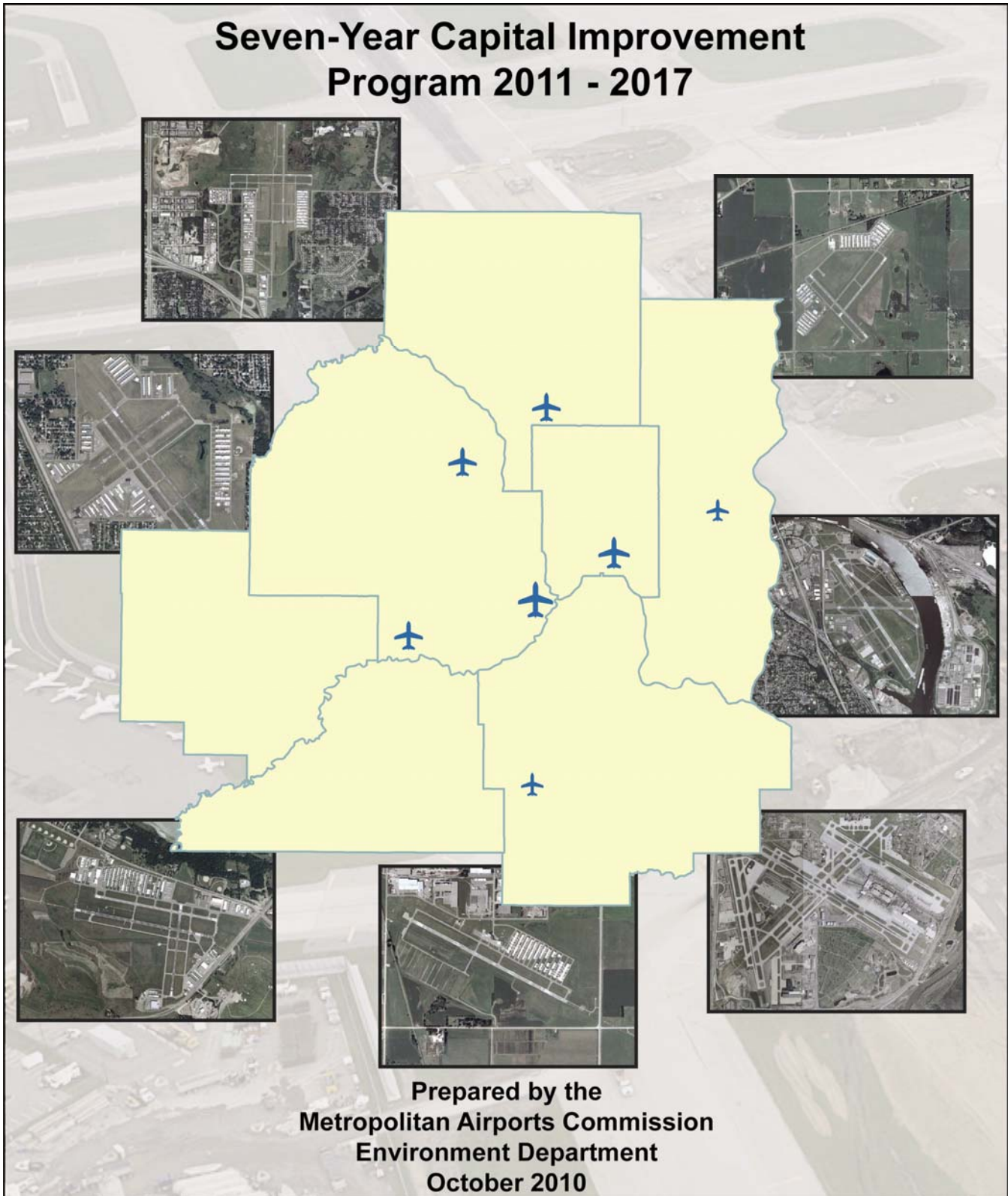




# Assessment of Environmental Effects

## Seven-Year Capital Improvement Program 2011 - 2017



Prepared by the  
Metropolitan Airports Commission  
Environment Department  
October 2010

# Table of Contents

<b><u>Sections</u></b>	<b><u>Page</u></b>
1. Introduction.....	1
2. Projects with Potential Environmental Effects and Effects During Construction .....	10
3. Cumulative Environmental Effects .....	11

## **Appendicies**

A. Description of Projects in the 2011 – 2017 Capital Improvement Program.....	A-1
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## **Tables**

Table 1-1: 2011 – 2017 Capital Improvement Program .....	2
Table 1-2: Summary Environmental Assessment of 2011 Projects in the MAC 2011 – 2017 Capital Improvement Program that Require an EAW or EIS .....	9

## **Figures**

Figure A-1: MSP Projects with Potential Environmental Effects .....	A-1
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This report is prepared in response to the requirements of Minnesota Statutes 1986, Chapter 473, as amended in 1988 and 1998. It presents an assessment of the environmental effects (AOEE) of projects in the Metropolitan Airports Commission's (MAC) Seven-Year Capital Improvement Program (CIP) from 2011 to 2017 for each MAC airport. Under Minnesota law, the MAC is required to "examine the cumulative environmental effects at each airport of the projects at that airport (in the seven-year CIP), considered collectively." Many of the projects in the CIP entail repair or rehabilitation of existing facilities. Such work will not affect use of the facilities and as such will not add to, or subtract from, cumulative environmental effects. The anticipated measurable effects during construction are discussed under Section 2.

The amended 1986 law also requires the preparation of an Environmental Assessment Worksheet (EAW) under the Minnesota Environmental Policy Act (MEPA) for projects that meet all of the following conditions:

1. The project is scheduled in the CIP for the succeeding calendar year (2011 in this CIP);
2. The project is scheduled to cost \$5 million or more at Minneapolis-St. Paul International Airport (MSP) or \$2 million or more at any other MAC airport; and
3. The project involves the construction of: (i) a new or expanded structure for handling passengers, cargo, vehicles or aircraft; or (ii) a new runway or taxiway or the extension of an existing runway or taxiway.

Table 1-1 lists all projects included in the Seven-Year Capital Improvement Program for the years 2011 through 2017. An Environmental Assessment Worksheet (EAW), Environmental Assessment (EA) or Environmental Impact Statement (EIS) has been prepared for all projects scheduled to be implemented in 2011 that meet the above three conditions in Minnesota Statutes 1986, Chapter 473 for a mandatory EAW. There are no projects in the 2011 CIP that meet the criteria as is presented in Table 1-2.

Table 1-1  
2011 - 2017 CAPITAL IMPROVEMENT PROGRAM

Note	Projects	2011	2012	2013	2014	2015	2016	2017
	<b>2010 Program</b>							
	<b>Noise Mitigation Program</b>							
(1)	Noise Mitigation Settlement	\$17,250,000	\$4,300,000	\$1,300,000	\$3,420,000			
	Subtotal Noise Mitigation Program	\$17,250,000	\$4,300,000	\$1,300,000	\$3,420,000			
	<b>Post 2010 Program</b>							
	<b>10 - Lindbergh Terminal</b>							
	<b>Safety/Security Projects</b>							
(5)	In-line Baggage Screening **			\$28,000,000				
(3)	Automated External Defibrillator Notification System	\$550,000						
(4)	Data Room Equipment Relocation	\$1,250,000	\$1,300,000	\$1,350,000				
	Subtotal Safety/Security Projects	\$1,800,000	\$1,300,000	\$29,350,000				
		** Assumes TSA will fund 90% of the eligible project costs.						
	<b>Facility Rehabilitation</b>							
(2)	Skyway HVAC	\$1,200,000						
(2)	Skyway Flooring Replacement	\$150,000						
(2)	Electrical Infrastructure Rehab. Program	\$1,000,000	\$2,000,000	\$2,100,000	\$2,150,000	\$2,200,000	\$2,250,000	
(3)	Terminal Miscellaneous Modifications	\$2,500,000	\$2,500,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,500,000
(4)	Emergency Power Upgrades	\$1,000,000	\$2,200,000	\$2,250,000	\$2,300,000	\$2,450,000		
(5)	Lower Level Roadway/GTC Water Infiltration Mitigation				\$2,500,000			
(2)	Restroom Upgrade Program	\$2,000,000	\$2,600,000	\$1,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
(4)	Air Handling Unit Replacement	\$1,150,000	\$2,100,000	\$2,250,000				
(4)	Conveyance System Upgrades	\$2,950,000	\$3,500,000					
(4)	Jet Bridge Replacements	\$13,500,000			\$11,000,000	\$11,000,000	\$11,000,000	
(2)	Concourse E and F Pedestrian Bridges	\$2,100,000						
(2)	Folded Plate Drain and Roof Repair	\$4,700,000	\$4,700,000	\$600,000				
(2)	Plumbing Infrastructure Upgrade Program		\$500,000	\$500,000	\$500,000	\$500,000		
	Subtotal Facility Rehabilitation	\$32,250,000	\$20,100,000	\$11,700,000	\$23,450,000	\$21,150,000	\$18,250,000	\$5,500,000
	<b>Passenger Amenities</b>							
(4)	Art in the Terminal	\$250,000	\$250,000					
(2)	Meeter/Greeter/Freedom of Speech Booth Upgrades				\$225,000			
(2)	Concessions Revenue Development/Upgrades	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
(5)	Terminal Seating Improvements	\$1,000,000						
(4)	MUFIDS Phase 3	\$850,000						
(2)	Ticket Counter Upgrades to ADA				\$800,000			
(4)	Commission Chambers Telecoil Installation		\$160,000					
(4)	Way-finding Signage Improvements	\$1,600,000						
	Subtotal Passenger Amenities	\$3,900,000	\$610,000	\$200,000	\$1,225,000	\$200,000	\$200,000	\$200,000

Table 1-1  
2011 - 2017 CAPITAL IMPROVEMENT PROGRAM

Note	Projects	2011	2012	2013	2014	2015	2016	2017
	<b>Operational Improvements</b>							
(4)	Concourse C Elevator to D Street				\$450,000			
(4)	Open Architecture Building Automation (OABA)	\$1,700,000	\$1,800,000	\$1,850,000				
(6)	IS Data Center Facilities	\$3,000,000	\$17,000,000					
(4)	Fiber Optic Cable Infrastructure Upgrade/Expansion	\$1,650,000	\$1,650,000	\$1,650,000	\$1,200,000			
(3)	Wireless Network Control System	\$1,350,000	\$1,350,000	\$1,375,000				
	<b>Subtotal Operational Improvements</b>	<b>\$4,700,000</b>	<b>\$21,800,000</b>	<b>\$4,875,000</b>	<b>\$1,650,000</b>			
	<b>Post Airline Relocation Renovations</b>							
	<b>Terminal Remodeling</b>							
(2)	Terminal Bag Claim/Make-up Area/Rehab.		\$14,400,000		\$14,400,000	\$14,400,000		
(6)	Concourse E Remodeling/Expansion					\$36,600,000		
(2)	Ticket Lobby Modifications					\$18,010,000	\$18,010,000	
(2)	MAC Ops Center							\$1,235,000
	<b>Subtotal Terminal Remodeling</b>		<b>\$14,400,000</b>		<b>\$14,400,000</b>	<b>\$69,010,000</b>	<b>\$18,010,000</b>	<b>\$1,235,000</b>
	<b>Concourse G Expansion - Phase 1</b>							
(1)	Concourse G Tram - Equipment Procurement					\$50,000,000		\$76,000,000
(1)	Concourse G Tram - Guideway Installation							\$33,000,000
(1)	Concourse G Tram - Stations							\$306,530,000
(1)	Gate Hold Expansion - 10 Gates							\$2,000,000
(1)	Curbside Roadway							\$17,000,000
(1)	Apron Improvements							\$6,000,000
(1)	Fuel Line Extension							\$20,000,000
(1)	Air Side Tunnel Expansion					\$50,000,000		\$460,530,000
	<b>Subtotal Concourse G Expansion - Phase 1</b>					<b>\$50,000,000</b>		<b>\$460,530,000</b>
	<b>Parking Ramp Expansion - Phase 1</b>							
(1)	Curbside Expansion						\$10,340,000	
	<b>Subtotal Parking Ramp Expansion - Phase 1</b>						<b>\$10,340,000</b>	
	<b>Subtotal Post Airline Relocation Renovations</b>		<b>\$14,400,000</b>		<b>\$14,400,000</b>	<b>\$119,010,000</b>	<b>\$28,350,000</b>	<b>\$461,765,000</b>
	<b>Subtotal Lindbergh Terminal</b>	<b>\$42,650,000</b>	<b>\$58,210,000</b>	<b>\$46,125,000</b>	<b>\$40,725,000</b>	<b>\$140,360,000</b>	<b>\$46,800,000</b>	<b>\$467,465,000</b>
	<b>13 - Energy Management Center</b>							
(4)	Energy Savings Projects	\$3,000,000	\$3,000,000	\$3,500,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000
(4)	Alternative Energy Projects		\$1,000,000					
(2)	Condensate Receiver Tank and Pump Replacement	\$525,000						
(2)	Hot Water Heat Exchanger and Tank Replacement	\$352,000						
	<b>Subtotal Energy Management Center</b>	<b>\$3,877,000</b>	<b>\$4,000,000</b>	<b>\$3,500,000</b>	<b>\$4,000,000</b>	<b>\$4,000,000</b>	<b>\$4,000,000</b>	<b>\$4,000,000</b>

Table 1-1  
2011 - 2017 CAPITAL IMPROVEMENT PROGRAM

Note	Projects	2011	2012	2013	2014	2015	2016	2017
<b>21 - Field and Runway</b>								
(2)	Airside Bituminous Rehabilitation/Electrical Construction	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
(2)	Pavement Joint Sealing/Repair	\$650,000	\$650,000	\$650,000	\$650,000	\$650,000	\$650,000	\$650,000
(2)	Pavement Rehabilitation - Aprons	\$2,000,000	\$1,700,000	\$1,600,000	\$1,600,000	\$9,000,000	\$9,000,000	\$9,000,000
(2)	Pavement Reconstruction - Taxiways			\$7,800,000	\$7,000,000			
(4)	Runway 30R MALS	\$100,000			\$1,800,000			
(2)	Miscellaneous Airfield Construction	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
(5)	Perimeter Fence/Gate Barrier System	\$3,000,000						
(5)	Baggage Quarantine Building		\$1,260,000					
(5)	SIDA Incursion Upgrades				\$700,000			
(4)	ASR Shadow Mitigation				\$5,000,000			
(4)	South Field Maintenance Building Wash Bay				\$1,300,000			
(3)	Runway 12R/30L Tunnel Fans and Dampers	\$1,400,000						
(2)	Runway 12R/30L Tunnel Road Rehabilitation		\$2,000,000				\$6,000,000	
(2)	Concourse G Fuel Main Relocation							
(2)	Sanitary Sewer Replacement					\$4,450,000		
(6)	Fuel Load Island/GSE Building Demolition	\$6,700,000						
(6)	Taxiway C Extension to Humphrey Remote	\$4,900,000						
(1)	North Side Storm Sewer		\$5,000,000					
	<b>Subtotal Field and Runway</b>	<b>\$19,650,000</b>	<b>\$11,510,000</b>	<b>\$10,950,000</b>	<b>\$17,350,000</b>	<b>\$6,000,000</b>	<b>\$16,550,000</b>	<b>\$1,550,000</b>
<b>26 - Terminal Roads/Landside</b>								
(2)	Tunnel/Bridge Rehabilitation	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
(2)	Upper Level Roadway Rehabilitation						\$1,800,000	
(2)	Upper Level Roadway Electrical System Rehabilitation				\$400,000			
	<b>Subtotal Terminal Roads/Landside</b>	<b>\$100,000</b>	<b>\$100,000</b>	<b>\$100,000</b>	<b>\$500,000</b>	<b>\$100,000</b>	<b>\$1,900,000</b>	<b>\$100,000</b>
<b>31 - Parking</b>								
(2)	Parking Structure Rehabilitation							
(4)	T2-Humphrey Ramp VMS/Revenue Control System Upgrade	\$3,000,000	\$3,500,000	\$3,500,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000
(2)	T2-Humphrey GTC Core Building Modifications		\$1,500,000					
(4)	T1-Lindbergh/T2-Humphrey Vehicle Detection/Counting				\$850,000			
(5)	Valet Garage Flammable Waste Traps/Floor Drains	\$650,000			\$400,000			
(2)	Short Term Parking Redesignation				\$350,000			
(3)	Short Term Parking Guidance Light System				\$750,000			
(4)	Valet/Commercial Entrance Lanes Modifications				\$1,000,000			
	<b>Subtotal Parking</b>	<b>\$3,650,000</b>	<b>\$5,000,000</b>	<b>\$3,500,000</b>	<b>\$7,350,000</b>	<b>\$4,000,000</b>	<b>\$4,000,000</b>	<b>\$4,000,000</b>
<b>36 - Terminal 2 - Humphrey</b>								

Table 1-1  
2011 - 2017 CAPITAL IMPROVEMENT PROGRAM

Note	Projects	2011	2012	2013	2014	2015	2016	2017	
	<b>Safety/Security Projects</b>								
(3)	Emergency Voice Evacuation System	\$4,000,000							
	Subtotal Safety/Security Projects	\$4,000,000							
	<b>Facility Rehabilitation</b>								
(5)	Fuel Farm Lease Extinguishment		\$3,500,000						
(2)	Curbside Canopy/Monument Repair	\$1,100,000							
	Subtotal Facility Rehabilitation	\$1,100,000	\$3,500,000						
	<b>Terminal 2 - Humphrey Expansion</b>								
	Environmental Assessment (EA)	\$3,900,000							
	Airport Layout Plan	\$150,000							
	<b>Terminal 2 - Humphrey Phase 1-A Expansion</b>								
(5)	In-Line Baggage Screening**		\$18,500,000						
(1)	Apron Expansion - North		\$6,500,000		\$7,100,000				
(6)	Security Check Point	\$9,500,000							
(1)	Gates 1-3		\$52,070,000						
(1)	Gates 4-7				\$65,155,000				
(6)	Site Utilities		\$1,000,000						
	Subtotal Phase 1-A Expansion	\$9,500,000	\$78,070,000		\$72,255,000				
	** Assumes that TSA will fund 90% of the eligible project costs.								
	<b>Terminal 2 - Humphrey Phase 1-B Expansion</b>								
(1)	Apron Expansion - South				\$20,000,000				
(1)	Gates 18-27				\$99,600,000				
(6)	Site Utilities			\$5,000,000					
	Subtotal Phase 1-B Expansion			\$5,000,000	\$119,600,000				
	<b>Auto Rental Facilities/QTA</b>								
(1)	Roadway Realignment				\$62,535,000				
(1)	I-494/34th Ave. Interchange Enhancements				\$6,000,000				
(1)	Purple Ramp Outrigger Addition				\$25,000,000				
(1)	Orange Ramp Outrigger Addition/Levels 9&10			\$32,100,000					
(1)	Subtotal Terminal 2 - Humphrey Expansion	\$13,550,000	\$78,070,000	\$37,100,000	\$285,390,000			\$58,700,000	
	Subtotal Terminal 2 - Humphrey	\$18,650,000	\$81,570,000	\$37,100,000	\$285,390,000			\$58,700,000	
	<b>39 - Public Areas/Roads</b>								
(2)	Landside Pavement Rehabilitation	\$400,000	\$1,500,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	
(2)	Taxi Cab Break Room Expansion			\$800,000					

Table 1-1  
2011 - 2017 CAPITAL IMPROVEMENT PROGRAM

Note	Projects	2011	2012	2013	2014	2015	2016	2017
	Subtotal Public Areas/Roads	\$400,000	\$1,500,000	\$1,200,000	\$400,000	\$400,000	\$400,000	\$400,000
<b>46 - Hangars and other Buildings</b>								
(6)	Zantop Hangar				\$1,000,000			
(3)	Navy Building/Old Motor Pool Buildings				\$1,000,000			
(2)	Roof Replacements	\$3,100,000	\$850,000					
(2)	FAA Building Upgrades	\$1,400,000						
(2)	Navy Building Boiler Replacement	\$200,000						
(2)	Impark Building Rehabilitation		\$600,000					
(2)	Drivers Training Facility Rehabilitation		\$530,000					
	Subtotal Hangars and other Buildings	\$4,700,000	\$1,980,000		\$2,000,000			
<b>56 - Trades/Maintenance Buildings</b>								
(2)	Field Maintenance Center Roof Replacement	\$750,000						
	Subtotal Trades/Maintenance Buildings	\$750,000						
<b>63 - Police</b>								
(6)	Public Safety Facility			\$300,000	\$17,500,000			
(5)	Perimeter Fence Intrusion Detection System			\$3,000,000				
(4)	MSP Card Access/CCTV Improvements	\$1,400,000	\$4,600,000	\$4,000,000	\$2,000,000	\$2,000,000	\$500,000	\$500,000
	Subtotal Police	\$1,400,000	\$4,600,000	\$7,300,000	\$19,500,000	\$2,000,000	\$500,000	\$500,000
<b>66 - Fire</b>								
(5)	Post Road Fuel Farm Fire Protection Improvements	\$2,000,000						
(3)	MSP Campus Fire Alarm System Upgrade			\$850,000	\$850,000			
	Subtotal Fire	\$2,000,000		\$850,000	\$850,000			
<b>76 - Environment</b>								
(2)	Storm Water Pond Dredging		\$3,000,000					
(5)	North Fuel Island Oil/Water Separator		\$850,000					
(6)	Environmental Improvements			\$3,000,000				
	Subtotal Environment		\$3,850,000	\$3,000,000				
<b>Reliever Airports</b>								
<b>81 - St. Paul</b>								
(6)	Holman Terminal Sub drain			\$600,000				
(2)	Joint and Crack Repairs		\$100,000		\$100,000			\$100,000
(5)	MAC Building Maintenance		\$200,000		\$200,000			\$200,000
(2)	Pavement Rehabilitation		\$1,000,000	\$1,500,000		\$500,000		
(4)	Electrical Vault Improvements			\$700,000				
(6)	Perimeter Dike Haul Road							\$190,000



Table 1-1  
2011 - 2017 CAPITAL IMPROVEMENT PROGRAM

Note	Projects	2011	2012	2013	2014	2015	2016	2017
(4)	Compex Mitigation			\$1,000,000				
	Subtotal St. Paul	\$1,500,000	\$1,300,000	\$3,800,000	\$490,000	\$500,000	\$300,000	
	<b>82- Lake Elmo</b>							
(2)	Pavement Rehabilitation			\$300,000		\$300,000		
(1)	East Building Area Development **						\$2,800,000	
(2)	Runway 14/32 Reconstruction	\$1,700,000						
(1)	Runway 4/22 Extension					\$1,500,000		
(1)	East Side Parallel Taxiway						\$1,200,000	
	Subtotal	\$1,700,000		\$300,000		\$1,800,000	\$4,000,000	
		**Funding for this project to be provided by others.						
	<b>83 - Airlake</b>							
(2)	Pavement Rehabilitation			\$200,000		\$400,000		
(1)	South Building Area Development **				\$2,700,000			
(1)	Runway 12/30 Extension						\$8,000,000	
(6)	South Building Area Alleyway Development**	\$1,000,000						
	Subtotal Airlake	\$1,000,000		\$200,000	\$2,700,000	\$400,000	\$8,000,000	
		**Funding for this project to be provided by others.						
	<b>84 - Flying Cloud</b>							
(2)	Alleyway Rehabilitation		\$300,000					
(2)	Pavement Rehabilitation			\$800,000	\$900,000			
(2)	Runway 18/36 Extension/Improvements		\$1,700,000					
(6)	East/West Perimeter Road		\$300,000					
(1)	South Building Area Development **	\$1,500,000		\$600,000				
	Subtotal Flying Cloud	\$1,500,000	\$2,300,000	\$1,400,000	\$900,000			
		**Funding for this project to be funded by others.						
	<b>85 - Crystal</b>							
(2)	Alleyway Rehabilitation		\$550,000					
(4)	Obstruction Removals				\$300,000			
(2)	Pavement Rehabilitation			\$700,000				
(1)	Runway 14R/32L Modifications			\$1,000,000				
	Subtotal Crystal		\$550,000	\$1,700,000	\$300,000			
	<b>86 - Anoka County - Blaine</b>							
(2)	Pavement Rehabilitation			\$400,000				
(1)	Building Area Development - East Annex **	\$300,000					\$2,400,000	
(1)	Building Area Development - Xylite St. Relocation		\$1,000,000					
(1)	Building Area Development - West Annex **						\$850,000	
(6)	Taxiway Charlie - A2/C2 Extension		\$900,000					

Table 1-1  
2011 - 2017 CAPITAL IMPROVEMENT PROGRAM

Note	Projects	2011	2012	2013	2014	2015	2016	2017
	Subtotal Anoka County - Blaine	\$300,000	\$1,900,000	\$400,000	\$850,000	\$2,400,000		
	Subtotal Reliever Airports	\$6,550,000	\$5,500,000	\$7,800,000	\$5,240,000	\$5,100,000	\$12,300,000	
		**Funding for this project to be provided by others.						
	Subtotal Post 2010 Program	\$104,377,000	\$177,820,000	\$121,425,000	\$383,305,000	\$161,960,000	\$86,450,000	\$536,715,000
	Total CIP	\$121,627,000	\$182,120,000	\$122,725,000	\$386,725,000	\$161,960,000	\$86,450,000	\$536,715,000

NOTES:

- (1) A project that has potential substantive environmental effects.
- (2) A repair, rehabilitation or reconstruction project that does not physically alter the original size (the project does not have substantive environmental effects; an EAW or EIS is not required).
- (3) An electrical or mechanical device that monitors, indicates or controls existing conditions (the project does not have substantive environmental effects; an EAW or EIS is not required).
- (4) A structural, mechanical or electrical device and/or modification of an existing system or structure that does not significantly increase size or passenger capacity (the project does not have substantive environmental effects; an EAW or EIS is not required).
- (5) A project that consists of security enhancements, facility maintenance or upgrades (the project will not have substantive environmental effects; an EAW or EIS is not required).
- (6) A new, replacement or expansion project that does not have substantive environmental effects; an EAW or EIS is not required.

**Table 1-2  
Summary Environmental Assessment of 2011 Projects in the MAC 2011-2017 Capital Improvement Program that require an EAW or EIS**

Project Description	Are the Effects of the Project Addressed in an Approved EAW, EA or EIS?	Environmental Categories Affected by the Project													
		Air Quality	Compatible Land Use	Fish, Wildlife and Plants	Floodplains and Floodways	Hazardous Materials, Pollution Prevention and Solid Waste	Historical, Architectural, Archaeological and Cultural Resources	Light Emissions and Visual Effects	Parks, Recreation Areas and Trails	Noise	Water Quality (Storm, Waste and Ground Water)	Wetlands	Infrastructure and Public Services	Farmland	Erosion and Sedimentation
<b>MSP PROJECTS</b>															
THERE ARE NO PROJECTS SCHEDULED FOR 2011 IN THE MAC 2011-2017 CAPITAL IMPROVEMENT PROGRAM (CIP) THAT REQUIRE AN EAW OR EIS.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## Section

# 2

## Projects with Potential Environmental Effects and Effects During Construction

### Projects with Potential Environmental Effects

As is detailed in Table 1-2, there are no Capital Improvement Program (CIP) projects scheduled in 2011 that require the preparation of an Environmental Assessment Worksheet. Table 1-1 identifies those projects in the CIP that do not have a potential substantive effect on the environment (such as the repair, reconstruction or rehabilitation of pavement and buildings, and replacement of existing facilities). The notes in Table 1-1 offer further explanation of the type of work that each project entails and why this work will not affect the environment. Appendix A provides a description of each project in the CIP to be implemented in the years 2011 and 2012 and for only those projects that have potential substantive environmental effects to be implemented in 2013 through 2017. The descriptions of those projects scheduled to be implemented in 2013 through 2017 are preliminary and subject to change.

### Effects During Construction

Typical mitigation measures will be used during construction to minimize potential adverse environmental effects caused by the construction process, including noise, dust, and erosion. The environmental effects of construction are temporary and do not constitute cumulative, long-term effects. As a result, the environmental effects from construction of projects in the CIP are not discussed in Section 3 of this document, which describes cumulative environmental effects.

## Section

# 3

## Cumulative Environmental Effects

An Environmental Assessment Worksheet (EAW), Environmental Assessment (EA) or Environmental Impact Statement (EIS) requires an assessment of cumulative effects. A cumulative effect is the effect on the environment that results from the incremental effect of a project in addition to other past, present, and reasonably foreseeable future projects regardless of what entity or person undertakes the other projects. Cumulative effects may result from individually minor but collectively significant projects taking place over a period of time.

### 2010 MSP Projects

With the exception of the Residential Noise Mitigation Program, all projects related to the MSP 2010 Program and the Dual Track Airport Planning Process Final Environmental Impact Statement (Dual Track FEIS) have been completed. In the case of the Residential Noise Mitigation Program the environmental effects are of a positive nature providing enhanced environmental circumstances that do not require completion of an EAW, EA or EIS.

### Post 2010 MSP Projects

The Capital Improvement Program (CIP) also includes projects for Minneapolis-St. Paul International Airport (MSP) that were not included in the Dual Track FEIS but that have the potential for substantive environmental effects. These planned projects flow from the Metropolitan Airports Commission's (MAC) recently completed MSP 2030 Long-Term Comprehensive Plan Update that was submitted in July 2010 to the Metropolitan Council for review and approval.

In September 2010 the MAC also initiated the Environmental Assessment (EA) process for Phases 1 and 2 of the MSP 2030 Long-Term Comprehensive Plan. As is detailed by the \$3.9 million in the 2011 MAC CIP, this will be a comprehensive and detailed environmental analysis of the direct and cumulative environmental effects related to the projects in the 2012 – 2017 CIP that require environmental review. The findings of the EA will be documented in future MAC CIP Assessment of Environmental Effects (AOEE) prior to project commencement.

### Anoka County – Blaine Reliever Airport Projects

The MAC recently completed updating the Anoka County Blaine Airport Long-Term Comprehensive Plan (LTCP). The plan includes a taxiway extension, general pavement rehabilitation and identifies long term needs for additional hanger space.

The MAC and the Federal Aviation Administration (FAA) prepared and approved a Final EIS for the Anoka County-Blaine reliever airport in January 2003. The Final EIS included the East and West Annex Building Area projects and the proposed Xylite Street relocation that are a part of the CIP. These projects may affect water quality and wetlands by increasing impervious surface area, which will result in increased storm water runoff. To protect wetland areas, storm water detention ponds or

ditches will accommodate the increased runoff. Wetlands impacted by construction will be mitigated according to watershed district and/or Minnesota DNR requirements. The Annex projects will proceed only if funding from sources other than the MAC can be found.

The Taxiway Charlie extension is planned for 2012 and the East Building Area Annex project is planned for 2015. The MAC will complete the necessary environmental studies prior to implementation of either of these projects.

## Airlake Reliever Airport Projects

The MAC recently completed an update to the Long-Term Comprehensive Plan for the Airlake Airport. The recommendation in the plan includes completing the final phase of the South Building Area alleyway development and the extension of Runway 12/30 from 4,098-feet to 5,000-feet. The MAC prepared an EAW for the Airlake Airport South Building Area Development project in January 1999. The EAW addressed the storm water runoff and designated trout stream impacts. In 2001, the initial grading for the building area was completed with the construction of a storm water detention pond to capture runoff before it enters the designated trout stream. The trout stream was also relocated under a permit by the Minnesota DNR as part of the project. The second phase of construction is scheduled for completion in 2011. It will involve the placement of aggregate base and asphalt material for two to three hangar area taxilanes. The final phase, envisioned for 2014, will complete the remaining alleyway paving along with the installation of sanitary sewer and water services. All of this work was also evaluated in the 1999 EAW.

The Long-Term Comprehensive Plan for the airport details the extension of Runway 12/30 to 5,000 feet and the realignment of Cedar Avenue. This project is currently planned for 2016. The MAC is currently in the process of developing an EAW to evaluate the Cedar Avenue roadway alignment. The MAC will have to identify funding sources for implementation of the proposed runway extension and will not proceed with the runway extension project until the necessary environmental review is completed.

## Lake Elmo Reliever Airport Projects

The MAC recently completed an update to the Long-Term Comprehensive Plan for the Lake Elmo Airport. The recommendation in the plan includes the construction of the East Building Area and extension of Runway 4/22 from 2,499-feet to 3,200-feet. The MAC prepared an EAW for the East Building Area development in October 2001. The document identified increased storm water runoff, the removal of approximately 32 acres of farmland on MAC property, and an impact of 0.016-acres to a 3.30-acre Type 3 (small, shallow) wetland. As with past airport projects, the MAC will design the project to accommodate the storm water runoff onsite and will obtain all environmental permits necessary to implement the project.

The Runway 4/22 extension detailed in the Long-Term Comprehensive Plan for the airport is planned for 2015. The MAC will have to identify funding sources for implementation of the proposed runway extension and will not proceed with the runway extension project until the necessary environmental review is completed.

The CIP for the airport also includes a project, scheduled for 2011, to reconstruct Runway 14-32. The reconstruction project will not physically alter the original size of the runway and no additional environmental review is required for the reconstruction.

## Crystal Reliever Airport Projects

The MAC recently completed an update to the Long-Term Comprehensive Plan for the Crystal Airport. The recommendation in that plan is to close two of the airport's four runways. The MAC is in the process of determining the best course of action for implementing the long-term plan. The FAA must also approve the proposed runway closures.

The CIP includes the Runway 14R-32L modifications project, scheduled for 2013. This project involves the reconstruction and conversion of the existing runway pavement into a taxiway. This project will not be implemented until the necessary approvals and environmental study associated with the runway closure are completed.

## Flying Cloud Reliever Airport Projects

In June 2004, the MAC and the FAA prepared and approved a Final EIS that included the Runway 10R/28L Widening/Extension and South Building Area Development projects. In 2009 the runway extension was completed along with grading and paving of the South Building Area alleyways and service road. In 2011 the remaining piece of the South Building Area development will include the installation of sanitary sewer and water.

The MAC is presently in the process of updating the Flying Cloud Airport (FCM) Long-Term Comprehensive Plan (LTCP). The plan proposes a shift of Runway 18/36 to the north by 58 feet with an additional extension to the north of 109 feet, increasing the overall runway length to 2,800 feet. Additionally, an east-west perimeter road will be constructed through the Runway 18 approach along Pioneer Trail.

Upon finalization of the FCM LTCP any necessary environmental documentation will be completed as part of the planning and related CIP processes.

## St. Paul Downtown Reliever Airport Projects

The MAC recently completed updating the St. Paul Downtown Airport (STP) Long-Term Comprehensive Plan (LTCP). The plan does not propose any substantive expansion or enhancement of the facilities at STP.

Future CIP projects at STP are largely maintenance activities with no additional environmental review required.

## Appendix A

### **Description of Projects in the 2011 – 2017 Capital Improvement Program**

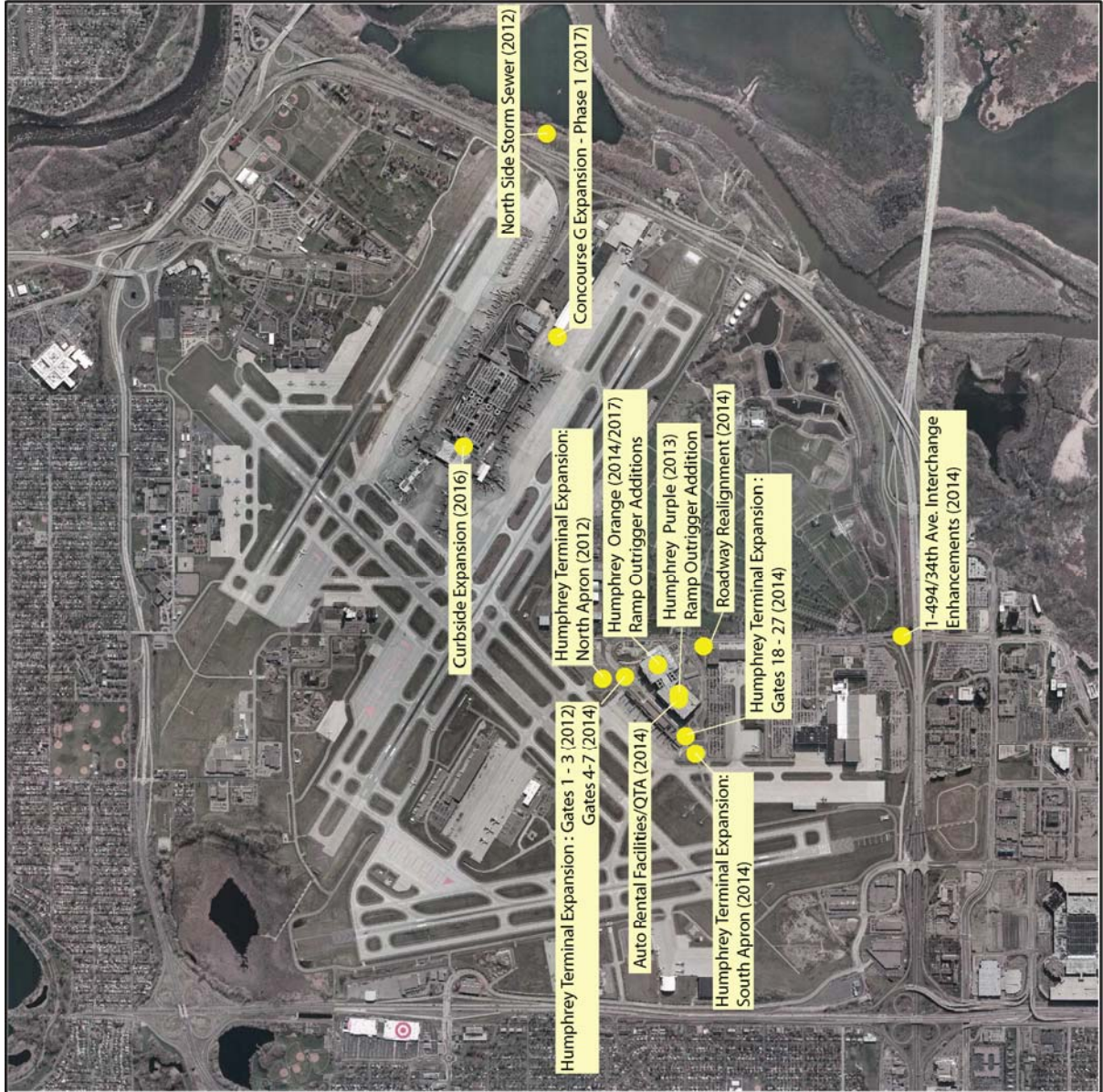
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# Capital Improvement Projects with Potential Environmental Effects

Minneapolis - St. Paul International Airport  
2011-2017

Year	Project Schedule
2011	Noise Mitigation Settlement
2012	Humphrey Terminal North Expansion : Apron Humphrey Terminal Expansion: Gates 1 - 3 North Side Storm Sewer <i>Noise Mitigation Settlement</i>
2013	Humphrey Purple Ramp Outrigger Addition <i>Noise Mitigation Settlement</i>
2014	Humphrey Terminal Expansion: Gates 4 - 7 and Gates 18 - 27 Humphrey Terminal South Expansion: Apron Humphrey Orange Ramp Outrigger Addition Auto Rental Facilities Roadway Realignment 1-494/34th Ave. Interchange Enhancements <i>Noise Mitigation Settlement</i>
2015	None for MSP
2016	Curbside Expansion
2017	Humphrey Orange Ramp Outrigger Addition/ Levels 9&10 Concourse G Expansion - Phase 1 <i>Projects in italics are not shown on map</i>



## 2011 Capital Improvement Program

### 2010 Development Program

#### Noise Mitigation Program

##### Noise Mitigation Settlement

\$17,250,000

This project is a continuation of the implementation of the noise mitigation program based on the Noise Exposure Map contained in the court-ordered Consent Decree, including the construction and administrative costs associated with noise mitigation in the 2007 60-62 DNL contours. The project funds will be expended over two years, 2011 and 2012, and will provide noise mitigation for homes in the \$14,000 Mitigation Menu category (a.k.a., Phase 2B). In addition, homeowner reimbursements for approved noise mitigation work in the 2005 60-64 DNL contours (a.k.a., Phase 3) are a portion of the 2011 project budget.

### Post 2010 Program Projects

#### 10 –Terminal 1-Lindbergh

##### SAFETY/SECURITY PROJECTS

##### Automated External Defibrillator Notification System

\$550,000

This project will provide an automated and wireless location and removal notification system for the existing Automated External Defibrillators (AEDs) installed throughout Terminal 1-Lindbergh and Terminal 2-Humphrey. The system will tie into the existing facilities monitoring and Card Access systems and be connected to the Emergency Communications Center (ECC). When a door to an AED is opened, the ECC will immediately be notified and will be able to dispatch Fire Department personnel to the general location. If a 911 call is made, the nearest AED's notification lights will be able to be alarmed/flushed and overhead announcements made to identify the AED location.

##### Data Room Equipment Relocation/Security

\$1,250,000

Information Systems (IS) at Minneapolis-St. Paul International Airport (MSP) support a number of essential functions including credit card processing. MSP is classified by the Payment Card Industry (PCI) as a level 2 merchant which means that between 1 million and 6 million active credit card transactions occur at the airport each year. The personal information of each credit card holder that uses his/her credit card at the airport is therefore stored and transmitted through many of Metropolitan Airport Commission's (MAC) data rooms. The PCI classification imposes specific security standards upon the MAC, the violation of which could expose the MAC to significant financial penalties as well as disrupt daily business operations. A requirement of the PCI is that the control of access to areas where the MAC's credit card processing equipment is located be limited to persons who have a direct business reason to have it. Currently, the MAC has a number of communication closets and data rooms that contain equipment other than MAC IS equipment and credit card processing equipment that require access for maintenance by staff that do not have access to MAC IS or credit card processing equipment. This project will therefore provide for the relocation of non-essential equipment out of the spaces that contain credit card processing equipment and the installation of any required access control equipment. This is a multi-year program.

FACILITIES REHABILITATION

Skyway HVAC \$1,200,000

The skyways from Terminal 1-Lindbergh to the parking structures utilize unit heaters for heating and cooling the skyways. These HVAC units have been failing over the years and repair parts have been increasingly difficult to find. This project would replace the units with a new HVAC system.

Skyway Flooring Replacement \$150,000

The existing floor covering on the skyways has faded and deteriorated over the years due to exposure to the sun and from fluid leaks from failing HVAC units. Once the HVAC units have been replaced, this project would provide for the installation of new floor covering materials.

Electrical Infrastructure Rehab Program \$1,000,000

There are 53 electrical substations that serve the Terminal 1-Lindbergh complex. It is imperative that these substations be inspected, cleaned and upgraded in order to ensure their continued performance. This is the third phase in a multi-phase program that began in 2009.

Terminal Miscellaneous Modifications \$2,500,000

Each year, MAC staff compiles a list of "maintenance" projects that are beyond the capability of the MAC's maintenance staff. These projects are then prioritized and completed either as a series of contracts or as purchase orders. A list will be compiled for 2010 and any projects that do not fit within the budget will be carried over into 2011. New projects will be discussed in early 2011.

Summarized below are the categories of the projects which are included in the Terminal Modifications program:

Building Exterior Rehabilitation \*

This is a continuation of the program to rehabilitate the exterior of Terminal 1-Lindbergh and other MAC buildings including roof and curtain wall rehabilitation.

Terminal Electrical Modifications \*

This is an ongoing program to address electrical issues in the terminals due to age and deterioration of the existing systems or modifications necessary for improved reliability.

Terminal Mechanical Modifications \*

This is an ongoing program to address mechanical issues in the terminals due to age and deterioration of the existing systems or modifications necessary for improved reliability.

Terminal Miscellaneous Modifications \*

This is an ongoing program to update and remodel areas within the terminals to keep abreast with changing requirements. This may be accomplished through a series of small individual projects to meet the requirements of the various tenants or may be consolidated into a single project.

Terminal 2-Humphrey Terminal & MSP Campus Modifications

\*

This is an ongoing program to modify or remodel areas within Terminal 2-Humphrey and other facilities around the MSP campus to meet the needs of the various tenants/general public/MAC departments utilizing the facilities

\*Historically, projects have been defined for each of these five categories. With reduced dollars available to fund non-revenue generating projects, a total dollar allocation of \$2,500,000 has been allocated to fund the highest priority projects within any of these project categories.

Emergency Power Upgrades

\$1,000,000

Studies and surveys of the Terminal 1-Lindbergh transfer switches and emergency lighting were completed and priority projects implemented in 2008. This year's project will continue the design and implementation of emergency power and lighting corrective work.

Restroom Upgrade Program

\$2,000,000

A study of all restrooms in Terminal 1-Lindbergh will be completed in 2010 to develop a program to upgrade/modernize the restrooms at Terminal 1-Lindbergh. From this study, each restroom was prioritized as to its condition. This program would provide for the phased modernization of the restrooms to include upgraded finishes, lighting, resource and energy saving upgrades, and ADA compliance.

Air Handling Unit Replacement

\$1,150,000

There are existing air handling units serving Terminal 1-Lindbergh that were installed with the original terminal construction and are over 40 years old. A study of these units has been completed that evaluated each unit based on its age, condition, and its ability to adequately heat or cool the spaces it serves. This program will replace 10 units that have been identified as needing replacement phased over a three-year period. The estimated project costs include modifications to building walls to facilitate the removal of existing equipment and installation of the new units, upgraded electrical and temperature controls, and required asbestos abatement.

Conveyance System Upgrades

\$2,950,000

A study of the MSP campus conveyance systems including elevators, escalators, moving walks, dumbwaiters, and material lifts was completed by the Facilities Department's conveyance consultant. The study evaluated the design useful life of each system including the availability of replacement parts and technical support of the equipment going forward. Many of the systems are being operated by outdated technology that is generally less efficient than modern control equipment. Some of the systems do not include some of the safety devices or features that are commonly installed on modern equipment. A multi-year program will therefore be implemented to "modernize" and replace elements of the conveyance systems.

Jet Bridge Replacements

\$13,500,000

The Commission has previously approved the purchase of the jet bridges and baggage system owned by Northwest Airlines. As many of the jet bridges are at the end of their useful life, there would be the added cost to replace them. The current understanding between the MAC and Delta Air Lines (which purchased Northwest in 2008) would be to only replace/refurbish the bridges over time starting with the ones in the worst condition. The new/refurbished jet bridges would become the property of the MAC. This project is the first in the program to replace/refurbish the jet bridges.

Concourse E and F Pedestrian Bridges Rehabilitation \$2,100,000

The bridges that connect the Main Terminal to the E and F Concourses were built in the early 1960s. They are a truss-type structure designed to span long distances to allow for traffic to pass underneath. The original design included deep-set slit windows and a painted metal panel exterior skin. The exterior of the bridges have been painted numerous times but are subject to continuous maintenance to keep rust from forming. The bridges have also been damaged when hit by oversize vehicles and there is concern that structural damage has occurred. This project will provide new exterior insulated panel skin to match Concourses A, B, and C. The Concourse F bridge will include a larger band of windows to allow for day lighting and a view of the airfield. The Concourse E bridge is currently used as a cart storage area and will receive new insulated panels.

Folded Plate Drain and Roof Repair \$4,700,000

The Terminal 1-Lindbergh folded plate roof structure consists of lightweight concrete that was constructed in 1958-60. Existing faulty roof drains, drain pans, and pits are allowing water into the concrete resulting in structural deterioration of the concrete, concrete spalling, and water leakage into the building at multiple locations. A pilot project that modified the roof drain and pit drain at one location was completed in 2010. Based on the success of the pilot project, a three-year program that will modify roof drains and pit drains at 33 locations will begin in 2011. In addition, catwalk access and stairs, lightning protection, fall arresting systems, and leak and heat detection will be installed at all locations.

PASSENGER AMENITIES

Art in the Terminal \$250,000

This project presents an opportunity to partner with the Airport Foundation to provide a gallery-type space on Concourse C for the display of permanent and temporary/rotating art exhibits. This project also includes lighting and finish upgrades in the baggage claim area to support art installations. The Concourse C location has been identified as an art installation location since the adoption of the Public Art standards in 1999. This project will be phased over two years.

Concessions Revenue Development/Upgrades \$200,000

This project will fund miscellaneous upgrades (finishes, furniture, condiment stations, etc.), signage and/or modified connections to utilities for the concession programs at Terminal 1-Lindbergh and Terminal 2-Humphrey.

Terminal Seating Improvements \$1,000,000

The existing beam-type seating at Terminal 1-Lindbergh is a mixture of the original Terminal 2-Humphrey seating, older bucket-style seating, and some former airline gate lobby seating that is in poor condition. A selection process to test several replacement beam-type seating systems, including the existing Terminal 2-Humphrey seating, will be completed in 2010. Multiple manufacturers and suppliers will be involved in the test selection and procurement to provide the most durable and functional upgrade in a seating system. This project will then purchase the new seating system for installation within the terminal.

MUFIDS Phase 3 \$850,000

Multi User Flight Information Display Systems (MUFIDS) Phases 1 and 2 installed Flight Information Display Systems (FIDS), Baggage Information Systems (BIDS), Passenger Information Display Systems (PIDS), implemented visual paging, and installed information booths throughout Terminal 1-

Lindbergh and Terminal 2- Humphrey, as well as on the routes to the Light Rail Transit between the terminals. The locations of the various display systems were selected to reduce the number of monitor locations to meet a more standardized level of customer service (one bank of monitors per five gates). Based on a review of the initial installations and customer feedback, nine additional locations for FIDS installations and five additional locations for digital/interactive directories will be added under this project.

Way-finding Signage Improvements \$1,600,000

With the change in terminal designation from Lindbergh Terminal to Terminal1-Lindbergh, there is a need to modify additional interior and exterior signage. In addition, there is also a need to add LRT signage to improve access/visibility to the public, add missing elevator signs, and modify overhead illuminated and non-illuminated signage to improve passenger way-finding. Improvements to/replacement of the monument sign on the inbound roadway would also be included with this project.

#### OPERATIONAL IMPROVEMENTS

Open Architecture Building Automation (OABA) \$1,700,000

This program will upgrade all MAC building automation systems to the LonMark open protocol so that the airport can bid maintenance and construction contracts more competitively. This project will replace Siemens controllers and legacy Honeywell controllers with LonMark controllers from Honeywell, Circon, Distech, or TAC systems that are all LonMark certified product lines.

IS Data Center Facilities \$3,000,000

The MAC is currently supporting 22 rooms used as data centers located throughout the MSP campus. Most of these rooms are telecommunications closets designed to hold telephone cabling and termination equipment. Each of these rooms contains rack-mounted IT equipment that serves various functions including airport security, landside operations (parking operations), credit card processing, accounting, human resources, payroll and life safety systems (fire alarm). Many of these rooms are running out of power and cooling capacity. Several of the rooms do not have emergency power, redundant cooling, security features or environmental monitoring. Maintenance and construction work regularly requires power shutdowns, which also shut down IT systems in those rooms. In addition, the "hub and spoke" configuration of network cabling among the various IT locations has created a single point of failure that could affect all systems severely. A study is underway that proposes to consolidate the majority of the 22 rooms used as data centers into one new data center. (Some of the current rooms cannot have the IT equipment relocated because of specific limitations like distance or security requirements). This facility, as well as other IT locations, would be connected using a new network dual fiber ring configuration. The dual ring upgrade is scheduled for 2011 and 2012 with the construction of a new data center programmed for 2012.

#### 13 – Energy Management Center

Energy Savings Projects \$3,000,000

A program was initiated in 2002 to provide for the implementation of projects that would save the Commission energy costs in its operating budget. Discussions with both Xcel and Reliant have identified additional projects that are eligible for energy saving rebates and will save the Commission additional energy costs.

Condensate Receiver Tank and Pump Replacement \$525,000

The main condensate receiver station in the Valet level mechanical room was part of the original steam system installation in the early 1960s. The existing large receiver tank and pumping system have required frequent maintenance and the condensate pumps have at times failed resulting in hot condensate overflowing the receiver tank and flooding the mechanical room. The pump motors have become submerged damaging the motors and resulting in down time for repairs. This project will replace the pumps and receiver tank. A containment system would be installed with the new receiver tank to prevent future flooding of the mechanical room in the event of a pump failure. A new control and monitoring system will be connected to the MAC OABA building automation system to provide monitoring and alarms in the event of a pump failure.

Hot Water Heat Exchanger and Tank Replacement \$352,000

The existing domestic hot water heat exchanger and storage tank located in the Valet level mechanical room was part of the original domestic hot water system installed in the early 1960s. The existing 2400-gallon storage tank and steam heat exchanger provide hot water to the restrooms in the main terminal. The tank and steam heat exchanger have developed leaks that require frequent maintenance. This project will provide for the replacement of the steam heat exchanger and storage tank with new compact semi-instantaneous packaged water heaters. A new control system will be installed to allow for remote monitoring of the water heaters from the MAC Plumbing Department via the MAC OABA building automation system.

21 - Field and Runway

Airside Bituminous Rehabilitation/Electrical Construction \$500,000

This is an ongoing program to construct or reconstruct bituminous pavements within the Air Operations Area. Inspection of taxiway pavements and other airfield areas will be made to determine which areas should be prioritized for rehabilitation.

Pavement Joint Sealing/Repair \$650,000

This is an ongoing program to provide for the resealing of joints in existing concrete pavements. The areas scheduled for sealing will be determined in the spring of 2011. This project would also provide for limited crack and surface repairs.

Pavement Rehabilitation – Aprons \$2,000,000

This is an ongoing program to replace sections of concrete pavement in the Air Operations Area that have deteriorated to a point where maintenance is no longer a viable option. This year's project will replace approximately 7,000 square yards of concrete apron located adjacent to Concourse C between Gates D6 and C3.

Runway 30R MALSF \$100,000

This project will provide for significant safety enhancements for approaching aircraft to Runway 30R by the installation of a medium intensity approach lighting system with flashers (MALSF). This lighting system consists of 45 steady-burning lights and 3 flashing lights spaced along the extended runway centerline from the threshold to a distance of 1,400 feet beyond the threshold. This year's project involves work associated with the necessary environmental review for the system.



Miscellaneous Airfield Construction \$400,000

This is an ongoing program to consolidate various incidental items beyond the capabilities of the maintenance personnel, projects too small to be accomplished independently or to handle airside problems requiring repair which come up unexpectedly.

Perimeter Fence/Gate Barrier System \$3,000,000

This project is part of a phased program to strengthen the perimeter security fence and airfield access gates. This project will provide for the hardening of the perimeter security gates.

Runway 12R/30L Tunnel Fans and Dampers \$1,400,000

There are a series of rooms adjacent to the tunnel under Runway 12R/30L that house mechanical ventilation equipment for the tunnel. The mechanical equipment consists of very large fans and dampers. The harsh environment in these subsurface rooms has resulted in deterioration of the mechanical equipment and replacement of the fans and dampers is required.

Fuel Load Island/GSE Building Demolition \$6,700,000

The existing Terminal 2-Humphrey fuel farm is no longer being utilized. This project will provide for the demolition of the existing fuel farm tanks. A new load island for Jet-A, gasoline, and diesel fuel will be constructed. The project will also include a glycol load island and containment basin to be constructed just west of the Terminal 2-Humphrey Remote Apron. Completion of this project will result in reduced operating expenses for the fuel hydrant system.

There is no longer a ground services equipment handling contractor at Terminal 2-Humphrey. This project will therefore also provide for the demolition of the existing ground services equipment building as this building is no longer required.

Taxiway C Extension to Terminal 2-Humphrey Remote \$4,900,000

This project provides for the extension of Taxiway C between Taxiway S and the Terminal 2-Humphrey Remote Apron to improve access to and from the Terminal 2-Humphrey Remote Apron. The project includes necessary utility work and the relocation of a sanitary sewer lift station that is located within the new taxiway alignment.

26 - Terminal Roads/Landside

Tunnel/Bridge Rehabilitation \$100,000

An initial Bridge and Tunnel Safety Inspections Report was prepared in 2007. The report is updated each year and outlines structural maintenance recommendations to be implemented. While there were no immediate major repairs required, an annual project for bridge and tunnel inspection and maintenance will continue in 2011.

31 - Parking

Parking Structure Rehabilitation \$3,000,000

This is an ongoing program to maintain the integrity of the airport's multi-level parking structures. Projects typically include concrete repair, joint sealant replacement, expansion joint repairs, concrete



sealing and lighting improvements. This project will implement recommendations made in the "Condition Assessment and Management Program Report" completed in 2007 and updated in 2010.

Valet Garage Flammable Waste Traps/Floor Drains \$650,000

The Valet garage utilizes a series of floor drains to collect water from melting snow and other sources of drainage. As of 2009, there was only one floor drain that drains into a flammable trap, a device that collects sand, oil, grease or flammable liquids. With a flammable trap, these materials either float or settle, becoming trapped; only the water layer drains to the sanitary sewer. Previous projects in 2009 and 2010 installed new waste traps and flow drains. This project will replace remaining piping and floor drains in areas where pipes and drains are severely corroded to the point of being completely blocked.

36 – Terminal 2-Humphrey

#### SAFETY/SECURITY PROJECTS

Emergency Voice Evacuation System \$4,000,000

This project will upgrade the existing paging system at Terminal 2-Humphrey to comply with current codes for emergency evacuation. A similar upgrade was recently completed on Concourse A and B.

#### FACILITY REHABILITATION

Curbside Canopy/Monument Lights Repair \$1,100,000

The curbside canopy at Terminal 2-Humphrey requires refurbishing including painting, cleaning the gutter system (including repair of the heat trace system), and replacement of the skylights, speakers, and canopy lights. In addition, the monument lights on the east side of Humphrey Drive also require replacement. This maintenance is required to maintain the infrastructure of the canopy system and to provide proper lighting levels for passenger safety.

#### TERMINAL 2-HUMPHREY EXPANSION

Environmental Assessment (EA) \$3,900,000

The MAC will work with the FAA to complete a federal Environmental Assessment (EA) that will then allow the MAC to participate in funding through the Federal Airport Improvement Program (AIP) or the Passenger Facility Charge (PFC) program for eligible airport development. This process is required to be completed prior to the start of expansion projects associated with the recently adopted Long-Term Comprehensive Plan (LTCP) for MSP.

Airport Layout Plan (ALP) \$150,000

In conjunction with the recently adopted LTCP for MSP and the planned federal EA process, the MAC must complete an update to the overall Airport Layout Plan (ALP) that will identify the locations of proposed expansion projects. A project must be shown on an FAA-approved ALP in order to receive funding through the AIP or PFC programs.

## TERMINAL 2-HUMPHREY PHASE 1-A EXPANSION

Security Check Point \$9,500,000

The existing checkpoint that serves Terminal 2-Humphrey often has line queues that extend across the skyway to the parking ramp. This project will provide for the construction of a second checkpoint adjacent to the new skyway that could accommodate up to six new screening lanes. The checkpoint will be designed to meet current TSA requirements for equipment and screening.

39 – Public Areas/Roads

Landside Pavement Rehabilitation \$400,000

This is an ongoing program to reconstruct the airport's roadways and parking lots. Projects proposed for 2011 include a micro surfacing project on inbound Glumack Drive, seal coating the MAC General Office parking lot, and the overlay of the road through the Y-3 tunnel.

46 – Hangars and other Buildings

Roof Replacements \$3,100,000

The MAC's roofing consultant has completed a study that assessed the condition of the roof systems of the buildings on the MSP campus and developed a roof management program. Buildings that require either repairs or replacements in 2011 include Building H and I, and the MAC Trades Building.

FAA Building Upgrades \$1,400,000

The lease on the FAA building located to the north of the MAC General Offices building is at the end of its 20-year term. The building was constructed and maintained by a development company retained by the FAA. The MAC is currently negotiating with the FAA on a new lease that would include land rent, maintenance costs, and tenant improvements. The existing building is 20 years old and needs improvements including a new roof and major mechanical and electrical upgrades in order to meet current MAC standards. These improvements will be put out for bid in 2010. The FAA has now requested that the MAC provide for the build-out of its tenant space. The cost of these 2011 improvements included in this project will be recovered in the new lease.

Navy Building Boiler Repairs \$200,000

The old Navy administration building was constructed in the 1960s and utilizes gas-fired steam boilers that are no longer repairable. This project will provide for the installation of new boilers, boiler feed water pumping systems, and boiler breaching piping that attaches the boiler to the exhaust stack.

56 – Trades/Maintenance Buildings

Field Maintenance Center Roof Replacement \$750,000

The roof management program described above also indicated that a section of the roof on the Field Maintenance Center requires replacement in 2010.

63 – Police

MSP Card Access/CCTV Improvements \$1,750,000

This is an ongoing program to add new and upgrade existing CCTV systems to ensure the safety and security of MSP.

66 – Fire

Post Road Fuel Farm Fire Protection Improvements \$2,000,000

In order to enhance fire protection at the Post Road fuel storage facility, a series of improvements will be implemented. These include the installation of a 30-foot by 50-foot pump house with foam proportioning equipment and associated piping, and electric motor operated nozzles. This project also includes Emergency Fuel Shutoff (EFSO) System monitoring upgrades, heat sensors, and additional controls to monitor drain valves.

81 - St. Paul

Pavement Rehabilitation \$1,500,000

This is an ongoing program to rehabilitate aircraft operational areas (runways, taxiways, aprons) through bituminous overlays, seal coats, or in some instances, reconstruction, to restore the surfaces to a smooth, even condition and improve overall operating conditions. This project will include the reconstruction of portions of Taxiway Alpha south of Runway 9/27, along with necessary subgrade rehabilitation. This pavement is exhibiting deterioration and major transverse cracks have developed.

82 – Lake Elmo

Runway 14/32 Reconstruction \$1,700,000

This project will include full reconstruction of Runway 14-32 along with complete subgrade replacement, pavement section drainage improvements and electrical system upgrades. This pavement has reached the end of its useful life, and rehabilitations no longer provide benefit for any length of time.

83 – Airlake

South Building Area Development \$1,000,000 \*\*

This project will provide for the construction of 3-4 alleyways, including aggregate base and bituminous pavements, to allow for the construction of storage hangars. These alleyways would be considered non-service areas and would not have sanitary sewer or water utilities installed. It is anticipated that all costs would be assessed to new tenants, and that the majority of costs would be collected up front prior to MAC construction expenditures. The project also includes paving of a section of the building area access road. The remainder of alleyway build-out would occur in future years.

\*\* Partial funding for this project to be provided by others.

84 - Flying Cloud

South Building Area Development

\$1,500,000 \*\*

This project includes installation of a portion of the sanitary sewer and water system as well as installation of other utilities necessary for hangar construction.

\*\* Funding for this project to be provided by others.

85 - Crystal

Alleyway Reconstruction

\$550,000

This project includes rehabilitation of a portion the alleyways in the east and north building areas.

86 - Anoka County - Blaine

Pavement Rehabilitation

\$300,000

This project includes rehabilitation for taxilanes in the south hangar building area that were not previously reconstructed as a part of the sanitary sewer and water main installation.

## 2012 Capital Improvement Program

### 2010 Development Program

#### **Noise Mitigation Program**

Noise Mitigation Settlement \$4,300,000

This project is a continuation of the implementation of the noise mitigation program based on the Noise Exposure Map contained in the court-ordered Consent Decree, including the construction and administrative costs associated with noise mitigation in the 2007 60-62 DNL contours. The project funds will be expended over two years, 2011 and 2012, and will provide noise mitigation for homes in the \$14,000 Mitigation Menu category (a.k.a., Phase 2B). In addition, homeowner reimbursements for approved noise mitigation work in the 2005 60-64 DNL contours (a.k.a., Phase 3) are a portion of the 2012 project budget.

### Post 2010 Program Projects

10 –Terminal 1-Lindbergh

#### **SAFETY AND SECURITY PROJECTS**

Data Room Equipment Relocation \$1,300,000

Information Systems (IS) at MSP support a number of essential functions including credit card processing. MSP is classified by the Payment Card Industry (PCI) as a level 2 merchant which means that between 1 million and 6 million active credit card transactions occur at the airport each year. The personal information of each credit card holder that uses his credit card at the airport is therefore stored and transmitted through many of MAC's data rooms. The PCI classification imposes specific security standards upon MAC, the violation of which could expose MAC to significant financial penalties as well as disrupt daily business operations. A requirement of the PCI is that the control of access to areas where MAC's credit card processing equipment is located be limited to persons who have a direct business reason to have it. Currently, MAC has a number communication closets and data rooms that contain equipment other than MAC IS equipment and credit card processing equipment that requires access for maintenance by staff that do not have access to MAC IS or credit card processing equipment. This project will therefore provide for the relocation of non-essential equipment out of the spaces that contain credit card processing equipment and the installation of any required access control equipment. This is a multi-year program.

#### **FACILITIES REHABILITATION**

Electrical Infrastructure Rehab Program \$2,000,000

There are 53 electrical substations that serve the Terminal 1-Lindbergh complex. It is imperative that these substations be inspected, cleaned and upgraded in order to ensure their continued performance. This is the fourth phase in a multi-phase program that began in 2009.

Terminal Miscellaneous Modifications \$2,500,000

Each year, MAC staff compiles a list of "maintenance" projects that are beyond the capability of the MAC's maintenance staff. These projects are then prioritized and completed either as a series of contracts or as purchase orders. A list will be compiled for 2011 and any projects that do not fit within the budget will be carried over into 2012. New projects will be discussed in early 2012.

Summarized below are the categories of the projects which are included in the Terminal Modifications program:

Building Exterior Rehabilitation \*

This is a continuation of the program to rehabilitate the exterior of Terminal 1-Lindbergh and other MAC buildings including roof and curtain wall rehabilitation.

Terminal Electrical Modifications \*

This is an ongoing program to address electrical issues in the terminals due to age and deterioration of the existing systems or modifications necessary for improved reliability.

Terminal Mechanical Modifications \*

This is an ongoing program to address mechanical issues in the terminals due to age and deterioration of the existing systems or modifications necessary for improved reliability.

Terminal Miscellaneous Modifications \*

This is an ongoing program to update and remodel areas within the terminals to keep abreast with changing requirements. This may be accomplished through a series of small individual projects to meet the requirements of the various tenants or may be consolidated into a single project.

Terminal 2-Humphrey & MSP Campus Modifications \*

This is an ongoing program to modify or remodel areas within Terminal 2-Humphrey and other facilities around the MSP Campus to meet the needs of the various tenants/general public/MAC departments utilizing the facilities

\*Historically, projects have been defined for each of these five categories. With reduced dollars available to fund non-revenue generating projects, a total dollar allocation of \$2,500,000 has been allocated to fund the highest priority projects within any of these project categories.

Emergency Power Upgrades \$2,200,000

Studies and surveys of Terminal 1-Lindbergh transfer switches and emergency lighting were completed and priority projects implemented in 2008. This year's project will continue the design and implementation of emergency power and lighting corrective work.

Restroom Upgrade Program \$2,600,000

A study of all restrooms in Terminal 1-Lindbergh was completed in 2010 to develop a program to upgrade/modernize the restrooms at Terminal 1-Lindbergh. From this study, each restroom was prioritized as to its condition. This program would provide for the phased modernization of the restrooms to include upgraded finishes, lighting, resource and energy saving upgrades, and ADA compliance.

Air Handling Unit Replacement \$2,100,000

There are existing air handling units serving Terminal 1-Lindbergh that were installed with the original terminal construction and are over 40 years old. A study of these units has been completed that evaluated each unit based on its age, condition, and its ability to adequately heat or cool the spaces it serves. This program will replace 10 units that have been identified as needing replacement phased over a three-year period. The estimated project costs include modifications to building walls to facilitate the removal of existing equipment and installation of the new units, upgraded electrical and temperature controls and required asbestos abatement.

Conveyance System Upgrades \$3,500,000

A study of the MSP campus conveyance systems including elevators, escalators, moving walks, dumbwaiters, and material lifts was completed by the Facilities Department's conveyance consultant. The study evaluated the design useful life of each system including the availability of replacement parts and technical support of the equipment going forward. Many of the systems are being operated by outdated technology that is generally less efficient than modern control equipment. Some of the systems do not include some of the safety devices or features that are commonly installed on modern equipment. A multi-year program will therefore be implemented to "modernize" and replace elements of the conveyance systems.

Folded Plate Drain and Roof Repair \$4,700,000

The Terminal 1-Lindbergh folded plate roof structure consists of lightweight concrete that was constructed in 1958-60. Existing faulty roof drains, drain pans, and pits are allowing water into the concrete resulting in structural deterioration of the concrete, concrete spalling, and water leakage into the building at multiple locations. A pilot project that modified the roof drain and pit drain at one location was completed in 2010. Based on the success of the pilot project, a three-year program that will modify roof drains and pit drains at 33 locations began in 2011. In addition, catwalk access and stairs, lightning protection, fall arresting systems, and leak and heat detection will be installed at all locations.

Plumbing Infrastructure Upgrade Program \$500,000

In 2010, MAC staff prepared a preliminary study of the reliability and maintainability of the existing plumbing infrastructure. Portions of the existing plumbing infrastructure serving Terminal 1-Lindbergh are over 40 years old, have systems that are undersized for today's demands, contain isolation valves that are either inaccessible or no longer function, and utilize aging water meter systems. There are also deteriorated sections of the existing sanitary and storm water systems. A four-year program will be implemented in 2012 to upgrade the plumbing infrastructure system.

PASSENGER AMENITIES

Art in the Terminal \$250,000

This project presents an opportunity to partner with the Airport Foundation to provide a gallery-type space on Concourse C for the display of permanent and temporary/rotating art exhibits. This project also includes lighting and finish upgrades in the baggage claim area to support art installations. The Concourse C location has been identified as an art installation location since the adoption of the Public Art standards in 1999. This project will be the second phase in a program that began in 2011.

Concessions Revenue Development/Upgrades \$200,000

This project will fund miscellaneous upgrades (finishes, furniture, condiment stations, etc.), signage and/or modified connections to utilities for the concession programs at Terminal 1-Lindbergh and Terminal 2-Humphrey.

Commission Chambers Telecoil Installation \$160,000

This project will provide for the installation of an induction loop/telecoil (T-Coil) system in the Commission Chambers that will allow for deaf, hard-of-hearing, and hearing impaired persons who have t-coil receivers in their hearing aids to hear the electrically amplified and broadcast sounds from the Commission and public in the Chambers.

OPERATIONAL IMPROVEMENTS

Open Architecture Building Automation (OABA) \$1,800,000

This program will upgrade all MAC building automation systems to the LonMark open protocol so that the airport can bid maintenance and construction contracts more competitively. This project will replace Siemens controllers and legacy Honeywell controllers with LonMark controllers from Honeywell, Circon, Distech, or TAC systems that are all LonMark certified product lines.

IS Data Center Facilities \$17,000,000

The MAC is currently supporting 22 rooms used as data centers located throughout the MSP campus. Most of these rooms are telecommunications closets designed to hold telephone cabling and termination equipment. Each of these rooms contains rack-mounted IT equipment that serves various functions including airport security, landside operations (parking operations), credit card processing, accounting, human resources, payroll and life safety systems (fire alarm). Many of these rooms are running out of power and cooling capacity. Several of the rooms do not have emergency power, redundant cooling, security features or environmental monitoring. Maintenance and construction work regularly requires power shutdowns, which also shut down IT systems in those rooms. In addition, the "hub and spoke" configuration of network cabling among the various IT locations has created a single point of failure that could affect all systems severely. A study is underway that proposes to consolidate the majority of the 22 rooms used as data centers into two new data centers; a primary and a backup facility. (Some of the current rooms cannot have the IT equipment relocated because of specific limitations like distance or security requirements). These facilities as well as other IT locations would be connected using a new network dual fiber ring. This project will provide for the construction of the new data center facility.

Fiber Optic Cable Infrastructure Upgrade/Expansion \$1,650,000

Fiber optic cable infrastructure is the basic vehicle that allows for broader use of both new and existing communications and computer-based technologies. The cable infrastructure requires ongoing upgrade, replacement, and expansion. This project will provide for the expansion of cabling infrastructure including replacing materials that don't meet current MAC standards and adding capacity between locations where existing capacity has been used up.

Wireless Network Control System \$1,350,000

This project will provide a campus-wide wireless network to be implemented over a two-year period. This system would allow remote wireless access to and manipulation of the MAC Facilities Intelligent Monitoring and Control System (IMACS). The system would allow access to data and drawings from the MAC network from the terminals as well as from vehicles on the airfield.



## POST AIRLINE RELOCATION RENOVATIONS

### Terminal Bag Claim/Make-up Area Rehabilitation \$14,400,000

This is a multi-year baggage claim remodel project that will upgrade existing baggage claim devices, interior finishes, lighting, ceiling conditions, office and left-baggage storage modifications, and fire sprinkler and notification/voice-evacuation systems (in line with the remainder of the terminal, and meeting MAC standards and code requirements). Some of the existing baggage claim devices are original to the terminal construction, and present less-than-efficient space utilization and presentation length for current and projected growth. The project will also be coordinated with the ticket lobby remodel multi-year project that may include additional egress stair modifications.

### 13 – Energy Management Center

#### Energy Savings Projects \$3,000,000

A program was initiated in 2002 to provide for the implementation of projects that would save the Commission energy costs in its operating budget. Discussions with both Xcel and Reliant have identified additional projects that are eligible for energy saving rebates and will save the Commission additional energy costs.

#### Alternative Energy Projects \$1,000,000

This project will evaluate potential alternative energy projects including wind power and solar power.

### 21 - Field and Runway

#### Airside Bituminous Rehabilitation/Electrical Construction \$500,000

This is an ongoing program to construct or reconstruct bituminous pavements within the Air Operations Area. Inspection of taxiway pavements and other airfield areas will be made to determine which areas should be prioritized for repair.

#### Pavement Joint Sealing/Repair \$650,000

This is an ongoing program to provide for the resealing of joints in existing concrete pavements. The areas scheduled for sealing will be determined in the spring of 2012. This project would also provide for limited crack and surface repairs.

#### Pavement Rehabilitation – Aprons \$1,700,000

This is an ongoing program to replace sections of concrete pavement in the Air Operations Area that have deteriorated to a point where maintenance is no longer a viable option. This year's project will replace approximately 6,400 square yards of concrete apron located adjacent to Concourse C between Gates C4 and C6.

#### Miscellaneous Airfield Construction \$400,000

This is an ongoing program to consolidate various incidental items beyond the capabilities of the maintenance personnel, projects too small to be accomplished independently or to handle airside problems requiring repair which come up unexpectedly.

Baggage Quarantine Building \$1,260,000

This project will provide for the construction of a 50-foot by 100-foot block building for the lay down and inspection of suspicious baggage.

Runway 12R/30L Tunnel Road Rehabilitation \$2,000,000

This project provides for the rehabilitation of the road through the vehicular tunnel located beneath Runway 12R/30L. The project will include removal of the existing bituminous surface and repair of the concrete underlying concrete surface. Reconfiguration of the curb and sidewalk located on the east side of the tunnel is also included in this project.

North Side Storm Sewer \$5,000,000

This project provides for the modifications to storm water detention ponds 3 and 4 to reduce overflows into Snelling Lake. The pond 4 outlet control structure will be replaced and a 60-inch storm sewer pipe installed to increase the outflow capacity of the pond. The pond 3 spillway will be raised to reduce pond overtopping and spillway washout. The outlet structure will also be replaced and a parallel 72-inch storm sewer installed to increase the outflow capacity from pond 3.

26 - Terminal Roads/Landside

Tunnel/Bridge Rehabilitation \$100,000

The initial Bridge and Tunnel Safety Inspections Report was prepared in 2007. The report is updated each year outlines maintenance recommendations to be implemented. While there were no immediate major repairs required, an annual project for bridge and tunnel inspection and maintenance will continue in 2012.

31 - Parking

Parking Structure Rehabilitation \$3,500,000

This is an ongoing program to maintain the integrity of the airport's multi-level parking structures. Projects typically include concrete repair, joint sealant replacement, expansion joint repairs, concrete sealing and lighting improvements. This project will implement recommendations made in the "Condition Assessment and Management Program Report" completed in 2007 and updated in 2011.

Terminal 2-Humphrey Ramp VMS/Revenue Control System Upgrade \$1,500,000

This project provides for the installation of a number of Variable Message Signs (VMS) at the Terminal 2-Humphrey Parking Ramp and on airport roadways between Terminal 2-Humphrey and Terminal 1-Lindbergh that will aid in directing the public to the appropriate parking facility. It is also proposed to install additional revenue control equipment and signage to allow for more flexibility in the use of the Terminal 2-Humphrey parking ramps.

36 – Terminal 2–Humphrey

FACILITY REHABILITATION

Fuel Farm Lease Extinguishment \$3,500,000

The fuel farm at Terminal 2-Humphrey was demolished in 2010. This project will provide for payment of the remaining unamortized cost of the original installation project.

**Terminal 2–Humphrey Expansion**

TERMINAL 2–HUMPHREY PHASE 1-A EXPANSION

Explosive Detection System/Baggage Sortation System \$18,500,000

In 2004, the MAC began planning and design efforts for an automated, in-line Explosives Detection System (EDS) baggage screening system for Terminal 2-Humphrey, based upon plans to expand the terminal to accommodate additional airline capacity. The original concepts and plans will require significant redesign to meet the new TSA furnished high-speed screening equipment; however the TSA will be funding 90 percent of the eligible design efforts through an Other Transaction Agreement (OTA) for Design Services. The MAC will then apply for an OTA to help fund the construction costs. Moving the existing screening process out of the ticket lobby will provide additional customer queuing space, oversize drop-off and behind the scenes screening, and remove the TSA screening process from public view.

Apron Expansion – North \$6,500,000

The expansion of Terminal 2-Humphrey will require the expansion of the terminal apron. This project will provide for the apron expansion and installation of aircraft fueling pits to the north of the terminal to accommodate the initial three-gate expansion.

Gates 1 – 3 \$52,070,000

This project will provide three new gates including gate hold areas, passenger boarding bridges, space for additional vending and food services, and signage revisions on the north end of the terminal.

Site Utilities \$1,000,000

This project will provide the airside and landside utilities consisting of storm water drainage improvements, water main extensions, and fiber cable installation.

39 – Public Areas/Roads

Landside Pavement Rehabilitation \$1,500,000

This project provides for the reconstruction of 28<sup>th</sup> Avenue from approximately Highway 62 (Cross-town) to E. 62<sup>nd</sup> Street. This roadway has been used as a haul route for many airside projects over the years and the constant pounding by heavily-loaded trucks has caused the roadway to deteriorate to the point where major reconstruction is required. In addition, other roadway and parking lot pavements will be evaluated in the spring of 2012 to determine whether a pavement repair project is needed.

#### 46 – Hangars and other Buildings

Roof Replacements \$850,000

The MAC's roofing consultant has completed a study that assessed the condition of the roof systems of the buildings on the MSP campus and developed a roof management program. Several buildings require either repairs or replacements in 2012 and include the Navy building and the Impark Building.

Impark Building Rehabilitation \$600,000

The Impark Building, located off the Crosstown Highway on the north end of the airport, is a salvaged former vocational school building that is being used by MAC Trades to store equipment and materials. In addition, there is a bead blasting area within this building. This building requires exterior structural repair including repairs to walls, windows, and doors to prevent future weather damage. In addition, the bead blasting area requires an overhead mono-rail crane to support heavy items during the blasting process as well as a sealed blasting booth to contain the beads.

Drivers Training Facility Rehabilitation \$530,000

The MSP Drivers' Training Center is primarily used as a training and testing center for airport drivers. The building also houses the MSP Driving Simulators, the Airside Operations Backup Center, the wildlife workshop, and department vehicles. The building exterior needs painting and the windows and doors repaired/replaced. There is also a need to complete a remodeling and expansion of the administrative, training, simulator lab, and classroom areas.

#### 63 – Police

MSP Card Access/CCTV Improvements \$1,650,000

This is an ongoing program to add new and upgrade existing CCTV systems to ensure the safety and security of MSP.

#### 76 – Environment

Storm Water Pond Dredging \$3,000,000

This project provides for the removal and proper disposal of accumulated sediments in storm water detention pond 3 and 4 to increase the storm water runoff storage volume.

North Fuel Island Oil/Water Separator \$850,000

This project provides for the installation of an oil/water separator (OWS) and modification of pavements at the MAC North Fueling Facility. The OWS provides storm water protection from spills and releases during vehicle fueling and fuel transfer activities. The current fuel island directs storm water flows to a grass retention basin where, in the event of a release, impacted soils are removed and disposed of at an approved facility. This project will bring MAC-controlled facilities up to MSP recommended water quality best management practices.

81 - St. Paul

Joint and Crack Repairs \$100,000

Given the extremely poor subgrade materials at MSP, the need for crack repair and joint sealing is critical to maintain pavement strength and pavement life. An inspection of the pavement will be completed to determine the areas most in need of repair.

MAC Building Maintenance \$200,000

This is an ongoing program to provide for facility modifications to ensure continued efficient operation of MAC buildings or modifications necessary to meet the requirements of the tenants.

Pavement Rehabilitation \$1,000,000

This is an ongoing program to rehabilitate aircraft operational areas (runways, taxiways, aprons) through bituminous overlays, seal coats, or in some instances, reconstruction, to restore the surfaces to a smooth, even condition and improve overall operating conditions. This project will include the reconstruction of portions of Taxiway Alpha north of Runway 9-27, along with necessary subgrade rehabilitation and electrical system upgrades. This pavement is exhibiting deterioration and major transverse cracks have developed.

84 - Flying Cloud

Pavement Rehabilitation \$300,000

This project includes rehabilitation of the remaining alleyways in the north building area.

Runway 18/36 Reconstruction Segment 3 \$1,700,000

Segment 3 of Runway 18/36 includes Runway end 36 to the Runway 10R/28L safety area boundary and lighting cable replacement for the Runway 18/36 parallel taxiway. In addition, the runway safety area deficiency will be corrected and the runway extended to 2,800 feet as recommended in the long term comprehensive plan. This project will also include any necessary runway safety area enhancement work.

East/West Perimeter Road \$300,000

As part of the runway incursion reduction steps the MAC is taking at Flying Cloud, it is proposed to construct an east/west perimeter road to allow for tenants, fueling trucks and maintenance vehicles access across the north end of the airfield without direct access to the taxiways or runways.

86 – Anoka County – Blaine

Building Area Development – Xylite St. Relocation \$1,000,000

This project provides for the relocation of Xylite Street including the installation of curb and gutter, construction of a berm, and landscaping.

Taxiway A2/C2 Extension \$900,000

This project includes the construction of Taxiway C south of Runway 9-27 as a replacement to the existing taxiway that runs adjacent to the taxilanes and certain apron areas. Relocating this taxiway

will provide for alternative taxi routes and enhanced operational movements on the south side of the airport. A connector, A2, is also proposed to be extended to tie in with the new Taxiway C.

## 2013 – 2017 Capital Improvement Program

(Description of projects expected to be implemented in 2013 through 2017 are preliminary, and only those that have potential substantive environmental effects are included in this section.)

### 2010 Program Projects

#### MSP Noise Mitigation Program

Noise Mitigation Settlement \$4,720,000

The project implements the noise mitigation program based on the 2007 Noise Exposure Map contained in the Part 150 Update, consistent with the terms and conditions of the court-ordered Consent Decree.

### Post 2010 Program

#### Post Airline Relocation Renovations

##### CONCOURSE G EXPANSION – PHASE 1

Concourse G Tram – Equipment Procurement \$50,000,000

The Long-Term Comprehensive Plan (LTCP) for MSP recommends that Concourse G be expanded and that a tram system be installed for the efficient movement of passengers. This project will provide for the procurement of the Concourse G tram vehicles.

Concourse G Tram – Guideway Installation \$76,000,000

This project will provide for the installation of the Concourse G tram guideway.

Concourse G Tram – Stations \$33,000,000

This project will include the construction of three stations for the Concourse G tram.

Gate Hold Expansion – 10 Gates \$306,530,000

This project will add 10 additional gates to Concourse G including the required baggage handling and conveyance system, a satellite Energy Management Center, a new International Arrivals Facility (IAF), and airline support space. These gates will be capable of accommodating domestic or international flights.

Curbside Roadway \$2,000,000

A new curbside roadway to support the new gate hold expansion and IAF and a potential airport hotel and conference center will be constructed under this project.

Apron Improvements \$17,000,000

This project will provide for the improvements to the apron including the extension of the fuel hydrant system to support the new gate hold expansion.

Fuel Line Expansion \$6,000,000

This project will provide for the required extension of the existing fuel line to the fuel hydrant system supporting the new gate hold expansion.

Airside Tunnel Expansion \$20,000,000

There is a tunnel that provides airside access from Concourse C to the airside adjacent to existing Concourse G. This tunnel will be extended under the new gate hold expansion.

#### PARKING RAMP EXPANSION – PHASE 1

Curbside Expansion \$10,340,000

The existing arrivals curb front cannot be lengthened due to Concourses G and C. This project will provide an outer curb with pedestrian crosswalks that will traverse the inner curb area, potentially at grade. These improvements to the curb area will improve capacity and efficiency for arriving passengers to reach shuttles, taxis, and private vehicles.

#### Terminal 2-Humphrey Expansion

Auto Rental Facilities/QTA \$62,535,000

Accommodations for rental cars would be provided by developing facilities in expanded existing parking garages. These facilities will include Quick Turn Around (QTA) facilities.

Roadway Realignment \$6,000,000

Access to Terminal 2-Humphrey is provided by both Post Road and 34<sup>th</sup> Avenue. The LTCP states that both existing roadways will be incapable of handling the required traffic volumes to Terminal 2-Humphrey in future years. The concept for improving this condition is to route all inbound traffic to Post road and outbound traffic to 34<sup>th</sup> Ave. This concept will require widening Post Road, intersection improvements at 34<sup>th</sup> Ave. and 70<sup>th</sup> Street, and realignment of a section of the outbound road from Terminal 2-Humphrey to 34<sup>th</sup> Ave.

I-494/34<sup>th</sup> Ave. Interchange Enhancement \$25,000,000

The LTCP states that future traffic volumes exiting Terminal 2-Humphrey on 34<sup>th</sup> Ave. will require improvements to the interchange at I-494 and 34<sup>th</sup> Ave. to provide for a smooth transition to both east and westbound I-494.

Terminal 2-Humphrey Purple Ramp Outrigger Addition \$32,100,000

This project will add seven additional levels (levels 2 – 8) of parking on the east side of the Purple Ramp which would add approximately 1,288 parking spaces.



Terminal 2-Humphrey Orange Ramp Outrigger Addition /Levels 9&10 \$58,700,000

This project provides for the construction of seven additional levels (levels 4 - 10) of parking on the east side of the Orange Ramp, two additional levels (levels 9 and 10) on the Orange Ramp, and seven additional levels (levels 4 – 10) of parking over the LRT station.

#### TERMINAL 2–HUMPHREY PHASE 1-A EXPANSION

Gates 4-7 \$65,155,000

This project will add four new gates to the north end of Terminal 2-Humphrey including gate hold areas, passenger boarding bridges, space for additional vending and food services, and signage revisions.

#### TERMINAL 2–HUMPHREY PHASE 1-B EXPANSION

Apron Expansion – South \$20,000,000

The expansion of Terminal 2-Humphrey will require the expansion of the terminal apron. This project will provide for the construction of the apron and installation of aircraft fueling pits to accommodate gates 18 through 27.

Gates 18 – 27 \$99,600,000

In accordance with the LTCP, this project will add 10 new gates to the south end of Terminal 2-Humphrey including gate hold areas, passenger boarding bridges, space for additional vending and food services, and signage revisions.

Reliever Airport Programs

#### LAKE ELMO

East Building Area Development \$2,800,000\*\*

The LTCP for Lake Elmo forecasts that there will be an increase in based aircraft that will require the development of a new hangar area. The LTCP recommends the development of a new hangar area on the east side of the airport.

\*\*Funding for this project to be provided by others.

Runway 4/22 Extension \$1,500,000

This project includes extending Runway 4/22 from 2,500 feet to 3,200 feet, runway lighting and precision approach path indicator (PAPI) installation, and the clearing and grading of the runway safety area.

East Side Parallel Taxiway \$1,200,000

This project includes the construction of a full parallel taxiway to Runway 4/22 in conjunction with the extension of Runway 4/22 and a new east side hangar area.

AIRLAKE

South Building Area Development \$2,700,000\*\*

This project will provide for alleyway construction, including aggregate base and bituminous pavements, along with the installation of sanitary sewer and water main including a stand alone restroom facility and fire protection hydrant line. The project also includes paving a section of 225<sup>th</sup> Street that will then connect to Cedar Avenue.

\*\*Funding for this project to be provided by others.

Runway 12/30 Extension \$8,000,000

This project will provide for the extension of Runway 12/30 from 4,098 feet to 5,000 feet. The runway extension would have an impact on Cedar Avenue, which lies directly east of the airfield, and a segment of the road would be rerouted around the end of the runway end safety area.

FLYING CLOUD

South Building Area Development \$600,000\*\*

This project provides for the installation of sanitary sewer and water services to serve the building area lots for which development has been delayed.

\*\*Funding for this project to be provided by others.

CRYSTAL

Runway 14R/32L Modifications \$1,000,000

As defined in the LTCP update, this project will include closure of Runway 14R/32L and reconstruction of the pavement into a parallel taxiway. Portions of the Taxiway Echo connectors will also be reconstructed. An environmental study for the runway closure will be completed prior to commencement of the project.

ANOKA-COUNTY BLAINE

Building Area Development – East Annex \$2,400,000 \*\*

This project includes installation of sanitary sewer and water main, grading and paving of alleyways for up to 80 storage hangars and includes facilities to accommodate storm water run off.

\*\*Funding for this project to be provided by others.

Building Area Development – Xylite St. Relocation \$1,000,000

This project provides for the relocation of Xylite Street including the installation of curb and gutter and construction of a berm and landscaping.

Building Area Development – West Annex \$850,000 \*\*

This project provides for the construction of two alleyways for eight storage hangars and three corporate hangars, sanitary sewer and water main and accommodation of storm water drainage.

\*\*Funding for this project to be provided by others.