity.

C. IMPACTS DURING CONSTRUCTION

As noted, it is assumed in this assessment that normally practiced mitigation measures will be used during construction to minimize adverse environmental effects caused by noise, dust, erosion, etc. Since the environmental effects during construction will be of a temporary nature, they have not been included in the cumulative, long-term effects of the CIP.

It is recognized that the planned lengthening of Runway 4/22 and the rehabilitation of Runway 11R/29L and Runway 4/22 during the seven year program will require rerouting of air traffic for temporary periods. The pavement rehabilitation for the Runway 4/22 and 11R/29L intersection will have the greatest impact as it will temporarily eliminate the use of two runways. The rerouting of traffic for the various projects will cause temporary changes in overflight noise levels. The greater noise levels from more flights concentrated on one or two of the three runways will be partially offset by reduced levels under the approaches of the runway(s) temporarily out-of-service for repair/rehabilitation. In addition, MAC, working with the Metropolitan Aircraft Sound Abatement Council (MASAC), will utilize whatever noise control/reduction measures are feasible during construction of the runway repair/rehabilitation projects, including:

1) Scheduling the work during the closed window season to the extent feasible.

2) Requiring longer working days and weeks by the contractors to expedite the work.

3) Balancing the effects of night construction noise with aircraft operating noise.

4) Enforcing stringent penalties on contractors for delays in work.

D. CUMULATIVE ENVIRONMENTAL EFFECTS

Following is a summary of the cumulative environmental effects by impact category. Appendix A contains an analysis of environmental effects on a project-by-project basis.

D.1 Aircraft Noise

Analysis of MAC's Capital Improvement Plan on a project-by-project basis found several projects that may impact the noise environment at/near the airport. These projects can be grouped into three general categories. The first group consists of projects that may produce a minor increase in aircraft noise. This group includes only the Taxiway B Construction.

The second group consists of projects that should produce a reduction in aircraft noise reception. This group includes Runway 4/22 noise mitigation, home insulation and buyouts, New Ford Town/Rich Acres acquisition, school noise abatement

projects and the Noise Suppressor.

The third grouping consists of projects that will produce a definite change in noise. The only project in this grouping is the Runway 4/22 Extension.

In order to determine the cumulative environmental effects of the CIP on noise, the cumulative effects for each group were first determined, and the effects of each group were then combined for an overall effect.

As discussed in Appendix A, the project in the first group is expected to have only insignificant noise impacts. The Taxiway B construction should not increase operations because the number of taxiing aircraft along Runway 11R/29L will not change. Because the residents of the new Ford Town and Rich Acres neighborhoods of Richfield will be relocated for noise abatement *(See Section I.F)*, the slight noise impact on the closest residential areas will be temporary and persist only until all residents have been relocated from these neighborhoods.

The cumulative overall impact on noise from the first group of projects is, therefore, judged to be an insignificant to very minor increase, for a relatively short period of time.

For the second group, the cumulative effects of the home insulation and buyout and New Ford Town/Rich Acres acquisition are summarized in Sections I.E and I.F of Appendix A. This indicates that there would be a significant positive impact to the environment concerning aircraft noise, primarily because of land use changes and corrective measures. An analysis of the Noise Suppressor *(Section I.G of Appendix A)* found that if constructed, it would have a limited positive impact on airport noise. However, with a cost of $6,000,000,it has a low benefit to cost ratio in comparison with other possible beneficial projects. The cumulative impact from the second group of projects would, therefore, have a significant positive impact to the environment.

The Runway 4/22 Extension, which is the only project in the third group, is covered in Section I.B and contains a summary of the Draft Environmental Impact Statement and Supplement prepared for this project. In brief, the Draft EIS prepared for the project (as supplemented) concludes that if the preferred alternative is chosen, initially slightly more people will be placed in the DNL 65 contour than for the no-build option (39,731 vs. 36,938). However, by the year 2000, the project would slightly decrease the number of people in the Ldn 65 contour (23,791 vs. 24,108). In general, the proposed project will not result in the creation of any additional noise at MSP when compared with the no-build option.

The highest noise levels would remain in south Minneapolis, but the increased use of Runway 4-22 made possible by the project would produce a more even distribution of noise in the area surrounding MSP than the "No-Build" alternative.

In summary, the insignificant to very minor increase in noise impact from group one, added to the potential for a significant decrease in noise impact from group two, added to no increase in overall noise from group three, indicates that the overall cumulative impact upon the environment from noise will be positive (i.e. less noise) for the whole of the MAC's Capital Improvement Plan. It should be noted, however, that principally because of the Runway 4/22 extension, some areas would experience an increase in noise levels while other, larger geographical areas, would experience a decrease.

D.2 Cumulative Effects of Vehicular Traffic

Analysis of MAC's seven year CIP on a project-by-project basis reveals that few projects have an effect on airport traffic and the overall flow entering and leaving the airport.

The automated people mover and elevated and ground level roadways, when completed, will increase circulation/movement efficiency of the internal roadway traffic and pedestrian flow. No additional inbound or outbound trips will be generated by these facilities.

D.3 Air Quality

Analysis of MAC's Capital Improvement Plan on a project-by-project basis found projects with the possibility of impacting the environment's air quality. These are the Elevated Roadways Construction *(Section II.C)* and the Ground Level Roadways Construction *(Section III.B)*.

The Elevated and Ground Level Roadway Construction projects should provide a slight improvement in air quality on the new roadway. The added lanes will provide more efficient vehicle movements and less traffic congestion resulting in a corresponding decrease in auto emissions. The Commission will continue to monitor the Carbon Monoxide levels on the lower level roadway in front of the terminal once the elevated roadway project is complete.

In summary, the individual projects integrated into the new roadway system is expected to maintain air quality in the roadway at the entrance of the Lindbergh Terminal.

D.4 Water Quality

The airport is divided into four (4) drainage areas with four (4) discharge points. They are the Mother Lake Drainage Area, Snelling Lake Drainage Area, Minnesota River-South Drainage Area, and Minnesota River-North Drainage Area.

The estimated cumulative additional runoff has been calculated for each basin. The total runoff was calculated by adding together the total runoff calculated for each individual project. These totals are listed for each project in Appendix A. The estimated cumulative additional discharge based on a five year storm of 7.36 cubic feet per second (cfs) can be handled by the Mother Lake Drainage Area. The estimated additional discharge of approximately 24.1 cfs to the Minnesota River-South Drainage Area and discharge point is an increase of 6.5%. The estimated additional runoff of 28.0 cfs to Minnesota River-North Drainage Area is an increase of 6.5%. The Minnesota River Drainage Basin storm detention is at or near capacity.

In summary, the Mother Lake drainage basin can handle the additional runoff from the proposed projects in this basin. The Minnesota River-North and South Drainage Basins may need modifications in the future in order to handle the additional runoff of the proposed projects such that a minimum 3 hour detention time can be accomplished. The quality of the runoff will not have an adverse impact. The Storm Water Collection and Treatment System project will further develop the system of collecting and recycling glycol used for deicing. Constructed in 1993, it will provide an improvement in the quality of the water discharged from the airport. The MAC is also currently coordinating with the MPCA to install a pilot plant for glycol recycling during 1994.

Another impact to water quality involves using ground water for the mechanical air conditioning upgrades. The addition of the Green Concourse conversion is estimated to add 40 million gallons per year of extracted groundwater (MG/Y). The airport presently uses an average of about 520 MG/Y.

MAC currently has a permit which allows for 650 MG/Y of ground water to be used. MAC will phase out the use of groundwater for cooling by the year 2000. The Lindbergh Terminal Alternative Cooling System project is the first step in this process.

D.5 Light Emissions

Analysis of MAC's Capital Improvement Plan found that none of the projects evaluated will have any significant impact from a light emissions standpoint. All of the projects which will create light emissions are in general scattered across the airport. Therefore, the cumulative effects from light emissions are not expected to have any significant impact upon the environment.

D.6 Sewage and Industrial Waste

There are no projects in the MAC's Capital Improvement Plan that will significantly impact MSP's existing sanitary sewerage capacity. The construction of the new Fuel Handling, Treatment and Storage Facility is to safely and efficiently store and process materials used to clean up minor spills. There will not be a net increase to the amount of industrial waste generated by the maintenance personnel and the fuel recovered from these materials will not enter the sanitary sewers. This change in the handling of the fuel recovery materials will not cause any difficulties to either the on-site collection systems and related MWCC Interceptor or waste water treatment facilities.

The continued discharge of glycol into the sanitary sewer system from the storm water collection and treatment system improvements will continue to be monitored by both the MAC and the MWCC to ensure no adverse impact to the waste water treatment facilities.

D.7 Wetland Impact

The project in the MAC's Capital Improvement Plan that will have an impact upon wetlands is the Runway 4-22 Extension. Less than 0.5 acre of marsh will need to be filled as part of this project. Tentative mitigation plans are being explored by U.S. Fish and Wildlife Service, the DNR, and the MAC.

D.8 Residential Relocation Impacts

Analysis of MAC's Capital Improvement Plan found the following projects will have residential relocation impacts; they are Home Insulation/Buyouts and New Ford Town/Rich Acres Acquisition. An Environmental Assessment was prepared and a comprehensive residential relocation plan is being prepared for this noise abatement project.

A relocation study (Appendix 2 of the EA) concluded that there were sufficient numbers of single unit housing in the general area within the same price range of those being displaced. Multiple family housing was available (approximately 5 to 20 percent). There were no special needs identified for elderly and/or physically handicapped people in the neighborhoods. The business identified in the neighborhood is not unique nor dependent upon its location to survive and could be relocated within one mile of its present location. The church draws from a regional population and not specifically from within the impacted neighborhoods. No other community disruption is expected, according to the EA.

The neighborhoods involved represent approximately two percent of the City of Richfield's property valuation and one percent of the Richfield School District tax

base. However, the loss of revenue from either entity cannot be absorbed through other revenue sources or by the cost savings associated with discontinued public services to the neighborhoods. The New Ford Town and Rich Acres Acquisition Feasibility Report [1] recommended that the annual loss be compensated by an increase in the special state aid disbursement as authorized by the Minnesota Legislature. Some localized economic impact to businesses such as gas stations could occur, but the EA concluded that the proposed action "should not create undue hardships on existing services and facilities because of the incremental nature of the relocation implementation program..."

17589/mspaee.rpt

[1] New Ford Town and Rich Acres acquisition Feasibility Report; City of Richfield & Metropolitan Airports Commission; February 12, 1992.

APPENDIX A

ENVIRONMENTAL ANALYSIS OF INDIVIDUAL PROJECTS

IMPACT SUMMARY

I. 1994 CAPITAL IMPROVEMENT PROJECTS

- I.A Airside Bituminous Construction
- I.B Runway 4/22 Extension
- I.C Runway 4/22 Noise Mitigation
- I.D Taxiway C/D Complex Pavement Reconstruction
- I.E Home Insulation/Home Buy-Outs
- I.F New Ford Town/Rich Acres Acquisition
- I.G Noise Suppressor
- I.H Stormwater Collection and Treatment System
- I.I Automated People Mover System
- I.J Landside Bituminous Construction
- I.K Public Safety Storage Building

II. 1995 CAPITAL IMPROVEMENT PROGRAM

- II.A Airfield Drainage Strip Removals
- II.B School Noise Abatement Projects
- II.C Elevated Roadway Construction
- II.D Ground Transportation Center Finishes
- II.E Fuel Handling, Treatment and Storage Facility
- II.F Green Concourse Mechanical Systems Conversion
- II.G Revenue Control Building Addition
- II.H Terminal Area Equipment Storage Building
- II.I Trades Shop Building
- II.J Lindbergh Terminal Alternative Cooling System

III. 1996 CAPITAL IMPROVEMENT PROGRAM

- III.A Commercial Vehicle Passenger Center
- III.B Ground Level Roadway Construction
- III.C Valet Car Wash

IV. 1997 CAPITAL IMPROVEMENT PROGRAM

(No projects with impacts begin this year)

V. 1998 CAPITAL IMPROVEMENT PROGRAM

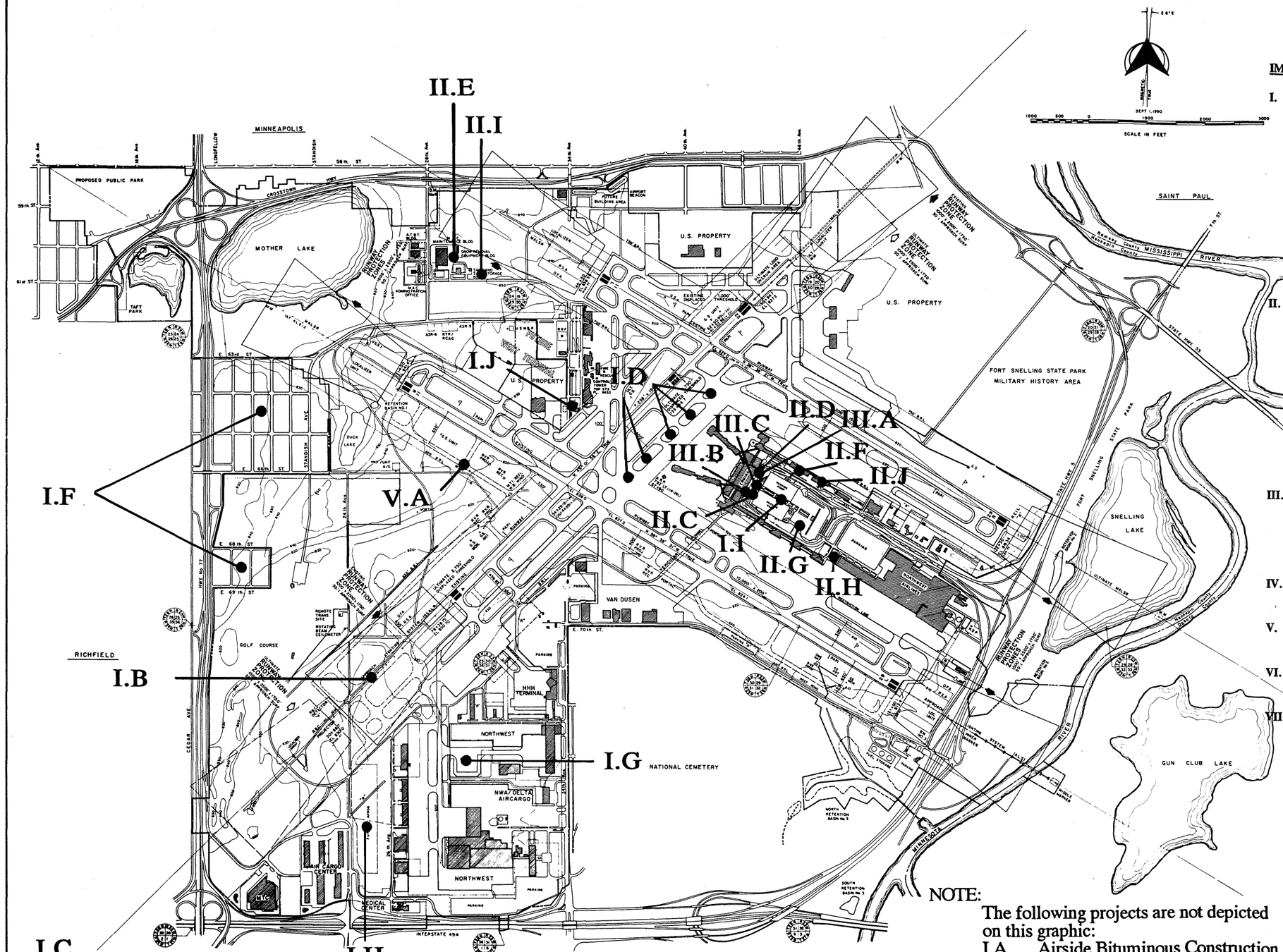
- V.A Taxiway B Construction

VI. 1999 CAPITAL IMPROVEMENT PROGRAM

(No projects with impacts begin this year)

VII. 2000 CAPITAL IMPROVEMENT PROGRAM

(No projects with impacts begin this year)



IMPACT SUMMARY

I. 1994 CAPITAL IMPROVEMENT PROJECTS

- I.A Airside Bituminous Construction
- I.B Runway 4/22 Extension
- I.C Runway 4/22 Noise Mitigation
- I.D Taxiway C/D Complex Pavement Reconstruction
- I.E Home Insulation/Home Buy-Outs
- I.F New Ford Town/Rich Acres Acquisition
- I.G Noise Suppressor
- I.H Stormwater Collection and Treatment System
- I.I Automated People Mover System
- I.J Landside Bituminous Construction
- I.K Public Safety Storage Building

II. 1995 CAPITAL IMPROVEMENT PROGRAM

- II.A Airfield Drainage Strip Removals
- II.B School Noise Abatement Projects
- II.C Elevated Roadway Construction
- II.D Ground Transportation Center Finishes
- II.E Fuel Handling, Treatment and Storage Facility
- II.F Green Concourse Mechanical Systems Conversion
- II.G Revenue Control Building Addition
- II.H Terminal Area Equipment Storage Building
- II.I Trades Shop Building
- II.J Lindbergh Terminal Alternative Cooling System

III. 1996 CAPITAL IMPROVEMENT PROGRAM

- III.A Commercial Vehicle Passenger Center
- III.B Ground Level Roadway Construction
- III.C Valet Car Wash

IV. 1997 CAPITAL IMPROVEMENT PROGRAM

(No projects with impacts begin this year)

V. 1998 CAPITAL IMPROVEMENT PROGRAM

- V.A Taxiway B Construction

VI. 1999 CAPITAL IMPROVEMENT PROGRAM

(No projects with impacts begin this year)

VII. 2000 CAPITAL IMPROVEMENT PROGRAM

(No projects with impacts begin this year)

I.C
Runway 4/22 Noise Mitigation
(Bloomington and South Richfield)

NOTE:
The following projects are not depicted on this graphic:

- I.A Airside Bituminous Construction
- I.E Home Insulation/Home Buy-outs
- I.K Public Safety Storage Building
- II.A Airfield Drainage Strip Removals (along runways)
- II.B School Noise Abatement

MINNEAPOLIS - ST. PAUL INTERNATIONAL AIRPORT
WOLD - CHAMBERLAIN FIELD

AIRPORT LAYOUT PLAN

Metropolitan Airports Commission

FIGURE 2

ALP Drawing No. 3
Current Update: May 1991

I. PROJECTS BEGINNING IN 1994

The following projects are included in the MAC's Capital Improvement Plan for 1994 which have the potential to effect the environment:

I.A Airside Bituminous Construction
I.B Runway 4/22 Extension
I.C Runway 4/22 Noise Mitigation
I.D Taxiway C/D Complex Pavement Reconstruction
I.E Home Insulation and Home Buy-Outs
I.F New Ford Town and Rich Acres Acquisition
I.G Noise Suppressor
I.H Stormwater Collection and Treatment System
I.I Automated People Mover System
I.J Landside Bituminous Construction
I.K Public Safety Storage Building

I.A. AIRSIDE BITUMINOUS CONSTRUCTION

This project involves construction or reconstruction of bituminous pavements on various areas within the Air Operations Area. This year's work consists of milling and overlaying the bituminous pavement in the tug drive service court between the Red and Blue Concourses and on the perimeter service road between Victor and November Taxiways.

Typical work for 1995 to 2000 will include taxiway shoulders, blast pads, roadways, etc. Items to be included in this category will be reviewed in more detail the year before the project year. The 1994 project is not expected to significantly impact the environment because it is an overlay of an already impervious surface.

It is difficult to speculate the amount and location of future 1995 to 2000 projects. Further analysis will need to be done at that time.

I.B. RUNWAY 4/22 EXTENSION

An Environmental Assessment (EA) was completed for this project in September 1988. An Environmental Impact Statement (EIS) was completed by Mn/DOT in 1991 and a supplement to it was prepared in 1992. It was decided to issue a revised draft EIS as a result of changes in operations and in response to comments on the 1992 supplemented draft EIS. The revised draft will update operational assumptions and address comments to the original draft EIS. The revised EIS draft process for the extension is scheduled for completion in 1994 which could allow for some construction to begin in the latter part of 1994. The extension will add 2,750 feet to the west end of Runway 4/22. This project has been previously approved by the MAC.

The following description of the project was taken from the draft EIS:

> "Until June, 1990, the FAA air traffic control tower operated a preferential runway system (PRS) at MSP for noise exposure abatement. The PRS, first implemented in 1972, was designed to divert as much air traffic as possible away from noise sensitive areas and route it over more noise compatible areas, such as open space, transportation corridors and commercial/industrial areas. The PRS assigned use priorities to each runway for take-off and landing and utilized the northeast-southwest runway, Runway 4-22, to divert traffic away from the predominant northwest-southeast traffic flow of the parallel runways.
>
> Use of the PRS was limited to hours with fewer than 60 operations. Above 60 operations, the parallel runways (Runways 11L/11R and 29L/29R were used because of their greater hourly capacity (up to 108 operations). Therefore, as total operations increased at MSP, use of the PRS decreased. This change resulted in an overall shift in community noise exposure. Thus, the current runway use system (RUS) was developed, tested and recently implemented in an attempt to return to a more traditional distribution of noise by maximizing the overall use of Runway 4-22.
>
> The primary purpose of this project is to permit increased use of Runway 4-22 by providing additional length on Runway 22, allowing aircraft departing on Runway 22 to start their takeoff roll southwest of the intersection with Runway 11L/29R. This would permit Runway 11L/29R to be operated independently of departures on Runway 22 and would enable use of Runway 4-22 and 11L/29R to accommodate up to 90 operations per hour.
>
> The secondary purpose of the project is to provide an 11,000 foot runway at MSP for use by long-haul intercontinental flights. An extension of 2,750 feet would make Runway 4-22 the longest runway at MSP at 11,000 feet. Currently, under some conditions, a greater runway length than is available at MSP is required for certain intercontinental flights. An extended Runway 4-22 would be sufficient under most conditions for takeoff for most intercontinental flights."

The draft EIS (as supplemented) summarizes the proposed action, describes the purpose and need for action, defines alternatives, analyzes the affected environment in a wide variety of areas

(though focuses on noise), examines the positive and negative environmental consequences of the extension and discusses the project's citizen involvement and agency coordination. A review of the impact categories used to assess environmental effects in this document are discussed below. For a more complete description of the Alternative and documentation of the impacts related to the construction and operation of the runway extension, please refer to the Draft EIS (dated 10/10/91) and the Supplement to the Draft EIS (dated 4/7/92).

- **Aircraft Noise**

Aircraft noise has the potential to be the environmental impact of most concern. Extensive analysis of the day/night sound levels (pp. 52-148 in the DEIS and pp. 4-12 in the Supplement) was conducted to assess potential noise in 1992 and 2000.

The following is the summary of the effects of aircraft noise on the affected population, as excerpted from the Draft EIS (p. 85), and confirmed in the Supplement to the DEIS (p. 5). The data are summarized in Table 4.44 (DEIS, p. 85). Table 4.15 (DEIS, p. 86) provides detail regarding the affected populations with the various communities.

The total population within the overall 65 L_{dn} contour falls to 24,108 for the no-build condition by the year 2000. The various alternatives range from affected populations of 21,891 for Alternatives 1 and 2C, to a high of 25,623 for Alternatives 3 and 4D. Alternative 1A, the proposer's preferred alternative, has an affected population of 23,791, which is less than the no-build alternative. The large reductions from the 1992 figures represent the impact of aircraft fleet composition incorporating new technology Stage 3 Aircraft.

The number of persons within the 65 L_{dn} contour varies significantly within the various jurisdictions for the different alternatives. The number of persons affected in Minneapolis range from a high of 19,101 for the no-build condition, to a low of 13,290 under the proposer's preferred alternative. The number of persons in Bloomington increases from a low of 0 under the no-build alterative, to a high of 5,915 under Alternatives 1,2,3 and 4D. North Richfield ranges from a high of 3,580 under the no-build alternative, to a low of 1,875 under Alternatives 1,2,3 and 4D. South Richfield, conversely, ranges from a low of 233 under the no-build alternative, to a high of 2,976 under Alternatives 1,2,3 and 4D. None of the remaining communities of Fort Snelling, Mendota Heights, Eagan, or St. Paul are significantly affected with a maximum change of 65 persons between the various alternatives."

The following summary tables show populations within the 65 L_{dn} contour for 1992 and 2000.

MSP RUNWAY 4-22 EXTENSION - Draft EIS
POPULATION WITHIN 1992 65 L_{dn} NOISE CONTOURS
BY JURISDICTION AND ALTERNATIVE

JURISDICTION	ALTERNATIVES								
	No Build	1&2A	1&2B	1&2C	1&2D	3&4A	3&4B	3&4C	3&4D
Minneapolis	24742	18560	18345	20713	18611	18915	13784	20975	19074
North Richfield	6692	3216	3286	3014	3318	3216	3286	3014	3318
South Richfield	1937	4330	4101	2172	4935	4330	4101	2172	4935
Bloomington	1430	11632	11688	7120	13080	11632	11688	7012	13080
Fort Snelling	91	80	42	67	53	46	47	62	54
Mendota Heights	972	932	894	962	886	932	894	962	886
Eagan	1074	981	968	1257	1027	981	968	1257	1027
St. Paul	0	0	0	0	0	0	0	0	0
TOTAL	36938	39731	39323	35305	41910	40051	39768	35562	42374

Source: Draft Environmental Impact Statement for Proposed Extension of Runway 4-22, Table 4.13, 1980 Census Data.

MSP RUNWAY 4-22 EXTENSION - Draft EIS
POPULATION WITHIN 2000 65 L_{dn} NOISE CONTOURS
BY JURISDICTION AND ALTERNATIVE

JURISDICTION	ALTERNATIVES								
	No Build	1&2A	1&2B	1&2C	1&2D	3&4A	3&4B	3&4C	3&4D
Minneapolis	19101	13290	13443	13656	13547	13485	13564	13754	13693
North Richfield	3580	1909	1916	1936	1875	1909	1916	1932	1875
South Richfield	233	2284	2015	1155	2976	2284	2015	1155	2976
Bloomington	0	5106	4632	3981	5915	5160	4632	3981	5915
Fort Snelling	20	27	27	26	27	32	40	28	28
Mendota Heights	386	322	381	368	352	322	381	368	352
Eagan	789	799	774	772	785	799	774	772	785
St. Paul	0	0	0	0	0	0	0	0	0
TOTAL	24108	23791	23189	21891	25477	23991	23323	21990	25624

Source: Draft Environmental Impact Statement for Proposed Extension of Runway 4-22, Table 4.15.

By 1992, the alternatives (except for the D alternatives) will result in a small reduction in the number of facilities within the contours, especially schools which are probably the most sensitive category of receptor. By the year 2000, this trend is expected to continue with even fewer noise sensitive facilities within the contours and the A,B, and C alternatives providing benefits in reducing the number of affected facilities as compared with the no-build condition.

The L_{dn} noise analysis shows that the most significant changes occur to the northwest and southwest of the airport. When compared to the No-Build alternative, each of the build alternatives trades a reduction in aircraft noise in mostly residential areas northwest of the airport for increases in aircraft noise southwest of the airport in residential and some commercial areas.

To the southwest of the airport, there is little difference among the build alternatives in impacts upon land use. The changes in contours among the alternatives occur mostly over vacant land or highway corridors.

Compared to the No-Build alternative, the build alternatives all result in a reduction of residential land within the 65 L_{dn} contour northwest of the airport. This reduction in community noise affects parts of South Minneapolis and the northeast part of Richfield.

To the southwest of the airport, the 65 L_{dn} noise contour expands with the Build alternative. The area of increase consists of residential areas, but also commercial or mixed uses, especially in the I-494 and Cedar Avenue corridors. The comparable reduction in South Minneapolis consists almost entirely of residential areas."

The proposed project will not cause an increase in the overall level of sound generated by aircraft at MSP, but the changes in the numbers and patterns of aircraft flights on different runways caused by the project would cause differences in sound levels at various locations surrounding the airport.

Homes which would be within the 65 L_{dn} noise contour due to the proposed project would be within the threshold criteria to be considered for noise mitigation measures as specified in the FAA's FAR Part 150 noise study.

- **Vehicular Traffic**

  Vehicular traffic will not be impacted as a result of this project. The project will not have an effect upon the airport capacity, therefore, no impact on enplanements and therefore no impact upon traffic.

- **Air Quality**

  The Draft EIS found that the project is "exempt from State of Minnesota Pollution Control Agency indirect source review. Therefore no further air quality analysis was required. Such a finding is consistent with national EPA findings that aircraft are very minor sources of air pollution and do not represent a concern in this area."

- **Water Quality**

  The proposed extension of Runway 4-22 and associated taxiways would add 21 acres of impervious surface to the Minnesota South Drainage Area (MnSDA), which is a 6% increase over current conditions. Airport wide, the runway extension represents a 9.6% increase in a runway surface area. The extension of the Queuing Taxiway would add 6.6 acres of impervious surface to the Minnesota North Drainage Area (MnNDA), a 1% increase over current conditions. Airport wide, the taxiway extension would not represent a significant increase in taxiway surface area.

  The increase in surface area in the MnSDA and MnNDA will increase the storm water discharge to North Retention Basin #3 and South Retention Basin #3. The current basins' capacity will not be affected by the increased discharge, although their function may be diminished. A hydraulic analysis failed to show any change in basin function. Any incremental change in treatment efficiencies does not appear to be a major concern.

  In a qualitative sense, the project would likely increase the maximum rate of runoff, the total volume of runoff, decrease the existing treatment system efficiencies and cause an incremental increase in pollutant loading to the Minnesota River.

- **Light Emissions**

  Light emissions from the proposed project will not cause a negative impact.

- **Wetland Impact**

  There is a less than 0.5 acre marsh located in the project area which will need to be filled by a taxiway to be built at the same time the runway is extended. According to the Draft EIS, of all the wetlands in the area, this wetland also has the least value for wildlife, flood water storage and water quality because it is the smallest and most isolated.

  As the wetland is less than 2.5 acres, it is not a protected wetland under Department of Natural Resources (DNR) jurisdiction. Since Federal funds will be used, however, Executive Order 11990 requires the avoidance of adverse impacts, as well as compensation for unavoidable impacts.

The MAC has committed to mitigation of unavoidable wetlands impacts caused by the extension of Runway 4-22 and associated taxiways. On-site mitigation is not desirable because of the increased potential for bird strikes. The concept of an off-site mitigation area is being explored by the MAC in coordination with the USFWS and the DNR. A mitigation site will be identified through ongoing coordination between these agencies.

I.C. RUNWAY 4/22 NOISE MITIGATION

The extension of Runway 4/22 will impact approximately 1,295 homes in Bloomington and South Richfield. The MAC has proposed to include residential sound insulation as a mitigation measure to the existing Runway 4/22 extension project. The Runway 4/22 mitigation package would involve shifting the cost of sound insulating 1,295 homes (approximately $22,500,000) from the FAA Part 150 program (Noise Control and Compatibility Planning for Airports) project to the Runway 4/22 extension project. This noise mitigation is expected to take place over a five year period starting in 1994.

This project primarily involves the rehabilitation of existing residential dwellings that will not physically alter the original size of the dwelling. However, the social impacts to the occupants from the noise reduction and the reduction in energy consumption for heating and cooling for the dwellings offer substantial positive impacts to the environment.

- **Aircraft Noise**

This project would have a positive impact concerning airport noise due to the significantly lower sound levels which will be achieved within the approximately 1,295 homes which will receive sound insulation.

I.D. TAXIWAY C/D COMPLEX CONSTRUCTION

The Delta Taxiway adjacent to the Red and Blue Concourses is currently restricted to Boeing 727 or smaller sized aircraft and the pavement of both the Delta and Charley taxiways is in need of replacement. The proposal is to allow unrestricted two-way taxiing of aircraft on both taxiways. The project will not increase the overall capacity of the airport.

This project will involve the construction of additional taxiway maneuvering area adjacent to the Red and Blue Concourse of approximately 336,750 square feet of impervious pavement surface. Runoff from this surface will be added to the Minnesota River-North Drainage Area.

- **Water Quality**

The additional storm water runoff caused by the increased paving for a predicted five year storm event is calculated to be 7.65 cubic feet per second. This additional

incremental storm water flow will cause no apparent problems for the associated storm water collection, conveyance and treatment systems.

I.E. HOME INSULATION AND HOME BUY-OUTS

These projects are a portion of the FAA Part 150 program (Noise Control and Compatibility Planning for Airports) which has been approved, in part, by the FAA. The project includes items such as property acquisition and the sound proofing of homes. The extent of the work will depend on the amount of FAA money available for each type of project.

The insulation for houses would be a continuation of the program which was initiated in 1992 in the cities of Minneapolis, Richfield, Bloomington, Eagan and Mendota Heights and is similar in scope to the Runway 4/22 Noise Mitigation mentioned in Section I.C. It also will primarily involve the rehabilitation of existing residential dwellings and will not physically alter the original size of the dwelling. However, the social impacts to the occupants from the noise reduction and the reduction in energy consumption for heating and cooling for the dwellings offer substantial positive impacts to the environment.

- **Aircraft Noise**

  This project will have a positive impact concerning airport noise due to the significantly lower sound levels which will be achieved within the homes receiving sound insulation. The acquisition of homes would also lessen noise impacts by relocating occupants to a less sound-impacted environment.

- **Residential Relocation Impacts**

  Acquisition and relocation is only expected to occur in high noise impacted areas where the affected community supports the acquisition. The environmental impact is therefore positive.

I.F. NEW FORD TOWN AND RICH ACRES ACQUISITION

An Environmental Assessment (EA) was completed for this project in May 1993 and signed by the responsible FAA official on May 27, 1993. No mitigating measures, other than relocation assistance, are planned since there were no significant environmental impacts identified. The FAA has authorized the proposed action to take place.

The following description of the project is excerpted from the approved EA:

The New Ford Town and Rich Acres neighborhoods have long been subject to airborne and ground noise associated with aircraft operations at the Minneapolis-St. Paul (MSP) International Airport. The updated Part 150 Noise Study, currently under consideration by the FAA, denotes an increase in noise exposure to these neighborhoods in the future. The need for noise abatement in these neighborhoods is clearly documented and is consistent with the purpose, goals and implementation measure of the Part 150 Study.

Five alternatives to evaluate noise abatement were considered. The proposed action by the MAC is Alternative 2, the acquisition of 422 residential units, one business, and one church. The proposed action involves relocating approximately 1,092 residents to comparable replacement housing. Existing structures would be removed or relocated and the remaining basements pushed in and filled. Turf would be established over disturbed and filled areas. Utilities and roads would be abandoned or removed. Trees and shrubs would remain until a permanent reuse of the property is determined.

Potential significant impacts of the proposed action are the social impacts caused by the neighborhood relocation; the economic impacts caused by the loss of taxable property to the City of Richfield and Richfield School District; and possible hazardous materials being introduced to the waste stream from the removal of buildings (i.e. asbestos); and the acquisition of two city parks.

The relocation would be in accordance with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and a relocation program sponsored by the MAC with assistance from the Richfield Housing and Redevelopment Authority.

- **Aircraft Noise**

  The relocation of more than 1,000 residents from high noise areas will create a positive effect on the environment. The social impacts to the occupants from the noise reduction will provide additional positive impacts.

- **Water Quality Impacts**

  A reduction of impervious surfaces from the removal of structures would decrease the total surface water runoff by an estimated 75% during a five-year storm. Fewer motor vehicles in the neighborhood would reduce the amount of inadvertent oil and gasoline spills. Nutrient build-up from homeowner lawn fertilizers and herbicides would be reduced and replaced with the MAC's approved turf management methods.

- **Parks and other DOT Section 4(f) Impacts**

  The two parks that would be acquired are neighborhood based and would have no regional impacts. The City of Richfield has deemed the two parks as "insignificant"

for the noise abatement alternative of property acquisition and recognizes that if left to remain may be incompatible with future development planning.[1]

- **Energy Supply and Natural Resources**

  There would be negligible changes in energy consumption from a regional perspective. Short-term fossil fuel consumption to remove structures, fill basements, remove utilities and roads, and restore disturbed areas are small from a regional perspective. Fill materials and topsoil are available within short truck haul distances.

- **Solid Waste Impacts**

  Prior to demolition, an inventory would determine the presence of any hazardous material (such as asbestos) in structures or volatile substances in the soil that would need special handling. An estimated 100,000 cubic yards of debris (primarily wood, metal, pavement, and other non salvageable materials) would be generated by the building and facilities removal. All debris would be disposed of in accordance with solid waste methods approved by the MAC and regional waste regulators.

- **Residential Relocation Impacts**

  - **Social Impacts**

    A relocation study (Appendix 2 of the EA) concluded that there were sufficient numbers of single unit housing in the general area within the same price range of those being displaced. Multiple family housing was available (approximately 5 to 20 percent). There were no special needs identified for elderly and/or physically disabled people in the neighborhoods. The business identified in the neighborhood is not unique nor dependent upon its location to survive and could be relocated within one mile of its present location. The church draws from a regional population and not specifically from within the impacted neighborhoods. No other community disruption is expected, according to the EA.

    The neighborhoods involved represent approximately two percent of the City of Richfield's property valuation and one percent of the Richfield School District tax base. However, the loss of revenue from either entity cannot be absorbed through other revenue sources or by the cost savings associated with discontinued public services to the neighborhoods. The New Ford Town and Rich Acres

[1] Letter from the City of Richfield to MAC; Mr. James D. Prosser, City Manager; November 19, 1992.

Acquisition Feasibility Report[2] recommended that the annual loss be compensated by an increase in the special state aid disbursement as authorized by the Minnesota Legislature. Some localized economic impact to businesses such as gas stations could occur, but the EA concluded that the proposed action "should not create undue hardships on existing services and facilities because of the incremental nature of the relocation implementation program..."

I.G. NOISE SUPPRESSOR

Minnesota Statutes require the construction of a noise suppressor to reduce run-up noise. The only impact category affected by the installation of this facility would be aircraft noise, specifically relating to run-ups.

The type of facility likely to be chosen would be the "hush house" technique. A hush house consists of an acoustically treated hangar. Typical reductions are 25-30 DBA. The environmental effect of the noise suppressor would be major reduction in noise from run-ups, but a limited reduction in overall noise impacts.

The value of the hush house is highly questionable. Community complaints about run-up noise events account for less than one percent of all noise complaints. This is considered a matter of minor community concern compared with noise resulting from aircraft overflight. The newer aircraft in the fleet are less noisy and require less frequent maintenance, thus reducing required maintenance run-ups both in intensity and frequency over the next 10 years.

There are alternatives for expenditures of this level of funding which would yield greater benefits in terms of compatibility with <u>all</u> aircraft events, not only run-ups. (For example, the estimated $6,000,000 cost could be applied towards the soundproofing/guarantee purchase programs, as included in the Part 150 Study.)

The noise suppressor, if constructed, would have a limited positive impact on airport noise and has a very low benefit-to-cost ratio in comparison to other possible beneficial projects.

I.H. STORMWATER COLLECTION AND TREATMENT SYSTEM

A new NPDES permit, to be issued to the Commission in September of 1993 will contain significant restrictions on the contaminants allowed to enter the Minnesota River in stormwater runoff from the airport. A pilot project to reduce glycol concentrations in the runoff is being constructed in 1993, along with major monitoring efforts to define the scope of future improvements. It is anticipated that modifications, additions and refinements to that system will be required in 1994 to produce continued improvement in water quality discharge.

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[2] New Ford Town and Rich Acres acquisition Feasibility Report; City of Richfield & Metropolitan Airports Commission; February 12, 1992.

- **Water Quality**

  This project will create a positive impact concerning water quality by reducing the amount of harmful effluents transmitted to the Minnesota River.

I.I. AUTOMATED PEOPLE MOVER SYSTEM

An Environmental Assessment Worksheet (EAW) was prepared for this project in August 1990. Summary findings of the EAW are presented here in order to incorporate the effects from this project in to the cumulative effects from all projects.

The proposed project consists of a two-year acquisition and installation schedule for an automated people mover system between the main terminal building and the rental car facility at MSP. The automated people mover is comprised of a series of compartments and will operate like a horizontal elevator electronically in a tunnel under access roads and parking facilities.

The project will replace a gasoline-powered bus which currently uses local access roadways to provide shuttle service to/from the rental car facility and main terminal. The existing system operates at-grade and has conflicts with vehicles utilizing the parking ramps at four crossing points. It also does not meet the current Americans with Disability Act (ADA) and requires users to walk outside to the pick-up point.

The people mover would increase efficiency and facilitate transit movement in a heavily-congested surface transportation corridor at MSP. Safety and ADA standards and will be enhanced by reducing the number of passenger/vehicle conflicts on the road systems and allow load/unload without any steps. It would also be enclosed from the weather and completely climatized.

The project is related to a number of other improvements in the immediate vicinity including the Ground Transportation Center (GTC), construction of new upper and lower level roadways and the expansion of the valet parking area. This would be the first of two phases in the construction of the people mover system.

Based upon information obtained from the EAW, it appears this project will not have any significant impact upon the environment from its construction. Air quality within the area around the GTC would likely improve with the replacement of existing vehicles and the reduction in combustion engine idling during slow load/unload of passengers and luggage.

I.J. LANDSIDE BITUMINOUS CONSTRUCTION

Much of the roadway system serving the airport as well as many of the parking lots are constructed of bituminous pavements. Some of these roadways and parking lots are in need of

major reconstruction. In 1993, a program began to reconstruct those roadways and parking lots outside of the air operations area which require major repair. Projects to be completed in 1994 include installing a bituminous overlay on 34th Avenue from I-494 to 70th Street, reconstructing 62nd Street from 28th Avenue to Standish and installing a bituminous pavement in the parking area between the carpenter's and painter's shops.

The only impact category affected by this project is water quality due to a slightly increased volume of stormwater runoff.

The parking area would add approximately 22,825 square feet of impervious area.

- **Water Quality**

  The additional storm water runoff into the Minnesota River North Drainage Area caused by the increased impervious area for a predicted five year storm event is calculated to be .52 cubic feet per second. This additional incremental storm water flow will cause no apparent problems for the associated storm water collection, conveyance and treatment systems.

I.K. PUBLIC SAFETY STORAGE BUILDING

This project is proposed as a result of need to construct a multi purpose centrally located building in the terminal area capable of storing equipment such as the bomb trailer, bomb x-ray equipment, emergency response medical trailer, and the air boat in one area in order to improve the overall operational efficiency of the public safety division. The project also involves the construction of a small secured area to a store a vehicle or evidence used in a suspected felony.

The building will be connected to existing sewer, water, and drainage systems and it will be located on a pervious surface. The effects of additional impervious surface are not significant enough to adversely affect storm water runoff increments, nor will the Minnesota River-North Drainage Basin collection, conveyance, and treatment systems be adversely affected.

The building will have sanitary facilities for employees that will work on the premises.

- **Sewage**

  Sanitary facilities in the building will increase sewage discharge into the sanitary sewer system. Using an estimate of 15 gallons/employee/day (Minnesota Plumbing Code 4715.3600 Subp. 2), it is estimated that 150 additional gallons of waste water may be generated per day. However, since the building will not be staffed 24 hours per day, this increase is slight and should not affect peak flow to the sewer, nor will it cause any difficulties to either the on-site collection systems and related MWCC interceptor or waste water treatment facilities.

II. PROJECTS BEGINNING IN 1995

The following projects are included in the MAC's Capital Improvement Program for 1995 which have the potential to effect the environment. Several projects such as Runway 4/22 Noise Mitigation and Home Insulation/Home Buy-Outs, continue for several years and are discussed in the year that they start.

II.A Airfield Drainage Strip Removals
II.B School Noise Abatement Projects
II.C Elevated Roadway Construction
II.D Ground Transportation Center Finishes
II.E Fuel Handling, Treatment and Storage Facility
II.F Green Concourse Mechanical Systems Conversion
II.G Revenue Control Building Addition
II.H Terminal Area Equipment Storage Building
II.I Trades Shop Building
II.J Lindberg Terminal Alternative Cooling System

II.A. AIRFIELD DRAINAGE STRIP REMOVALS

The MAC has been operating under a National Pollutant Discharge Elimination System (NPDES) permit for storm water since 1974. The current permit requires that each of the five storm water outfalls to be monitored at least monthly for total suspended solids (TSS), oil and grease, five-day biochemical oxygen demand (BOD_5) and hydrogen ion activity (Ph). Over the years, there have been times when the storm water exceeded the limits of the permit. TSS is affected by the sand which is applied on the pavement areas in the winter to provide traction for aircraft.

To reduce the TSS, the MAC has been eliminating the bituminous drainage strips which are located adjacent to each runway as the runways are being reconstructed. The drainage strips are being replaced with bituminous shoulders which drain overland through turfed areas and into drainage swales. The swales which lead to storm water inlets slow the runoff from the paved areas and allow for greater trapping of sediment thus reducing the TSS. In addition, grassy swales have the added benefit of reducing the storm water runoff rates into the treatment basins.

This project will be implemented in 1995 to accelerate the elimination of the drainage strips where possible.

- **Water Quality Impacts**

  A reduction in the rate of runoff from impervious surfaces from the removal of drainage strips will reduce the speed at which runoff reaches the retention basins. The reduction of TSS in the runoff will reduce downstream pollution in the Minnesota River basin.

II.B. SCHOOL NOISE ABATEMENT PROJECTS

The FAA Part 150 program (Noise Control and Compatibility Planning for Airports) referenced in the 1994 projects for Home Insulation and Home Buy-Outs also includes providing noise abatement for schools within the L_{dn} 65 contour which experience interruptions of classroom instruction by aircraft overflights. The MAC's goal is to achieve an aggregate noise reduction of 15-20 decibels (DBA) in the instruction areas of schools compared to noise levels prior to improvements. In past years, six schools have been soundproofed by the MAC with good results. It is proposed that this program be continued for soundproofing four additional schools starting in 1994. Typically, each project requires a minimum of two years to complete, depending on the size of the school. The first year is devoted to gathering noise measurement data during the school year which is used to design specific noise abatement measures. The construction commences in the second year, and as a result of the short period (usually 3 months) when the school is closed, could take two years depending on the amount and type of noise abatement to be accomplished.

- **Aircraft Noise**

  These projects will provide positive impacts concerning airport noise. Achieving an aggregate noise reduction of 15-20 decibels (DBA) in the instruction areas of schools compared to noise levels prior to improvements is possible and has been shown to be an effective abatement strategy. Reductions of this magnitude will provide a better environment in which to teach children.

II.C. ELEVATED ROADWAYS CONSTRUCTION

An EAW was prepared for this project in August, 1989. This is a continuation of the roadway project began in 1993 and included the rehabilitation and expansion of the existing elevated roadway at the Lindbergh terminal. This year's project will include construction of the roadway canopy and lighting systems as well as other final finishes and amenities. With the completion of the new elevated roadway, traffic operations in front of the terminal will improve and the present congestion related problems will be diminished. This should also improve air quality.

- **Traffic Impacts**

  Traffic impacts will be positive. No external roads will be affected by this project. The new elevated roadway canopy and lighting will increase the safety and efficiency of departure traffic movements on the roadway. No additional inbound or outbound trips will be generated by the completion of this facility.

II.D. GROUND TRANSPORTATION CENTER FINISHES

This project is a continuation of the construction of the Ground Transportation Center (GTC) studied in previous Assessments of Environmental Effects of the MAC's Seven Year Capital Improvement Plan and in an EAW. This task includes the remaining finish construction within the lobby area of the GTC. None of the impact categories should be effected.

II.E. FUEL HANDLING, TREATMENT AND STORAGE FACILITY

The MAC will build a facility to safely and efficiently store and process materials used to clean up minor spills of fuel such as fuel-soaked pads, booms and corn cobs. Regulations covering the disposal of such items used in spill prevention are detailed and require a facility to store and process these items prior to shipping them off site for disposal in an approved manner. The facility will include a storage area with dumpsters, in which the soiled materials could be stored, a press for processing the materials and storage capacity for the recovered fuel.

- **Sewage and Industrial Waste**

  The construction of the new Fuel Handling, Treatment and Storage Facility is to safely and efficiently store and process materials used to clean up minor spills. There will not be a net increase to the amount of industrial waste generated by the maintenance personnel and the fuel recovered from these materials will not enter the sanitary sewers. This change in the handling of the fuel recovery materials will not cause any difficulties to either the on-site collection systems and related MWCC Interceptor or waste water treatment facilities.

II.F. GREEN CONCOURSE MECHANICAL SYSTEM CONVERSION

The Green Concourse was constructed in a number of segments (original section, two additions and the "pod"). The original section and first addition are presently served by numerous individual packaged air conditioning units. Most of these units are far beyond their normal life expectancy. In addition, as the concourse interior configuration has evolved over the years, the existing units have not offered the flexibility to provide temperature control zones necessary for total comfort. This project involves the removal of the existing units and replacement with centralized HVAC units utilizing chilled water for cooling.

- **Water Quality**

  The additional requirement for chilled water by the operation of the new air conditioning system is estimated at 40 million gallons per year. The current systems require approximately 522 MG/year.

  The Green Concourse will bring the estimated total to 562 MG/year. MAC's existing permit allows for an amount of 650 MG/year to be pumped from their wells and

discharged into the Minnesota River-North Drainage Area. The Lindbergh Terminal Alternative Cooling System project is the first step in phasing out the use of groundwater for cooling at the airport. Therefore the groundwater appropriation created by the Green Concourse Mechanical System conversion will be only temporary.

II.G. REVENUE CONTROL BUILDING ADDITION

The Revenue Control Building located near the long term exit from the parking ramp, functions as the money storage, counting and bookkeeping facility for both short-term and long-term parking. This building also houses the parking equipment repair facilities and serves as the headquarters for APCOA, the Commissions public parking operation manager. The Commission's management agreement with APCOA requires that they maintain a file of all collected parking lot tickets for audit and control purposes for at least one year. Previous storage space for these tickets has been lost to other needs. This project would construct additional storage space on the second level along with one finished office to allow for a unified, organized storage area which would be readily accessible to APCOA's bookkeeping department.

This is a second level addition; therefore, it does not affect any impact categories.

II.H. TERMINAL AREA EQUIPMENT STORAGE BUILDING

This project is proposed as a result of limited equipment storage in the terminal area and need to centralize some of the maintenance equipment in one area to improve the operational efficiency. The project involves the construction of a small structure on existing impervious surface area at the exit of the Lindbergh Terminal near outbound Glumack Drive. The building will have sanitary facilities for employees that will work on the premises.

- **Sewage**

  The proposed project's bathroom areas will increase sewage discharge into the sanitary sewer system. Using an estimate of 15 gallons/employee/day (Minnesota Plumbing Code 4715.3600 Subp. 2), it is estimated that 150 additional gallons of waste water may be generated per day by the employees of the building. However, since the building will not be staffed 24 hours per day, this increase is slight and should not affect peak flow to the sewer, nor will it cause any difficulties to either the on-site collection systems and related MWCC interceptor or waste water treatment facilities.

II.I. TRADES SHOP BUILDING

Currently, the Metropolitan Airports Commission's carpentry, electrical and painting crews occupy individual buildings in the west terminal area. As the work crews, associated equipment, and material inventories have grown to meet the various maintenance demands, their existing facilities are not adequate for their functions. It is proposed a centralized facility capable of

housing the three maintenance functions be evaluated. Each trade area would include a work shop, material storage area and foreman's office. Common vehicle garage, toilet facilities and lunch/break room would also be provided. About 20-25 people will utilize this facility.

The building will be approximately 15,000 square feet.

- **Water Quality**

  The additional storm water runoff into Mother Lake caused by the increased impervious area for a predicted five year storm event is calculated to be 0.34 cubic feet per second. This additional incremental storm water flow will cause no apparent problems for the associated storm water collection, conveyance and treatment systems.

- **Sewage and Industrial Waste**

  Since the construction of the new Trades Shop Building is to necessitate consolidation of existing facilities, there will not be a net increase to the number of employees using the new facility. The sewage and industrial waste generated by the maintenance shop areas will remain the same, however, the associated sewage will be carried in a different trunk line sewer. This change will not cause any difficulties to either the on-site collection systems and related MWCC Interceptor or waste water treatment facilities.

II.J. LINDBERGH TERMINAL ALTERNATIVE COOLING SYSTEM

The Lindbergh Terminal is cooled by chillers in the Energy Management Center which utilize groundwater pumped by a series of four wells located on the airport. The cool temperatures of the groundwater aids in reducing the amount of additional cooling required prior to pumping into the chilled water system. Once the warm water is returned to the Energy Management Center, it is discharged to the storm sewer system. The State of Minnesota DNR has mandated that this use of groundwater for "once through" cooling systems must be eliminated on a schedule dependent on the age of the existing cooling components. The Commission has until the year 2000 to install an alternate system for cooling the terminal which does not use groundwater.

A report has been prepared which recommends replacement of the existing chillers and the use of cooling towers which would cool the warm water returned from cooling units and then recycle this water back through the chillers. Because this water is warmer than the cool groundwater previously used, larger chillers are required.

It is proposed to phase the conversion of the cooling system by installing new chillers in 1995 and the cooling towers in 1998. The chillers are being replaced at an earlier date because the refrigerants which are currently being used will no longer be available after 1995. The new

refrigerants are not as efficient as those used today which will require larger chillers to provide the same cooling output. Water quality should be improved because ground water will be recycled through the system and not discharged into the drainage area.

III. PROJECTS BEGINNING IN 1996

The following projects are proposed to start in 1996 which have the potential to effect the environment. Several projects continue for several years and are discussed in the year that they start.

III.A Commercial Vehicle Passenger Shelter
III.B Ground Level Roadway Construction
III.C Valet Car Wash

III.A. COMMERCIAL VEHICLE PASSENGER SHELTER

The proposed project consists of the installation of a passenger waiting enclosure for passengers utilizing commercial vehicles. The project will be installed on existing impervious surfaces and under the proposed elevated roadways between the parking structure and Lindbergh Terminal. Therefore the project should not affect any impact categories.

III.B. GROUND LEVEL ROADWAYS CONSTRUCTION

As the work on the Elevated Roadways is completed *(see Section II. C),* the Ground Level Roadway Construction will begin in phases. In addition to improving vehicle circulation, a mechanical ventilation system will be installed which will supply fresh air over the lower level roadway/ sidewalk area in front of the terminal building. The fans of the ventilation system will not operate continuously, but will be activated as needed to supply fresh air and reduce carbon monoxide concentrations to assure attainment of standards. The existing Indirect Source Permit (ISP) from the Minnesota Pollution Control Agency (MPCA) for the new 7 level parking facility just east of the new roadways requires that the MPCA review the ventilation system. This roadway system will provide separate lanes for airport patrons, commercial vehicles, and taxicabs.

- **Traffic Impacts**

  No external roads will be affected. The new ground level roadways will increase the capacity for and efficiency of departure traffic movements. No additional inbound or outbound trips will be generated by the completion of this facility.

- **Air Quality**

  In April 1988, the Minnesota Pollution Control Agency (MPCA) issued Indirect Source Permit ISP 78-8(88) permitting the construction of the Phase II parking ramp at the Minneapolis-Saint Paul International Airport. There have been two modifications made since 1988. ISP 78-8 (as modified) contains a number of special conditions including conditions relating to the installation and operation of a

mechanical ventilation system. The mechanical ventilation system is intended to provide ventilated air to the area under the upper level roadway in front of the Lindbergh Terminal to prevent the occurence of carbon monoxide (CO) concentrations in excess of state air quality standards.

The capacity of the ventilation system is 300,000 CFM. Along with the mechanical ventilation system, MAC will implement an air quality traffic control plan. With both the mechanical ventilation system and the air quality traffic control plan, the potential for violations of the state ambient air quality standards will be minimal.

III.C. VALET CAR WASH

The valet car wash will be located in the valet parking lot which is underground adjacent to the Lindbergh terminal. The facility will consist of a commercial one stall car wash. It is expected that all wash water will be collected and treated such that water quality will not be impacted.

IV. PROJECTS BEGINNING IN 1997

There are no new projects included in the MAC's Capital Improvement Plan for 1997 that may potentially effect the environment.

V. PROJECTS BEGINNING IN 1998

The following projects are proposed to start in 1996 which have the potential to effect the environment. Several projects continue for several years and are discussed in the year that they start.

V.A. Taxiway B Construction

V.A. TAXIWAY B CONSTRUCTION

This project involves the construction of a new parallel taxiway south of Runway 11R/29L. With no parallel taxiway, aircraft originating in the Signature (formerly Page and Van Dusen) area, HHH Terminal, cargo area, and airline maintenance facilities must first cross Runway 11R/29L before taxiing to either end of the runway for takeoff. FAA policy is to minimize active runway crossings. it is understood that the majority of "ATC Operational Errors" are attributable to this situation.

The purpose for construction of Taxiway B is to reduce the number of aircraft crossing Runway 11R/29L. The taxiway will not increase the basic capacity of the airport. Therefore, the only categories to be impacted by construction of Taxiway B are aircraft noise (from aircraft taxiing on Taxiway B) and water quality (due to increased runoff).

- **Aircraft Noise**

  As Taxiway B does not increase capacity of the airport, the number of aircraft taxiing along Runway 11R/29L will not change. The only potential change in noise impact occurs due to taxiing aircraft being closer to residential areas on proposed Taxiway B than they presently are on Taxiway A. The only residential area so affected is the area between East 63rd Street and East 66th Street east of Cedar Avenue. The taxiway will bring aircraft to a minimum distance of 1,040 feet from the residential area as opposed to the present minimum distance of 1,280 feet. This would result in an increase in sound from taxiing aircraft of approximately 1.8 DBA. This is considered a negligible effect since the noise associated with taxiing aircraft is very minimal compared to the noise generated by takeoffs in the same area. It is noted that an increase of 1.8 DBA is almost undiscernible. It is also noted that the affected neighborhood (New Ford Town) will be acquired and the residents affected by such noise will be relocated (see Section I.F).

- **Water Quality**

  The additional stormwater runoff caused by the increased paved area for a predicted five year storm event is calculated to be 13.14 CFS for the Minnesota River-North Drainage Area, 3.31 CFS for the Minnesota River-South Drainage Area, and 7.02 CFS for the Mother Lake Drainage Area. This additional incremental stormwater flow will, by itself, cause no apparent problems for the associated stormwater collection, conveyance, and treatment systems.

VI. PROJECTS BEGINNING IN 1999

There are no new projects included in the MAC's Capital Improvement Plan for 1999 that may potentially effect the environment.

VII. PROJECTS BEGINNING IN 2000

There are no new projects included in the MAC's Capital Improvement Plan for 2000 that may potentially effect the environment.

APPENDIX B

1994 CAPITAL IMPROVEMENT PROJECTS

1995 CAPITAL IMPROVEMENT PROGRAM

1994 CAPITAL IMPROVEMENT PROJECTS
MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT

FIELD AND RUNWAYS

AIRSIDE BITUMINOUS CONSTRUCTION - $250,000

A project to construct or reconstruct bituminous pavements on various areas within the Air Operations Area. This year's work will consist of milling and overlaying the bituminous pavement in the tug drive service court between the Red and Blue Concourses and on the perimeter service road between Victor and November Taxiways.

APRON LIGHTING UPGRADE - $250,000

The existing apron lighting system has been a source of concern from the various airlines in regards to the safety of airline personnel working around the aircraft in the gate positions. Requests have been made by the airlines to upgrade the existing light levels. A pilot project involving installation of new ballasts and light fixtures in several apron light standards was completed in 1992 and tested in January of 1993. The pilot project goals for extending light further out onto the apron as well as improving light uniformity were achieved. It is therefore proposed to replace the existing lights on the remaining light standards with high pressure sodium lamps. Additional light poles will also be installed in the Regional Terminal area to improve lighting on that apron.

MISCELLANEOUS CONSTRUCTION - $350,000

It is proposed to continue the Commission's annual program of a miscellaneous construction project for the airport which consolidates various incidental items beyond the capabilities of our maintenance personnel, or projects too small to be accomplished independently. The projects being proposed for 1994 includes miscellaneous concrete panel replacements in the Taxiway Alpha/Delta intersection and on Runway 4/22 north of Runway 11L/29R; pavement replacement at the 34th Avenue gate to the Air Operations area; and the relocation of the security gate from 26th Avenue to 24th Avenue.

PAVEMENT REHABILITATION - APRONS, TAXIWAYS, ETC. - $2,500,000

This is a continuation of a program to replace sections of concrete pavement in the aircraft operational areas that have deteriorated to a point where maintenance is no longer a viable option. This year's project will be a continuation of the reconstruction of the apron adjacent to the Red and Blue Concourses which was begun in 1993.

RUNWAY 4/22 EXTENSION - $12,500,000

The Environmental Assessment process for the Runway 4/22 extension is scheduled for completion in 1994 which could allow the construction of the extension of Runway 4/22 to begin in the latter part of 1994. The extension will add 2750 feet to Runway 4/22. Previously approved by the Commission.

RUNWAY 4/22 NOISE MITIGATION - $4,500,000

The extension pf Runway 4/22 will impact approximately 1295 homes in Bloomington and South Richfield. It is therefore proposed to include residential sound insulation as a mitigation measure to the existing 4/22 extension project. The 4/22 mitigation package would involve shifting the cost of sound insulating 1295 homes (approximately $22.5 million) from Part 150 to the 4/22 extension project as a means of addressing noise impacts associated with the project. This would shift the request for federal funding from Part 150 monies to runway construction funding which would most likely receive a higher priority for funding. The noise mitigation projects would be phased over a five year period starting in 1994.

RUNWAY TUNNEL/TUNNEL VENTILATION REHABILITATION - $100,000

The vehicle tunnel under Runway 11R/29L was constructed in 1970. Major maintenance is now required on the tunnel ventilation doors which are located at ground level between the runway and the terminal apron. The tunnel vent opening will be lowered and new doors constructed such that airport maintenance equipment can work around them without causing damage to the doors.

STORMWATER COLLECTION AND TREATMENT SYSTEM - $1,500,000

A new NPDES permit, to be issued to the Commission in September of 1993 will contain significant restrictions on the contaminants allowed to enter the Minnesota River in stormwater runoff from the airport. A pilot project to reduce glycol concentrations in the runoff is being constructed in 1993, along with major monitoring efforts to define the scope of future improvements. It is anticipated that modifications, additions and refinements to that system will be required in 1994 to produce continued improvement in water quality discharge.

TAXIWAY C/D COMPLEX - $14,500,000

The Delta Taxiway adjacent to the Red and Blue Concourses is currently restricted to 727 or smaller aircraft and the pavement of both the Delta and Charley taxiways is in need of replacement. It is proposed to reconstruct these taxiways to allow unrestricted two-way taxiing of aircraft on both taxiways.

ENVIRONMENTAL

HOME INSULATION/HOME BUYOUTS - $11,400,000

This item is intended to cover projects identified as part of the Federal Aviation Regulation (FAR) Part 150 program (noise control and compatibility planning for airports) which has been approved, in part, by the FAA. The projects would include items such as property acquisition and sound proofing of homes. The extent of the work will depend on the amount of federal aid available for each type of project. Land acquisition would include selected residences around the airport. The insulation of houses would be a continuation of the program which was initiated in 1992 in the cities of Minneapolis, Richfield, Bloomington, Eagan and Mendota Heights.

NEW FORD TOWN/RICH ACRES ACQUISITION - $23,000,000

The Commission has requested FAA AIP Noise Mitigation Funds to be included in the Part 150 Noise Compatibility Program for acquisition and relocation of the Sub-divisions of Rich Acres and New Ford Town in the City of Richfield.

The subdivisions of New Ford Town and Rich Acres have long been subjected to airport and ground noise associated with aircraft operations at MSP. New Ford Town is included within both the existing (1991 level day night Ldn) 70 and 75 noise contours, while Rich Acres is affected by the Ldn 65 contour.

Once the property has been acquired in fee simple title, existing structures will be removed by relocation or demolition and remaining basements will be filled with crushed foundation walls and driveway material and topped with three feet of clean fill and topsoil. Turf will be re-established over disturbed and filled areas until a permanent reuse of the property can be determined at a later date. Public and private utilities, except public right-of-ways, will be vacated, capped or otherwise severed at the street entrance to the individual properties. Existing vegetative cover (trees and shrubs) will be preserved to the extent practical.

This land acquisition and relocation project will begin in 1994, pending the availability of federal aid.

NOISE SUPPRESSOR - $6,000,000

Minnesota Statutes require the construction of a noise suppressor to reduce run-up noise. Noise monitoring data collected is being tabulated, analyzed and presented in a report to the Legislature for consideration and further direction on this item. Previously approved by the Commission.

LANDSIDE

AIRPORT SECURITY SYSTEM MODIFICATIONS - $50,000

FAA security requirements specify that the airport must control access to the Air Operations Area (AOA). Concern has been expressed by the FAA regarding the potential for persons to gain access to the baggage makeup area and then the AOA through the inbound and outbound baggage belts in the Lindbergh and HHH Terminals. The FAA has informed the airport that we are therefore in violation of the Airport Master Security Plan. It is therefore proposed to provide controls on the baggage belts which would open and close doors depending on whether the baggage belts are moving.

AUTOMATED PEOPLE MOVEMENT SYSTEM - $9,800,000

Replacing the existing shuttle bus system which transports rental car customers from the Lindbergh Terminal to the Auto Rental building with an "automated people mover" system has been under consideration for several years. The existing system operates at-grade and has conflicts with vehicles utilizing the parking ramps at four crossing points; requires users to walk in an unclimatized route (outside) approximately 300 feet between the terminal building and the bus pick-up point; does not meet accessibility requirements mandated by

current ADA standards; suffers delays due to slow loading and unloading of passengers and luggage; and suffers from a poor public image.

The automated people mover system would solve the above problems as the system would be completely grade-separated, operating from the Ground Transportation Center which is one level below grade; is a completely climatized system; is more accessible by being located within the GTC; meets all current ADA requirements by loading and unloading at one level with no step; is faster than the current system both in travel time and loading and unloading time; and would project an image of being a modern, safe and easy-to-use service.

The concept of a GTC and people mover has been approved in previous capital improvement programs and is currently shown to be implemented in two phases beginning in 1994. Funding for the project in the amount of $19,200,000 has been approved as part of the Commission's first Passenger Facility Charge application. This would be the first of two phases in the construction of the automated people mover system and would include the purchase of the system components.

COMM/OPS CENTER MODIFICATIONS - $400,000

The Communications and Operations personnel coordinate the day-to-day airfield activities including emergency response, snow removal and construction from their facilities on the Blue Concourse. Since the original facilities were constructed, personnel and equipment have continued to increase such that the existing space is inadequate for the efficient operation of the departments. It is therefore proposed to expand the existing facilities to allow for enough space to meet current needs and allow room for future growth.

CONCESSION AREA DEVELOPMENT - $500,000

A concession study for the Lindbergh Terminal will be completed in 1993 which will review the types and level of concessions currently offered and recommend what new services could be offered to the public. Minor space modification could be completed in 1994 with the majority of the recommendations expected to be implemented in 1995. Previously approved by the Commission.

HHH TERMINAL CARPETING - $100,000

The carpeting in the public areas of Gates 1, 2 and 3 of the Humphrey Terminal is worn to the extent that replacement is required. This project would replace the existing floor finish with interchangeable carpet squares.

IN/OUT BOUND ROADWAY SIGNAGE REVISIONS - $400,000

With the changes to the elevated and ground level roadway systems starting in 1994, there will be a need to revise the current informational signage on the inbound and outbound roadways. Included in the proposed signage will be an overhead changeable message sign which will alert people coming to the airport to go directly to parking if the elevated roadway is congested.

INFORMATIONAL/DIRECTIONAL SIGNAGE ADJUSTMENTS - $50,000

This project will continue the upgrading of the signage in the terminal building which was started in 1992 and continued into 1993. The system will be more flexible and comprehensive while fitting with the new terminal building decor.

LANDSIDE BITUMINOUS - $430,000

Much of the roadway system serving the airport as well as many of the Commission's parking lots are constructed of bituminous pavements. Some of these roadways and parking lots are in need of major reconstruction. In 1993 the Commission began a program to reconstruct those roadways and parking lots outside of the air operations area which require major repair. Projects to be completed in 1994 include installing a bituminous overlay on 34th Avenue from I-494 to 70th Street, reconstructing 62nd Street from 28th Avenue to Standish and installing a bituminous pavement in the parking area between the carpenters' and painters' shops.

LINDBERGH TERMINAL ELECTRICAL MODIFICATIONS - $100,000

It is proposed that the program to address electrical issues in the Lindbergh Terminal requiring attention due to age and deterioration of the existing systems or modifications necessary for improved operations be continued. This project typically includes: additional area lighting units and circuitry revisions for improved safety and security, replacement/relocation of fixtures to reduce maintenance costs, etc. The major project proposed for 1994 is the replacement of the lights and ballasts on the Red Concourse with more energy efficient units.

LINDBERGH TERMINAL INTERIOR REHABILITATION - $500,000

A Lindbergh Terminal Interior Design Standards and Guidelines study was completed with a major priority to incorporate a "Minnesota Image" into the Lindbergh Terminal building. The result was a document that established a framework for interior spaces and finishes that will improve the character and amenities of the physical facilities for the traveling public. A phased implementation schedule was proposed to accomplish the study recommendations.

The major renovation of the terminal has been scaled back due to the economic climate surrounding the airline industry. Therefore, a project similar to that completed in the baggage claim area will be implemented in the ticketing area. Work would include carpet/flooring replacement and wall treatment revisions.

LINDBERGH TERMINAL MECHANICAL MODIFICATIONS - $150,000

It is proposed that a program initiated in 1992 be continued in subsequent years to address mechanical issues requiring attention due to age and deterioration of the existing systems or modifications necessary for improved operations. The items to be addressed will be analyzed in 1993 and a recommendation will be available prior to approval of the CIP for the 1994 construction season.

LINDBERGH TERMINAL MISCELLANEOUS MODIFICATIONS - $250,000

To keep abreast with the changing requirements in the terminal facilities, it is necessary to update and remodel areas periodically. This may be a series of individual projects to meet the requirement of various tenants, however, the items will be consolidated into a single project when possible. Projects proposed for 1994 include modifications to the employee break room and new carpeting for the passenger waiting area.

LINDBERGH TERMINAL OFFICE MODIFICATIONS - $150,000

The Lindbergh Terminal Building Supervisor interacts with a multitude of vendors, maintenance people, consultants, tenants and contractors as well as with other Commission staff. The existing office does not have adequate space to conduct the many meetings required in the operation of the terminal building without disruption. It is therefore proposed to expand the current office to provide a more efficient working environment.

LINDBERGH TERMINAL SEATING REPLACEMENT - $100,000

The Terminal Furnishings project of 1991 provided seating, ash/trash receptacles and planters for the Ticketing, Baggage Claim, Rental Auto Shuttle Building and the Regional Terminal. The seating and accessories for the Waiting and Lounge area of the terminal were not included because they were thought to be part of the forthcoming major interior rehab of the space. However, those major projects have been deferred due to budget constraints. The existing seating in the main waiting area is a collection of plastic shell chairs inherited from airline gate lobbies along with upholstered seating that is torn or damaged. This project will provide for the replacement of the existing seating as well as include trash receptacles which match those purchased in 1991.

PARKING RAMP EXIT BOOTH REPLACEMENT - $150,000

Several of the exit booths from long term parking date back prior to 1970 and are in need of replacement. It is proposed to replace six of these booths with new structures.

PARKING STRUCTURE REHABILITATION - $550,000

In order to maintain the integrity of the multi-level parking structures, an annual project has been programmed to address normal maintenance issues such as concrete repairs, joint sealant replacement, expansion joint repairs, etc. It is also proposed to upgrade the lighting system on each level of the Gold Parking Ramp such that it is equal to the system in the new Green structure. Levels 5, 6 and 7 remain to be upgraded and will be completed in 1994.

PUBLIC SAFETY STORAGE BUILDING - $270,000

The increasing emphasis on safety/security/drug enforcement is resulting in a need to construct a multi-purpose centrally-located building capable of storing equipment such as the bomb trailer and associated x-ray equipment, the emergency response medical trailer and air-boat. This facility would also include a "secured" storage area in the event a vehicle is used in a felony. Previously approved by the Commission.

TERMINAL COMPLEX SPRINKLER SYSTEM ADDITIONS - $100,000

Staff and our architectural/engineering consultants have met with the fire insurance underwriters to identify areas within the terminal complex that, if covered by an automatic sprinkler system would result in fire insurance premium savings. A program was initiated in 1988 to address four key areas generally involving the restaurant/lounge, airline ticket offices and storage areas. This item is programmed to allow for further analysis of areas which, if sprinkled, would allow for further insurance premium reductions. It will also allow for extension of the sprinkled areas should space utilization changes occur. Previously approved by the Commission.

TUG DRIVE CONCRETE SEALING - $250,000

A project to address leakage problems and structural deterioration in the terminal basement under the inner roadway was completed in 1986. A similar problem that must be corrected exists under the tug drive area in the baggage make-up area as the tugs and baggage carts carry water and salt-laden snow into the areas which leaks into the basement and perpetuates the deterioration and also damages cars parked in the garage area. A project to evaluate various manufacturers' products was completed in 1991 and evaluated in 1992. Completion of the entire tug drive area will be phased starting in 1994. Previously approved by the Commission.

VALET MECHANICAL CONSOLIDATION - $1,000,000

Currently, there are two mechanical rooms with older mechanical equipment providing service to the valet parking garage. Two new mechanical rooms will be constructed within the Ground Transportation Center facilities. It is proposed to replace the mechanical equipment within each of the existing mechanical rooms and relocate it to one of the new mechanical rooms in the GTC. The existing mechanical rooms will be demolished to provide additional parking spaces in the valet garage.

1994 CAPITAL IMPROVEMENT PROJECTS
MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT

FIELD & RUNWAYS

#	Airside Bituminous Construction	$250,000	
#	Apron Lighting Upgrade	250,000	
	Miscellaneous Construction	350,000	
#	Pavement Rehabilitation - Aprons, Taxiways, etc.	2,500,000	
#	Runway 4/22 Extension	12,500,000*	
#	Runway 4/22 Noise Mitigation		4,500,000
	Runway Tunnel/Tunnel Vent Rehab	100,000	
#	Stormwater Collection/Treatment Systems	1,500,000	
#	Taxiway C/D Complex	14,500,000	
	SUBTOTAL	$36,450,000	

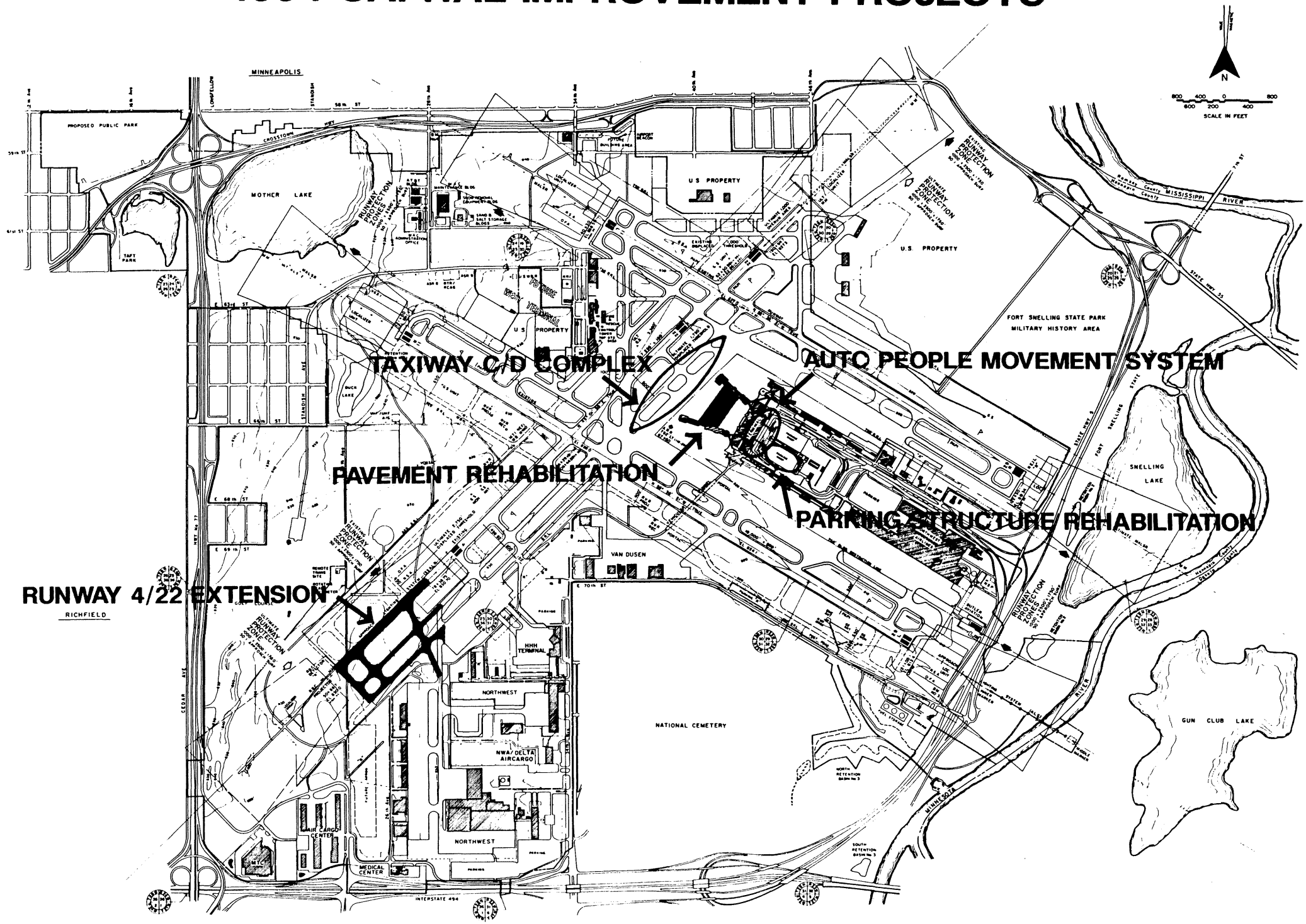
ENVIRONMENTAL

#	Home Insulation/Home Buyouts		$11,400,000
#	New Ford Town/Rich Acres Acquisition	23,000,000	
#	Noise Suppressor	6,000,000*	
	SUBTOTAL	$40,400,000	

LANDSIDE

Airport Security System Modifications	$ 50,000	
Automated People Movement System	9,800,000	
Comm/Ops Center Modifications	400,000	
Concession Area Development	500,000	
HHH Terminal Carpeting	100,000	
In/Out Bound Roadway Signage Revisions	400,000	
Informational/Directional Signage Adjustments	50,000	
Landside Bituminous	430,000	
Lindbergh Terminal Electrical Modifications	100,000	
Lindbergh Terminal Interior Rehabilitation	500,000	
Lindbergh Terminal Mechanical Modifications	150,000	
Lindbergh Terminal Miscellaneous Modifications	250,000	
Lindbergh Terminal Office Modifications	150,000	
Lindbergh Terminal Seating Replacement	100,000	
Parking Ramp Exit Booth Replacement	150,000	
Parking Structure Rehabilitation		550,000
Public Safety Storage Building	270,000*	
Terminal Complex Sprinkler System Additions	100,000	
Tug Drive Concrete Sealing	250,000	
Valet Mechanical Consolidation		1,000,000
SUBTOTAL	$15,300,000	
ANNUAL TOTAL	**$92,150,000**	

1994 CAPITAL IMPROVEMENT PROJECTS



MINNEAPOLIS - ST. PAUL INTERNATIONAL AIRPORT

JANUARY 1992

1995 CAPITAL IMPROVEMENT PROGRAM
MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT

FIELD AND RUNWAYS

AIRFIELD DRAINAGE STRIP REMOVALS - $1,500,000

The Commission has been operating under a National Pollutant Discharge Elimination System (NPDES) permit for storm water since 1974. The current permit requires each of the Commission's five storm water outfalls to be monitored at least monthly with samples for total suspended solids (TSS), oil and grease, five-day biochemical oxygen demand (BOD_5) and pH. Over the years, there have been exceedances of the storm water effluent limitations. TSS are generated by the tons of sand which are applied to the runway and taxiway system each winter to provide traction for aircraft. To help reduce the TSS, the Commission has begun to eliminate bituminous drainage strips which are located adjacent to each runway. These are typically eliminated when the runway is reconstructed, as extensive grading is required. The drainage strips are being replaced with bituminous shoulders which drain overland through turf areas into drainage swales and then to storm water inlets which slow the runoff from the concrete runways, allowing for greater trapping of sediment and reducing the TSS. In addition, grassy swales have the added benefit of reducing stormwater runoff rates to the Commission's retention basins. It is proposed to implement a program, starting in 1995, to accelerate the elimination of the drainage strips where possible.

AIRSIDE BITUMINOUS CONSTRUCTION - $500,000

A project to construct or reconstruct bituminous pavements on various areas within the Air Operations Area (AOA). Typical items of work include taxiway shoulders, blast pads, roadways, etc. Items to be included in this category will be reviewed in more detail during 1994 and will be presented for approval when the CIP is updated for the 1995 construction season.

ELECTRICAL MODIFICATIONS - $100,000

The conditions of portions of existing underground field lighting circuits have deteriorated to the extent that normal maintenance operations cannot provide adequate resistance to ground required for continued uninterrupted use. This deterioration is caused by such factors as age and rodent damage. This project would be a continuation of the program initiated in 1988 to replace various circuits based on a condition survey and circuit priority and will be coordinated with other construction projects to ensure minimal disruption to airport operations. Other improvements to the airfield lighting system will also be considered, such as, replacement of regulators, switches, etc.

MISCELLANEOUS CONSTRUCTION - $275,000

It is proposed to continue the Commission's annual program of a miscellaneous construction project for the airport which consolidates various incidental items beyond the capabilities of our maintenance personnel, or projects too small to be accomplished independently. The items typically involve bituminous resurfacing, fencing and security gates, signage, etc. Projects will be evaluated during 1994 and will be presented for approval when the CIP is updated for the 1995 construction season.

PAVEMENT REHABILITATION - APRONS, TAXIWAYS, ETC. - $2,500,000

This is a continuation of a program to replace sections of concrete pavement in the aircraft operational areas that have deteriorated to a point where maintenance is no longer a viable option. This year's project will be the final phase in the reconstruction of the apron between the Red and Blue Concourses which was begun in 1993.

PAVEMENT REHABILITATION - RUNWAY 11R/29L - $2,600,000

The original concrete pavement on Runway 11R/29L was overlaid with bituminous in 1974 and again in 1983. This overlay was continuing to deteriorate from age and use and the center 80 feet of the runway was therefore milled to a depth of 4 inches and replaced with 4 inches of new bituminous in 1991. It is proposed to monitor the condition of the runway in 1994 and subsequent years to see if the outer edges require reconstruction. This would be accomplished by milling the outer 60 foot edges to depth of 4 inches and installing a new 4 inch bituminous surface. The condition of the 1991 bituminous overlay will also be monitored. Previously approved by the Commission.

PAVEMENT REHABILITATION - 4/22 AND 11R/29L INTERSECTION - $800,000

The intersection of Runways 4/22 and 11R/29L was last reconstructed in 1970 and consists of 14 inch concrete pavement. This is in contrast with the 18 inch pavement currently being constructed on all new runways. It is proposed to study alternatives for replacement of this intersection such that a plan is in place when pavement conditions require the intersection to be reconstructed. As work on this intersection involves the closing of two runways, the alternative which involves the shortest construction time will most likely be selected.

RUNWAY 4/22 NOISE MITIGATION - $4,500,000

The extension pf Runway 4/22 will impact approximately 1295 homes in Bloomington and South Richfield. It is therefore proposed to include residential sound insulation as a mitigation measure to the existing 4/22 extension project. The 4/22 mitigation package would involve shifting the cost of sound insulating 1295 homes (approximately $20 million) from Part 150 to the 4/22 extension project as a means of addressing noise impacts associated with the project. This would shift the request for federal funding from Part 150 monies to runway construction funding which would most likely receive a higher priority for funding. The noise mitigation projects would be phased over a five year period starting in 1994. This would be the second phase in the five year program.

STORMWATER COLLECTION AND TREATMENT SYSTEMS - $5,000,000

This is a continuation of the program to improve stormwater quality discharge into the Minnesota River. Specific project scopes will be developed from monitoring results from previously constructed systems.

ENVIRONMENTAL

HOME INSULATION/HOME BUYOUTS - $14,500,000

This item is intended to cover projects identified as part of the Federal Aviation Regulation (FAR) Part 150 program (noise control and compatibility planning for airports) which has been approved, in part, by the FAA. The projects would include items such as property acquisition and sound proofing of homes. The extent of the work will depend on the amount of federal aid available for each type of project. Land acquisition would include selected residences around the airport. The insulation of houses would be a continuation of the program which was initiated in 1992 in the cities of Minneapolis, Richfield, Bloomington, Eagan and Mendota Heights.

NEW FORD TOWN/RICH ACRES ACQUISITION - $23,800,000

The Commission has requested from FAA AIP Noise Mitigation Funds to be included in the Part 150 Noise Compatibility Program for acquisition and relocation of the Sub-divisions of Rich Acres and New Ford Town to the City of Richfield.

The subdivisions of New Ford Town and Rich Acres have long been subjected to airport and ground noise associated with aircraft operations at MSP. New Ford Town is included within both the existing (1991 level day night Ldn) 70 and 75 noise contours, while Rich Acres is affected by the Ldn 65 contour.

Once the property has been acquired in fee simple title, existing structures will be removed by relocation or demolition and remaining basements will be filled with crushed foundation walls and driveway material and topped with three feet of clean fill and topsoil. Turf will be re-established over disturbed and filled areas until a permanent reuse of the property can be determined at a later date. Public and private utilities, except public right-of-ways, will be vacated, capped or otherwise severed at the street entrance to the individual properties. Existing vegetative cover (trees and shrubs) will be preserved to the extent practical.

This is a continuation of the land acquisition and relocation project which began in 1994, and is dependent on the availability of federal aid.

SCHOOL NOISE ABATEMENT PROJECTS - $4,000,000

The FAR Part 150 Study referenced above includes providing noise abatement for schools within the Ldn 65 contour which are experiencing interruptions of classroom instruction by aircraft overflights. The Commission has therefore included noise abatement projects within the CIP with the goal of achieving aggregate noise reduction of 15-20 decibels (DBA) in the instructional areas of schools compared to noise levels prior to the project improvements. In past years, six schools have been soundproofed by the Commission with financial assistance from the FAA and MnDOT - Office of Aeronautics. It is proposed to continue this program with five additional schools starting in 1994. Typically, each project requires a minimum of two years to complete, depending on the size of the school and, as a result of the short (normally 3 month) summer construction period. The first year is devoted to gathering noise measurements to be used in designing specific noise attenuation measures. Construction commences in the second year and can take 2 years, depending on the size of the school.

SELF LIQUIDATING

NWA CONCOURSE MODIFICATIONS - $1,000,000

Northwest Airlines has completed a master plan pertaining to consolidation of their work forces resulting from the acquisition of Republic Airlines. The plan calls for modifications to space on all concourses at the airport to provide an improved working environment for all employees. Previously approved by the Commission.

LANDSIDE

AUTOMATED PEOPLE MOVEMENT SYSTEM - $7,000,000

Replacing the existing shuttle bus system which transports rental car customers from the Lindbergh Terminal to the Auto Rental building with an "automated people mover" system has been under consideration for several years. The existing system operates at-grade and has conflicts with vehicles utilizing the parking ramps at four crossing points; requires users to walk in an unclimatized route (outside) approximately 300 feet between the terminal building and the bus pick-up point; does not meet accessibility requirements mandated by current ADA standards; suffers delays due to slow loading and unloading of passengers and luggage; and suffers from a poor public image.

The automated people mover system would solve the above problems as the system would be completely grade-separated, operating from the Ground Transportation Center which is one level below grade; is a completely climatized system; is more accessible by being located within the GTC; meets all current ADA requirements by loading and unloading at one level with no step; is faster than the current system both in travel time and loading and unloading time; and would project an image of being a modern, safe and easy-to-use service.

The concept of a GTC and people mover has been approved in previous capital improvement programs and is currently shown to be implemented in two phases beginning in 1994. Funding for the project in the amount of $19,200,000 has been approved as part of the Commission's first Passenger Facility Charge application. This second phase of the project would construct the tunnel and service facilities for the system equipment purchased in phase 1.

CONCESSION AREA DEVELOPMENT - $4,000,000

A concession study for the Lindbergh Terminal will be completed in 1993 which will review the types and level of concessions currently offered and recommend what new services could be offered to the public. Minor space modifications will be completed in 1994 with the majority of the recommendations including adding additional terminal space expected to be implemented in 1995.

ELEVATED ROADWAYS CONSTRUCTION - $5,700,000

This is a continuation of the project to replace and expand the elevated roadway in front of the terminal building which began in 1993. This year's project will include construction of the canopy and lighting system as well as other final finishes and amenities.

FUEL FARM FIRE SUPPRESSION SYSTEM - $1,000,000

As a result of the 1990 fuel storage tank fire in Denver, there have been several meetings between Commission, MSP Fueling Committee and Butler Aviation staff to discuss improvements and projects required to upgrade the alarm and fire suppression capabilities at the MSP fuel farm located on Post Road. One recommendation of the Commission's fire department was to increase the volume of water available at the fuel farm. A study was made of the water supply system and a recommendation made that a new 18-inch main and associated fire hydrants be installed on Post Road as far as the SuperAmerica station. This new main was constructed in 1992. Additional revisions to the piping and valving associated with the above ground storage tanks and additional fire suppression equipment and facilities will be evaluated in 1994 for implementation in 1995.

FUEL HANDLING, TREATMENT AND STORAGE FACILITY - $150,000

The Commission's maintenance department collects fuel-soaked pads, booms and corn cobs from fuel spills. Increasing regulatory requirements are making it exceedingly more difficult to dispose of these products. It is proposed to construct a facility to store and process these items prior to shipping them off site for disposal. The facility would include a storage area for dumpsters, in which the materials could be stored, a press for processing the materials and storage capacity for the resulting petroleum products.

GTC FINISHES - $2,100,000

This project is a continuation of the construction of the Ground Transportation Center and includes the remaining finish construction within the lobby area of the GTC.

GREEN CONCOURSE INSULATION REMOVAL - $400,000

In order to clear the work areas for the Mechanical System Conversion, asbestos containing pipe insulation will have to be removed.

GREEN CONCOURSE INTERIOR REHABILITATION - $500,000

The recent Red and Blue Concourse Rehabilitation projects established certain interior finish standards that will be carried through the remaining concourses. This project will address wall finishes, as ceiling and lighting items will be addressed in the mechanical systems conversion project. The carpeting was replaced in 1993 under a separate project. The public areas will receive new wall treatment which will primarily consist of a ceramic tile wainscot with vinyl fabric wall covering.

GREEN CONCOURSE MECHANICAL SYSTEMS CONVERSION - $3,350,000

The Green Concourse was constructed in a number of segments (original section, two additions and the "pod"). The original section and first addition are presently served by numerous individual packaged air conditioning units. Most of these units are far beyond their normal life expectancy. In addition, as the concourse interior configuration has evolved over the years, the existing units have not offered the flexibility to provide temperature control zones necessary for total comfort. A study was conducted to identify conversion options, costs, space requirements, etc. The study recommends the existing units be removed and replaced with centralized HVAC

units utilizing chilled water for cooling. Inasmuch as the concourse ceiling will be affected by this construction, certain components of the interior upgrade packages will also be addressed.

LANDSIDE BITUMINOUS - $200,000

This is a continuation of the program which began in 1993 to reconstruct the airport's bituminous roadways and parking lots. Projects will be evaluated in 1994 and will be presented for approval when the CIP is updated for the 1995 construction season.

LINDBERGH TERMINAL ALTERNATE COOLING SYSTEM - $4,000,000

The Lindbergh Terminal is cooled by chillers in the Energy Management Center which utilize groundwater pumped by a series of four wells located on the airport. The cool temperatures of the groundwater aids in reducing the amount of additional cooling required prior to pumping into the chilled water system. Once the warm water is returned to the Energy Management Center, it is discharged to the storm sewer system. The State of Minnesota DNR has mandated that this use of groundwater for "once through" cooling systems must be eliminated on a schedule dependant on the age of the existing cooling components. The Commission has until the year 2000 to install an alternate system for cooling the terminal which does not use groundwater.

A report has been prepared which recommends replacement of the existing chillers and the use of cooling towers which would cool the warm water returned from cooling units and then recycle this water back through the chillers. Because this water is warmer than the cool groundwater previously used, larger chillers are required.

It is proposed to phase the conversion of the cooling system by installing new chillers in 1995 and the cooling towers in 1998. The chillers are being replaced at an earlier date because the refrigerants which are currently being used will no longer be available after 1995. The new refrigerants are not as efficient as those used today which will require larger chillers to provide the same cooling output.

LINDBERGH TERMINAL ELECTRICAL MODIFICATIONS - $100,000

This project would be a continuation of the program to address electrical issues requiring attention due to the age and deterioration of the existing system or modifications necessary for improved operations. The items to be addressed will be analyzed during 1994 and a recommendation will be available when the CIP is updated for the 1995 construction season.

LINDBERGH TERMINAL INTERIOR REHABILITATION - $500,000

This is a continuation of the program which was implemented in 1993 to renovate the interior of the Lindbergh Terminal. Typical projects involve replacement of floor coverings and wall treatments. Projects will be evaluated during 1994 and will be presented for approval when the CIP is updated for the 1995 construction season.

LINDBERGH TERMINAL MECHANICAL MODIFICATIONS - $150,000

It is proposed that a program initiated in 1992 be continued in subsequent years to address mechanical issues requiring attention due to age and deterioration of the existing systems or

modifications necessary for improved operations. The items to be addressed will be analyzed in 1994 and a recommendation will be available when the CIP is updated for the 1995 construction season.

LINDBERGH TERMINAL MISCELLANEOUS MODIFICATIONS - $250,000

To keep abreast with the changing requirements in the terminal facilities, it is necessary to update and remodel areas periodically. This may be a series of individual projects to meet the requirement of various tenants, however, the items will be consolidated into a single project when possible. Potential projects will be identified in 1994 and a recommendation will be available when the CIP is updated for the 1995 construction season.

PRIMARY DISTRIBUTION SYSTEM UPGRADE - PHASE 3 - $1,000,000

This project involves supplying the terminal building with alternate sources of power. Previous projects have fed electrical power to the north and south ends of the terminal via temporary substations. This project will provide for the permanent substation locations under the up and down ramps of the elevated roadway and will also provide required electrical modifications within the terminal building.

REVENUE CONTROL BUILDING ADDITION - $300,000

The Revenue Control Building located near the long term exit from the parking ramp, functions as the money storage, counting and bookkeeping facility for both short term and long term parking. This building also houses the parking equipment repair facilities and serves as the headquarters for APCOA, the Commission's public parking operation manager. The Commission's management agreement with APCOA requires that they maintain a file of all collected parking lot tickets for audit and control purposes for a least one year. Previous storage space for these tickets has been lost to other uses. This project would construct additional storage space on the second level along with one finished office to allow for a unified, organized storage area which would be readily accessible to APCOA's bookkeeping department.

TERMINAL AREA EQUIPMENT STORAGE BUILDING - $400,000

Requests have been received from MAC maintenance staff for an equipment storage and fueling facility in the vicinity of the Lindbergh Terminal. Currently, there is limited equipment storage in the terminal area and all equipment must be transported to and from the maintenance building located across from the General Office.

TERMINAL COMPLEX SPRINKLER SYSTEM ADDITIONS - $100,000

Staff and our architectural/engineering consultants have met with the fire insurance underwriters to identify areas within the terminal complex that, if covered by an automatic sprinkler system would result in fire insurance premium savings. A program was initiated in 1988 to address four key areas generally involving the restaurant/lounge, airline ticket offices and storage areas. This item is programmed to allow for further analysis of areas which, if sprinkled, would allow for further insurance premium reductions. It will also allow for extension of the sprinkled areas should space utilization changes occur. Previously approved by the Commission.

TRADES SHOP BUILDING - $2,000,000

Currently, the Commissions's carpentry, electrical and painting crews occupy individual buildings in the West Terminal area. As the work crews and associated equipment and material inventories have grown to meet the various maintenance demands, their existing facilities are not adequate for their functions. In addition, new state and federal regulations require areas for the storage of hazardous materials such as are used by the painting crews. It is proposed a centralized facility capable of housing the three maintenance functions be evaluated. Each trade area would include a workshop, material storage area and foreman's office; common vehicle garage, toilet facilities and lunch/break room would also be provided.

TUG DRIVE CONCRETE SEALING - $250,000

This is a continuation of the 1994 project to address leakage problems and structural deterioration in the tug drive area. Phase 2 would complete the concrete sealing in the tug drive area.

WEST TERMINAL AREA REHABILITATION - $100,000

A project or projects to modify or remodel areas to meet the needs of the various tenants and general public utilizing these facilities.

1995 CAPITAL IMPROVEMENT PROGRAM
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FIELD & RUNWAYS

#	Airfield Drainage Strip Removals	$1,500,000	
#	Airside Bituminous Construction	500,000	
#	Electrical Modifications	100,000	
	Miscellaneous Construction	275,000	
#	Pavement Rehabilitation - Aprons, Taxiways, etc.	2,500,000	
#	Pavement Rehabilitation - Runway 11R/29L	2,600,000*	
#	Pavement Rehab. - Rwy 4/22 & Rwy 11R/29L Int.	800,000	
#	Runway 4/22 Noise Mitigation		4,500,000
#	Stormwater Collection/Treatment Systems	5,000,000	
	SUBTOTAL	$17,775,000	

ENVIRONMENTAL

#	Home Insulation/Home Buyouts		$14,500,000
#	New Ford Town/Rich Acres Acquisition	23,800,000	
#	School Noise Abatement Projects	4,000,000	
	SUBTOTAL	$42,300,000	

SELF-LIQUIDATING

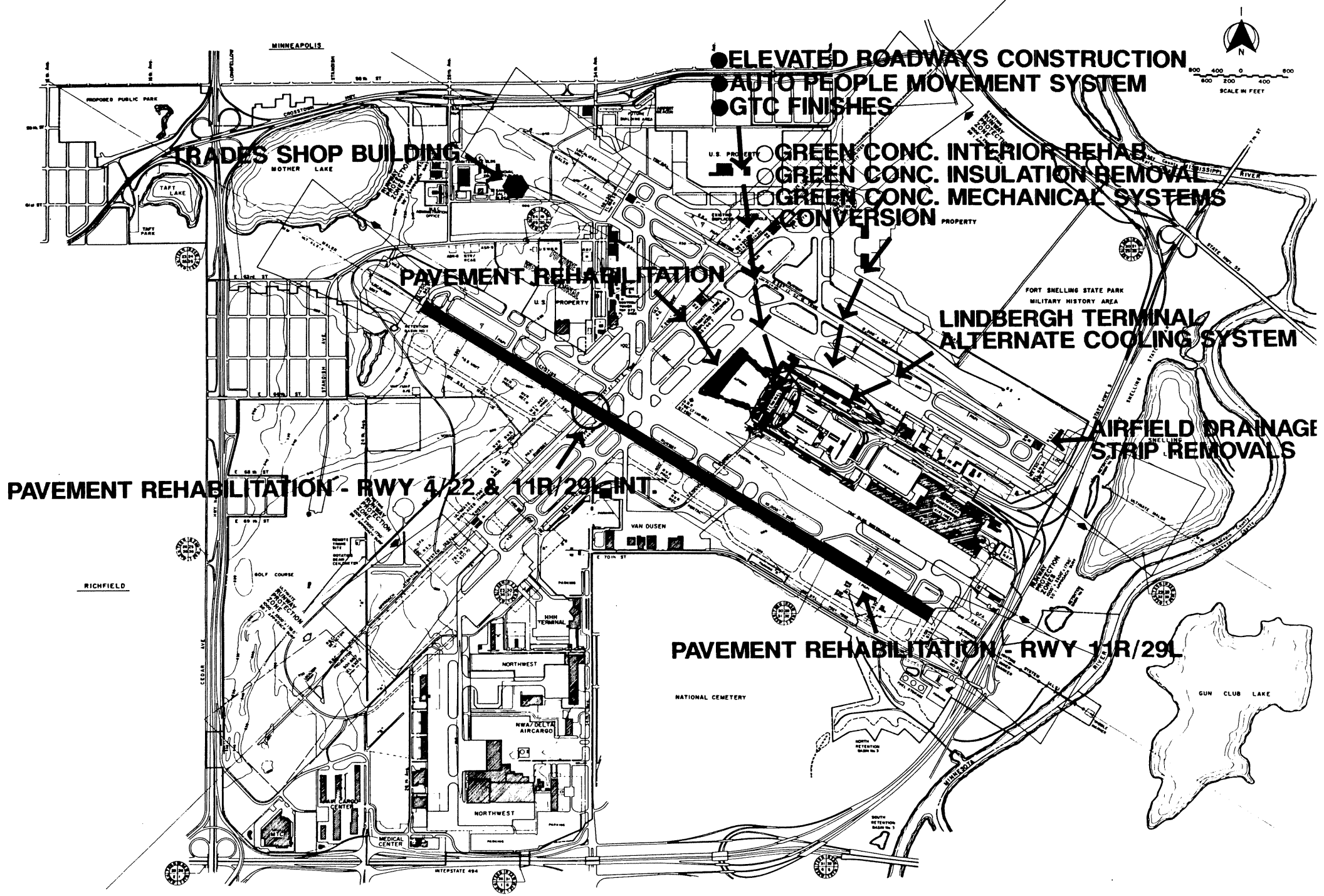
	NWA Concourse Modifications	$1,000,000*
	SUBTOTAL	$1,000,000

LANDSIDE

Automated People Movement System	$ 7,000,000
Concession Area Development	4,000,000
Elevated Roadways Construction	6,900,000
Fuel Farm Fire Suppression System	1,000,000
Fuel Handling, Treatment and Storage Facility	150,000
GTC Finishes	2,100,000
Green Concourse Insulation Removal	400,000
Green Concourse Interior Rehabilitation	500,000
Green Concourse Mechanical Systems Conversion	3,350,000
Landside Bituminous Construction	200,000
Lindbergh Terminal Alternate Cooling System	4,000,000
Lindbergh Terminal Electrical Modifications	100,000
Lindbergh Terminal Interior Rehabilitation	500,000
Lindbergh Terminal Mechanical Modifications	150,000

Lindbergh Terminal Miscellaneous Modifications		250,000
Primary Distribution System Upgrade - Phase 3		1,000,000
Revenue Control Building Addition		300,000
Terminal Area Equipment Storage Building		400,000
Terminal Complex Sprinkler System Additions		100,000
Trades Shop Building		2,000,000
Tug Drive Concrete Sealing		250,000
West Terminal Area Rehabilitation		100,000
	SUBTOTAL	$34,750,000
	ANNUAL TOTAL	**$95,825,000**

1995 CAPITAL IMPROVEMENT PROGRAM



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JUNE 1993