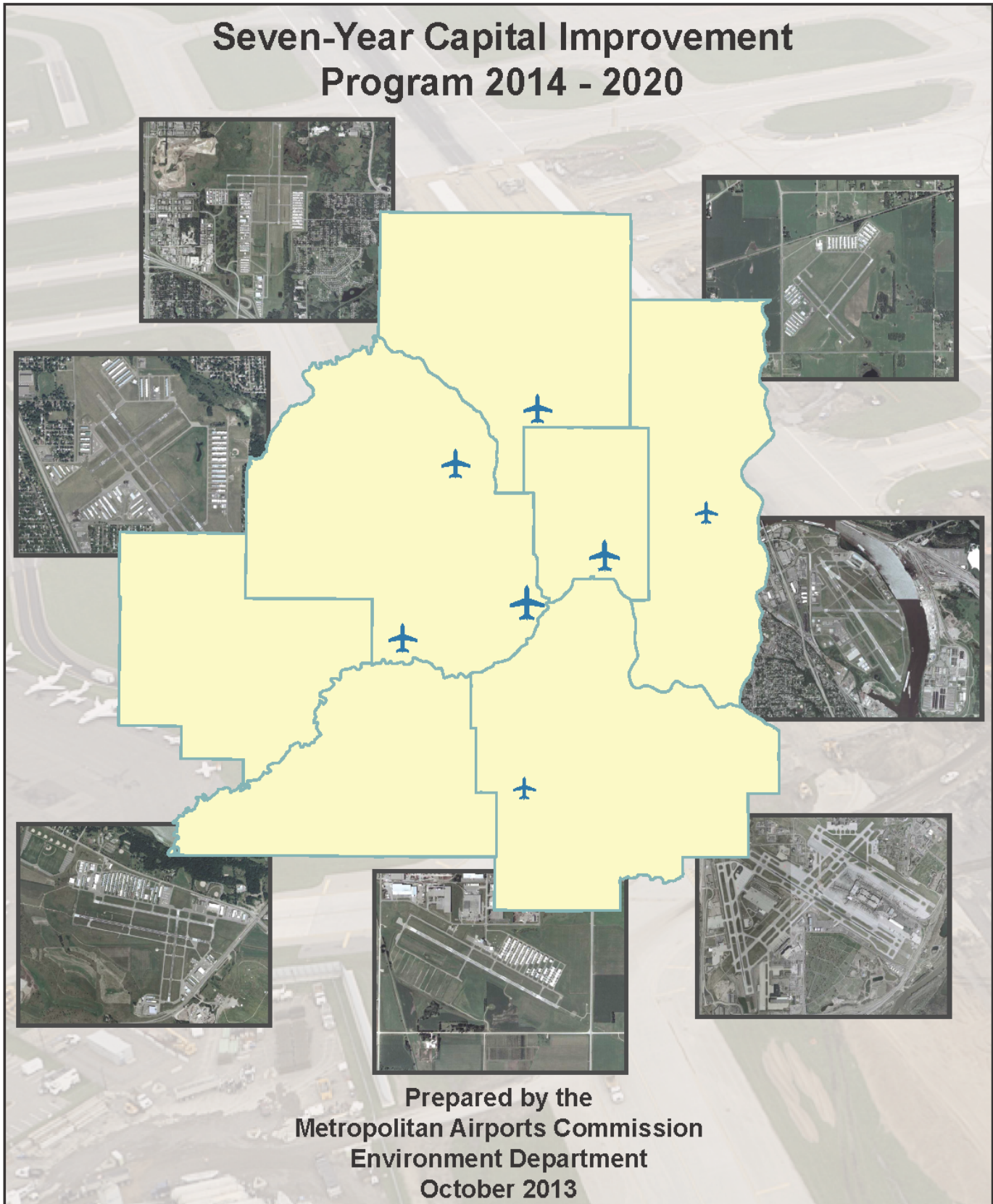




Metropolitan Airports Commission

# Assessment of Environmental Effects

## Seven-Year Capital Improvement Program 2014 - 2020



Prepared by the  
Metropolitan Airports Commission  
Environment Department  
October 2013

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This report is prepared in accordance with the requirements of Minnesota Statutes 1986, Section 473.614, 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 2014 to 2020 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 in Section 2.

The amended 1986 law also requires the preparation of an Environmental Assessment Worksheet 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 (2014 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 2014 through 2020. An Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS) has been prepared for all projects scheduled to be implemented in 2014 that meet the above three conditions in Minnesota Statutes 1986, Section 473.614, for a mandatory EAW. The projects that may have potential for significant environmental effects are presented in Table 1-2.

Table 1-1

2014-2020 Capital Improvement Program

Notes	Projects	2014	2015	2016	2017	2018	2019	2020
	<b>2010 Program</b>							
	<b>Noise Mitigation - 2010 Program</b>							
(6)	Noise Mitigation Settlement	\$900,000			\$7,500,000	\$7,500,000	\$7,500,000	
(6)	Noise Mitigation Consent Decree Amendment				\$7,500,000	\$7,500,000		
	Subtotal Noise Mitigation Program				\$15,000,000	\$15,000,000		
	<b>10 - Terminal 1-Lindbergh</b>							
	<b>Safety/Security Projects</b>							
(3)	Automated External Defibrillator Notification System		\$550,000					
(5)	Telecom Room Equipment Continuity and Security	\$3,300,000	\$1,500,000	\$1,500,000		\$1,500,000	\$1,500,000	
(5)	Fall Protection Program	\$100,000						
(5)	TSA West CBIS Equipment Upgrade	\$16,300,000 *						
	Subtotal Safety/Security Projects	\$19,700,000	\$2,050,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	
			* 100% reimbursable project.					
	<b>Facility Rehabilitation</b>							
(2)	Electrical Infrastructure Rehabilitation Program	\$2,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
(4)	Terminal Miscellaneous Modifications	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000
(4)	Emergency Power Upgrades	\$2,300,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
(2)	Lower Level Roadway/GTC Water Infiltration Mitigation	\$1,000,000	\$1,000,000	\$1,000,000	\$500,000	\$500,000	\$500,000	\$500,000
(2)	Restroom Upgrade Program	\$8,500,000	\$8,500,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000
(4)	Air Handling Unit Replacement	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
(4)	Conveyance System Upgrades	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
(4)	Passenger Boarding Bridge Replacements		\$500,000	\$300,000	\$300,000	\$700,000	\$6,000,000	\$6,000,000
(2)	Plumbing Infrastructure Upgrade Program		\$500,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
(2)	Baggage Claim, Ticket Lobby, Mezz. Op Improvements + Blast Mitigation		\$25,000,000 **	\$30,000,000 **	\$45,000,000 **	\$50,000,000 **	\$30,000,000 **	\$20,000,000 **
(4)	Way-Finding Sign Backlighting Replacement				\$1,600,000	\$1,600,000	\$1,600,000	
(2)	Terminal Curtainwall Repair	\$100,000						
(4)	Lighting Infrastructure Technology and Equipment	\$1,400,000	\$1,600,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
(2)	T1 Tram Systems Upgrades and Retrofit	\$200,000	\$1,250,000	\$2,000,000	\$2,700,000	\$2,700,000		
(4)	MAC Public Address System		\$1,300,000	\$1,300,000	\$1,200,000	\$1,100,000	\$1,100,000	\$850,000
(5)	T1 & T2 Public Walk Aisle Terrazzo Floor Installation				\$4,750,000	\$4,750,000	\$4,750,000	\$4,750,000
(6)	D-Pod Outbound Conveyor/Ticket Counter Expansion					\$5,900,000		
(5)	T1 & T2 Recarpeting Program					\$7,100,000	\$7,100,000	\$7,100,000
(2)	Mezzanine Employee Commissary				\$4,200,000			
(5)	East Mezzanine Rubber Floor Replacement				\$2,900,000			
(5)	Center Mezzanine Tile Removal and Replacement				\$450,000			
	Subtotal Facility Rehabilitation	\$20,400,000	\$44,750,000	\$45,000,000	\$81,500,000	\$88,650,000	\$62,250,000	\$49,400,000
			** Unfunded project.					
	<b>Passenger Amenities</b>							
(4)	Art Display Areas			\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
(2)	Meeter/Greeter/Freedom of Speech Booth Upgrades			\$225,000	\$225,000			
(2)	Concessions Upgrades /Revenue Development		\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
(5)	Terminal Seating Improvements		\$800,000					
(2)	Ticket Counter Upgrades to ADA			\$800,000	\$800,000			
(4)	Commission Chambers Telecoil Installation			\$200,000	\$200,000			
(4)	Way-Finding Signage Additional Directories		\$600,000					
(2)	Concourse Service Center Upgrades		\$400,000	\$1,000,000	\$1,000,000	\$600,000	\$600,000	\$600,000
(4)	Electronic Video Information Display Systems			\$750,000	\$750,000	\$1,600,000		
(2)	Observation Deck Improvements							
(2)	T1 and T2 Ticket Counter Expansion		\$400,000					
(4)	EVIDs /MUBIDs /MUBIDs / PIDs Technology Upgrades - Equipment Replacement				\$600,000	\$600,000	\$600,000	\$600,000
	Subtotal Passenger Amenities	\$1,450,000	\$1,650,000	\$2,675,000	\$2,200,000	\$3,250,000	\$1,850,000	\$1,650,000

Notes	Projects	2014	2015	2016	2017	2018	2019	2020
	<b>Operational Improvements</b>							
(4)	Concourse C Elevator to D Street			\$450,000				
(4)	Open Architecture Building Automation (OABA)	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$800,000		
(4)	Fiber Optic Cable Infrastructure Upgrade/Expansion	\$1,200,000	\$1,700,000	\$1,700,000	\$900,000	\$300,000		
(3)	Wireless Network Control System	\$500,000		\$1,000,000				
(2)	Landside Operations Offices Upgrades		\$500,000					
(1)	CEP Primary Relocation Gates G8-G9 Infill & Penthouse						\$51,000,000	
(4)	MACNet Upgrade - Connectivity Elements	\$3,000,000	\$2,500,000	\$1,000,000				
(4)	Data Center Computer Hardware							
(4)	T1 and T2 Column Labeling					\$100,000		
	Subtotal Operational Improvements	\$6,200,000	\$6,200,000	\$5,650,000	\$2,400,000	\$1,100,000	\$51,000,000	\$0
	<b>Concourse G Improvements</b>							
(2)	Concourse G Roof Replacement				\$3,000,000			
(2)	Exterior Panel/Sealant Replacement		\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,100,000
(2)	Concourse G Rehabilitation		\$2,000,000	\$2,000,000	\$2,000,000	\$5,000,000	\$5,000,000	\$5,000,000
	Subtotal Concourse G Improvements	\$0	\$0	\$3,000,000	\$6,000,000	\$6,000,000	\$6,000,000	\$6,100,000
	<b>T1-Lindbergh Expansion/Remodeling</b>							
	Terminal Remodeling							
(6)	Concourse E Remodeling/Expansion			\$1,250,000			\$37,000,000	
(2)	MAC Operations Center	\$0	\$0	\$1,250,000	\$0	\$0	\$37,000,000	\$0
	Subtotal Terminal Remodeling	\$0	\$0	\$2,500,000	\$0	\$0	\$37,000,000	\$0
	<b>13 - Energy Management Center</b>							
(4)	Energy Savings Projects	\$2,000,000	\$900,000	\$2,000,000		\$2,000,000		\$2,000,000
(4)	Alternative Energy Projects							
(4)	Modular Cooling Tower Installation	\$1,800,000						
	Subtotal Energy Management Center	\$3,800,000	\$900,000	\$2,000,000	\$0	\$2,000,000	\$0	\$2,000,000
	<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	\$3,700,000	\$7,600,000					
(2)	Pavement Reconstruction - Taxiway Delta (W to S)		\$400,000	\$400,000	\$400,000	\$7,500,000	\$400,000	\$400,000
(2)	Miscellaneous Airfield Construction				\$1,300,000			
(6)	Baggage Quarantine Building			\$1,600,000				
(5)	SIDA Incursion Upgrades							
(2)	Sanitary Sewer Replacements							
(2)	Taxiway R							
(2)	34th Avenue				\$1,700,000			
(5)	Perimeter Gate Security Imps - Gates 222 & 269			\$1,100,000				
(2)	Zantop Hangar Site Restoration				\$700,000			\$1,100,000
(2)	Runway 12L/30R Service Road Paving							
(2)	Runway Planning Regrooving				\$400,000			
	Subtotal Field and Runway	\$5,250,000	\$9,150,000	\$4,250,000	\$5,650,000	\$11,550,000	\$1,550,000	\$2,650,000
	<b>26 - Terminal Roadside/Landside</b>							
(2)	Tunnel/Bridge Rehabilitation		\$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					\$650,000		\$300,000
(2)	Lower Level Roadway Rehabilitation			\$200,000	\$200,000			
	Subtotal Terminal Roadside/Landside	\$100,000	\$100,000	\$100,000	\$2,100,000	\$750,000	\$100,000	\$400,000

Notes	Projects	2014	2015	2016	2017	2018	2019	2020
	<b>31 - Parking</b>							
(2)	T1/T2 Parking Structure Rehabilitation	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000
(2)	T2-Humphrey GTC Core Building Modifications			\$850,000				
(2)	T1-Lindbergh Short Term Parking Redesignation			\$350,000				
(4)	T1-Lindbergh Valet/Commercial Entrance Lanes Mods		\$1,000,000					
(4)	T1-Lindbergh Intelligent Parking Guidance System			\$500,000				
(6)	Orange Ramp Vestibule					\$200,000		
(2)	T1 QTA Roadway Replacement					\$500,000		
(2)	Parking Ramp Railing Refinishing Project		\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	
(2)	T2 Purple Core Retrofit							
(4)	T1 Parking Structures Drainage Mods	\$1,000,000						
	Subtotal Parking	\$4,500,000	\$4,500,000	\$5,200,000	\$3,500,000	\$4,200,000	\$3,500,000	\$2,500,000
	<b>36 - Terminal 2-Humphrey</b>							
	<b>Passenger Amenities</b>							
(5)	Skyway to LRT Flooring Installation			\$800,000				
(6)	Curbside Canopy Extension			\$750,000	\$750,000			
	Subtotal Passenger Amenities	\$0	\$0	\$1,550,000	\$750,000	\$0	\$0	\$0
	<b>Operational Improvements</b>							
(2)	Incident Response Friends & Relatives Fit-up	\$1,300,000						
	Subtotal Operational Improvements	\$1,300,000	\$0	\$0	\$0	\$0	\$0	\$0
	<b>Terminal 2-Humphrey North Expansion</b>							
(1)	Gates 11 - 13b	\$35,000,000 **				\$65,000,000 **		
(1)	Gates 14 - 16					\$1,500,000 **		
(1)	Fueling Expansion Gates 14 - 16					\$86,500,000		
	Subtotal Terminal 2-Humphrey North Expansion	\$35,000,000	\$0	\$0	\$0	\$86,500,000	\$0	\$0
	<b>Terminal 2-Humphrey South Expansion</b>							
(1)	Apron/Fueling Expansion - South						\$18,000,000 **	\$22,000,000 **
(1)	Gates 17 - 27							\$65,000,000 **
(6)	Terminal Utilities Relocation						\$5,000,000 **	
	Subtotal Terminal 2-Humphrey South Expansion	\$0	\$0	\$0	\$0	\$0	\$23,000,000	\$87,000,000
	<b>39 - Public Areas/Roads</b>							
(2)	Landside Pavement Rehabilitation	\$400,000	\$400,000	\$400,000	\$2,000,000	\$400,000	\$400,000	\$400,000
(2)	Roadway Fixture Refurbishment	\$100,000						
(2)	Taxi Cab Break Room Expansion	\$500,000		\$500,000				
	Subtotal Public Areas/Roads	\$500,000	\$400,000	\$900,000	\$2,000,000	\$400,000	\$400,000	\$400,000
	<b>46 - Hangars and other Buildings</b>							
(2)	Roof Replacements		\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
(2)	Impark Building Rehabilitation		\$600,000	\$550,000				
(2)	Drivers Training Facility Rehabilitation			\$1,050,000				
(2)	FAA Building Parking Lot Upgrades			\$250,000				
(3)	G.O. Building Valve Retrofit							
	Subtotal Hangars and other Buildings	\$0	\$1,000,000	\$2,150,000	\$2,300,000	\$1,000,000	\$1,000,000	\$1,000,000
	<b>56 - Trades/Maintenance Buildings</b>							
(6)	South Field Maintenance Building Wash Bay							\$0
	Subtotal Trades/Maintenance Buildings	\$0	\$0	\$0	\$1,300,000	\$0	\$0	\$0

Notes	Projects	2014	2015	2016	2017	2018	2019	2020
	<b>63 - Police</b>							
(6)	Public Safety Facility		\$100,000		\$35,000,000 **			
(5)	Perimeter Fence Intrusion Detection System				\$1,000,000	\$1,000,000	\$1,000,000	
(4)	IM/NI Improvements		\$7,000,000 *	\$4,000,000 *	\$4,500,000	\$3,700,000	\$4,000,000	\$2,000,000
(5)	Card Access Modifications - Gate lobby areas concourse level				\$850,000			
(5)	Passenger Boarding Bridge Card Access Additions				\$3,500,000	\$3,500,000		
(5)	Security Exit Equipment Installations		\$3,700,000 **				\$3,700,000	
	Subtotal Police	\$0	\$10,800,000	\$4,000,000	\$44,850,000	\$8,200,000	\$8,700,000	\$2,000,000
			* 100% reimbursable project.					
			** Unfunded project.					
	<b>66 - Fire</b>							
(3)	MSP Campus Fire Alarm System Upgrade		\$850,000	\$850,000	\$500,000	\$500,000	\$500,000	\$500,000
(5)	Campus Fire Protection				\$500,000	\$500,000	\$500,000	\$500,000
	Subtotal Fire	\$0	\$850,000	\$850,000	\$500,000	\$500,000	\$500,000	\$500,000
	<b>76 - Environment</b>							
	Environmental Improvements							
(2)	Mother Lake Stormwater Diversion			\$850,000				\$1,100,000
(4)	Runway 12R/30L Glycol Forcemain				\$450,000			
(6)	Concourses C and G Compactor Canopies			\$600,000				
(4)	Runway 30R Deicing Pad Subdrain							
(7)	Sustainability Plan		\$700,000					
(4)	Ground Service Equipment (GSE) Electrical Charging Stations		\$1,000,000			\$2,500,000	\$2,500,000	
(6)	E85 Tank and Dispenser Modifications			\$550,000				
	Subtotal Environment	\$1,700,000	\$0	\$2,200,000	\$450,000	\$2,500,000	\$2,500,000	\$1,100,000
	<b>Reliever Airports</b>							
	<b>81 - St. Paul</b>							
(6)	Holman Terminal Sub drain			\$100,000		\$100,000		\$600,000
(2)	Joint and Crack Repairs			\$200,000		\$200,000		
(5)	MAC Building Maintenance							
	Pavement Rehabilitation							
(2)	Runway 14/32		\$1,500,000					
(2)	Taxiway E				\$1,500,000			
(2)	Taxiway C		\$800,000					
(2)	Parking Lot/Bayfield						\$500,000	
(4)	Electrical Vault Improvements							
(2)	Airfield Signage/Wind Cone Upgrade			\$500,000				
(2)	Roof Repairs / Replacement				\$200,000			
(6)	Cold Equipment Storage Building					\$750,000		
(2)	Storm Sewer Improvements Phase 2				\$1,500,000			
(2)	Maintenance Building Improvements					\$200,000		
	Subtotal St. Paul	\$2,050,000	\$1,500,000	\$800,000	\$3,200,000	\$1,250,000	\$1,100,000	\$0
	<b>82 - Lake Elmo</b>							
(1)	East Side Parallel Taxiway						\$1,200,000	
(1)	Runway 14/32 Replacement				\$5,000,000			
(2)	Alleyway Rehabilitation		\$900,000					
(6)	Materials Storage Building					\$600,000		
	Subtotal Lake Elmo	\$0	\$900,000	\$0	\$5,000,000	\$600,000	\$1,200,000	\$0
	<b>83 - Air/Inake</b>							
(2)	Pavement Rehabilitation			\$400,000				
(1)	South Building Area Development					\$2,700,000		\$88,000,000
(1)	Runway 12/30 Extension							
(6)	South Building Area Alleyway Development				\$1,000,000			

Notes	Projects	2014	2015	2016	2017	2018	2019	2020
(2)	Maintenance Building Improvements	\$100,000						
(6)	Materials Storage Building				\$1,000,000	\$600,000		
	Subtotal Airfare	\$100,000	\$0	\$400,000	\$1,000,000	\$3,300,000	\$0	\$8,000,000
<b>84 - Flying Cloud</b>								
	Pavement Rehabilitation							
(2)	Taxiway A - Phase 1		\$800,000					
(2)	Taxiway A - Phase 2			\$900,000			\$600,000	
(2)	Taxiway D&E Mill/Overlay					\$600,000	\$600,000	
(6)	South Building Area Development					\$100,000		
(2)	Roof Repairs / Replacement							
(6)	Commercial Development - All Relievers	\$200,000						\$2,500,000
(6)	Equipment Storage Building			\$1,500,000	\$500,000			
(2)	Runway 18-36 Extension							
(6)	Electrical Vault Modifications	\$500,000						
(2)	Runway 10R-28L Grooving	\$700,000	\$800,000	\$2,400,000	\$500,000	\$700,000	\$1,200,000	\$2,500,000
	Subtotal Flying Cloud	\$700,000	\$800,000	\$2,400,000	\$500,000	\$700,000	\$1,200,000	\$2,500,000
<b>85 - Crystal</b>								
(2)	Alleyway Rehabilitation					\$550,000		
(4)	Obstruction Removals			\$300,000				
(2)	Pavement Rehabilitation	\$700,000			\$1,000,000			
(1)	Runway 14R/32L Modifications							
(2)	Roof Repairs / Replacement	\$250,000						
(6)	Materials Storage Building			\$300,000	\$600,000	\$550,000		\$0
	Subtotal Crystal	\$950,000	\$0	\$300,000	\$1,600,000	\$550,000		\$0
<b>86 - Anoka County - Blaine</b>								
(1)	Building Area Development - Xylite St. Relocation					\$1,000,000		
(6)	Materials Storage Building				\$600,000			
(2)	Roof Repairs / Replacement		\$500,000	\$250,000				
(2)	Airfield Signage/Electrical Improvements							
(2)	Taxiway Foxtrot				\$600,000			
(2)	Runway 9-27 Grooving	\$500,000						
	Subtotal Anoka County - Blaine	\$500,000	\$500,000	\$250,000	\$1,200,000	\$1,000,000	\$0	\$0
	Subtotal Reliever Airports	\$4,300,000	\$3,700,000	\$4,150,000	\$12,500,000	\$7,400,000	\$3,500,000	\$10,500,000
	Total 2014-2020 CIP	\$105,100,000	\$86,050,000	\$88,425,000	\$176,450,000	\$213,100,000	\$211,850,000	\$167,200,000
	Unfunded Projects and Reimbursements 2014-2020 CIP	\$51,300,000	\$35,700,000	\$34,000,000	\$80,000,000	\$116,500,000	\$53,000,000	\$107,000,000
	<b>Net 2014-2020 CIP</b>	<b>\$53,800,000</b>	<b>\$50,350,000</b>	<b>\$52,425,000</b>	<b>\$96,450,000</b>	<b>\$96,600,000</b>	<b>\$158,650,000</b>	<b>\$60,200,000</b>

**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 safety or 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.
- (7) Design, planning or environmental review fees.
- (8) Residential Noise Mitigation Program efforts are designed to mitigate the impact of aircraft noise and do not require an EAW or EIS.



Table 1-2  
 Summary Environmental Assessment of 2014 Projects in the MAC 2014-2020 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>															
Terminal 2-Humphrey North Expansion Gates 11- 13b	YES 2020 Improvements Final Environmental Assessment/ Environmental Assessment Worksheet January 2013	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects	No potential significant environmental effects

## Section

# 2

## Projects with Potential Environmental Effects and Effects During Construction

### Projects with Potential Environmental Effects

As is detailed in Table 1-2, there is one Capital Improvement Program (CIP) project scheduled to be implemented in 2014 that requires the preparation of an EAW.

In addition, for informational purposes, 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 have a substantive effect on the environment. Appendix A provides a description of each project in the CIP currently scheduled to be implemented in the years 2014 and 2015, as well as those projects currently scheduled to be implemented in 2016 through 2020 that may have potential substantive environmental effects. The descriptions of projects scheduled to be implemented in 2016 through 2020 are preliminary and subject to change.

### Effects During Construction

Typical mitigation measures will be used during construction to minimize potential adverse environmental effects, such as noise, dust, and erosion caused by the construction process. The environmental effects of construction are temporary and do not constitute long-term cumulative potential 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 potential environmental effects.

## Section

# 3

## Cumulative Potential Environmental Effects

Under the Minnesota Environmental Policy Act (MEPA), an Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS) must assess cumulative potential environmental effects. A cumulative potential effect under MEPA is an effect on the environment that results from the incremental effects of the project under review in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources. In other words, the cumulative potential effects analysis examines whether the incremental effects of a proposed project, combined with other projects in the same geographic area and taking place over the same time period, will have a significant effect on the same environmental resources.

### 2010 MSP Projects

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. The Residential Noise Mitigation Program, which is being implemented under the Dual Track FEIS and the settlement in *City of Minneapolis, et al. v. Metropolitan Airports Commission*, File No. 27-CV-05-005474 (Hennepin County District Court), is a measure designed to mitigate the impact of aircraft noise and does not require completion of an EAW or EIS.

### Post 2010 MSP Projects

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

In September 2010 the MAC and the Federal Aviation Administration (FAA) began preparation of a joint Environmental Assessment (EA)/Environmental Assessment Worksheet (EAW) under MEPA and the National Environmental Policy Act (NEPA) for projects that MAC may implement at MSP through the year 2020.

In March 2013 the FAA determined that the EA/EAW was adequate under NEPA, and issued a Finding of No Significant Impact and Record of Decision for the projects discussed in the 2020 Improvements EA/EAW. In April 2013 the MAC determined that the EA/EAW was adequate under MEPA, and issued an Adequacy Determination and Negative Declaration on the need for an EIS for the projects discussed in the 2020 Improvements EA/EAW.

### Anoka County – Blaine Airport Projects (Reliever)

The MAC and the Federal Aviation Administration (FAA) prepared and approved a Final Environmental Impact Statement (EIS) for the Anoka County-Blaine reliever airport in January 2003.

The Final EIS included the proposed Xylite Street Relocation Project which is shown in the CIP. This project may affect water quality and wetlands. To protect wetland areas ditches will accommodate runoff. Minor wetlands impacted by construction will be mitigated according to watershed district and Minnesota DNR requirements.

Other future CIP projects include airfield signage and electrical improvements (planned for 2015) and roof repairs to MAC buildings (planned for 2016), Taxiway Foxtrot rehabilitation work, construction of a new Materials Storage Building (planned for 2017), and the Xylite Street Relocation (planned for 2018).

The only 2014 project at the airport is the grooving of the Runway 9-27 pavement surface. No additional environmental review is required for this activity because it is a repair, rehabilitation, or reconstruction project that does not physically alter the runway's original size and does not have substantive environmental effects.

## Airlake Airport Projects (Reliever)

The MAC is currently preparing an update to the Long-Term Comprehensive Plan (LTCP) for Airlake Airport. The recommendation in the December 2008 plan includes completing the final phase of the South Building Area alleyway, utility development, and the extension of Runway 12/30 from 4,098 feet to 5,000 feet. It is anticipated that the LTCP update will endorse these same recommendations. 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 issued by the Minnesota DNR as part of the project. The final phase of construction is scheduled for completion in 2018 and will involve the placement of aggregate base and asphalt material for hangar area taxi lanes and the installation of sanitary sewer and water services. All of this work was evaluated in the 1999 EAW.

The LTCP 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 2020. The MAC published the Final Scoping Decision Document and the Final EAW in March 2011 and is planning to initiate an EIS for the project when a solid project implementation timeline is determined. 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 2014 project at the airport provides for minor Maintenance Building Improvements. No additional environmental review is required for this activity because it is a repair, rehabilitation, or reconstruction project that does not physically alter the building's original size and does not have substantive environmental effects.

## Lake Elmo Airport Projects (Reliever)

The MAC is currently preparing an update to the Long-Term Comprehensive Plan (LTCP) for Lake Elmo Airport. The recommendation in the December 2008 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 conversion 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. When this project is scheduled in a future

CIP, the MAC will design the project to accommodate the storm water runoff on-site and will obtain all environmental permits necessary to implement the project.

Although the LTCP originally envisioned an extension would occur on the crosswind Runway 4/22, the MAC is considering accommodating the 3,200-foot length as part of a Runway 14/32 replacement project, which could be implemented in 2017. The project would involve construction of a new, longer runway that would be parallel to the existing Runway 14/32. The existing runway would then become a taxiway. All LTCP updates and required environmental study would be completed prior to the proposed construction of a runway extension, a taxiway extension, or a replacement runway. All of these potential projects would involve grading, paving, storm sewer management, lighting and pavement marking. Since there are wetlands on the airport property, an evaluation would be completed to review any potential impacts as part of the documentation listed above.

There are no 2014 projects scheduled for Lake Elmo Airport.

### Crystal Airport Projects (Reliever)

The MAC is currently preparing an update to the Long-Term Comprehensive Plan for Crystal Airport. It is anticipated that the LTCP update will endorse these same recommendations. The recommendation in the December 2008 plan is to close two of the airport's four runways. It is anticipated that the LTCP update will endorse these same recommendations. The MAC is in the process of determining the best course of action for implementing the long-term plan. The FAA must approve the proposed runway closures.

The Capital Improvement Program includes the Runway 14R/32L modifications project, scheduled for 2017. The project involves the reconstruction and conversion of the existing runway pavement into a taxiway, and would not be implemented until the necessary approvals and required environmental study associated with the runway closure are completed.

The only 2014 projects at the airport are minor pavement rehabilitation and roof repairs on the MAC-owned buildings. No additional environmental review is required for these activities because they are repair, rehabilitation, or reconstruction projects that do not physically alter the original size of any structures and do not have substantive environmental effects.

### Flying Cloud Airport Projects (Reliever)

The MAC updated the FCM Long-Term Comprehensive Plan in October 2010. The plan proposes a shift of Runway 18/36 to the north by 58 feet, to bring the runway into required FAA safety area compliance, with an additional extension to the north of 109 feet (currently planned in 2016), increasing the overall runway length to 2,800. Reconstruction of Taxiway A is planned for 2015 and 2016. The runway shift is currently under construction; the additional runway extension is shown as a future project. There is no further environmental review required because the project is not one that may have the potential for significant environmental effects.

The 2014 projects include the establishment of a Commercial Development fund for FCM and all the reliever airports in the MAC airports system, as well as the grooving of the Runway 10R/28R pavement surface. No additional environmental review is required for these activities.

## St. Paul Downtown Airport Projects (Reliever)

The MAC completed an update to the St. Paul Downtown Airport Long-Term Comprehensive Plan in June 2010. The plan does not propose any substantive expansion or enhancement of the facilities at the airport.

The 2014 projects at the airport include electrical vault improvements, minor pavement repairs, maintenance of a MAC-owned building, and rehabilitation of Taxiway C. No additional environmental review is required for these activities because they are repair, rehabilitation, or reconstruction projects that do not physically alter the original size of any structures and do not have substantive environmental effects.

Future CIP projects at St. Paul Downtown Airport are largely maintenance activities that will not require additional environmental review.

## Appendix A

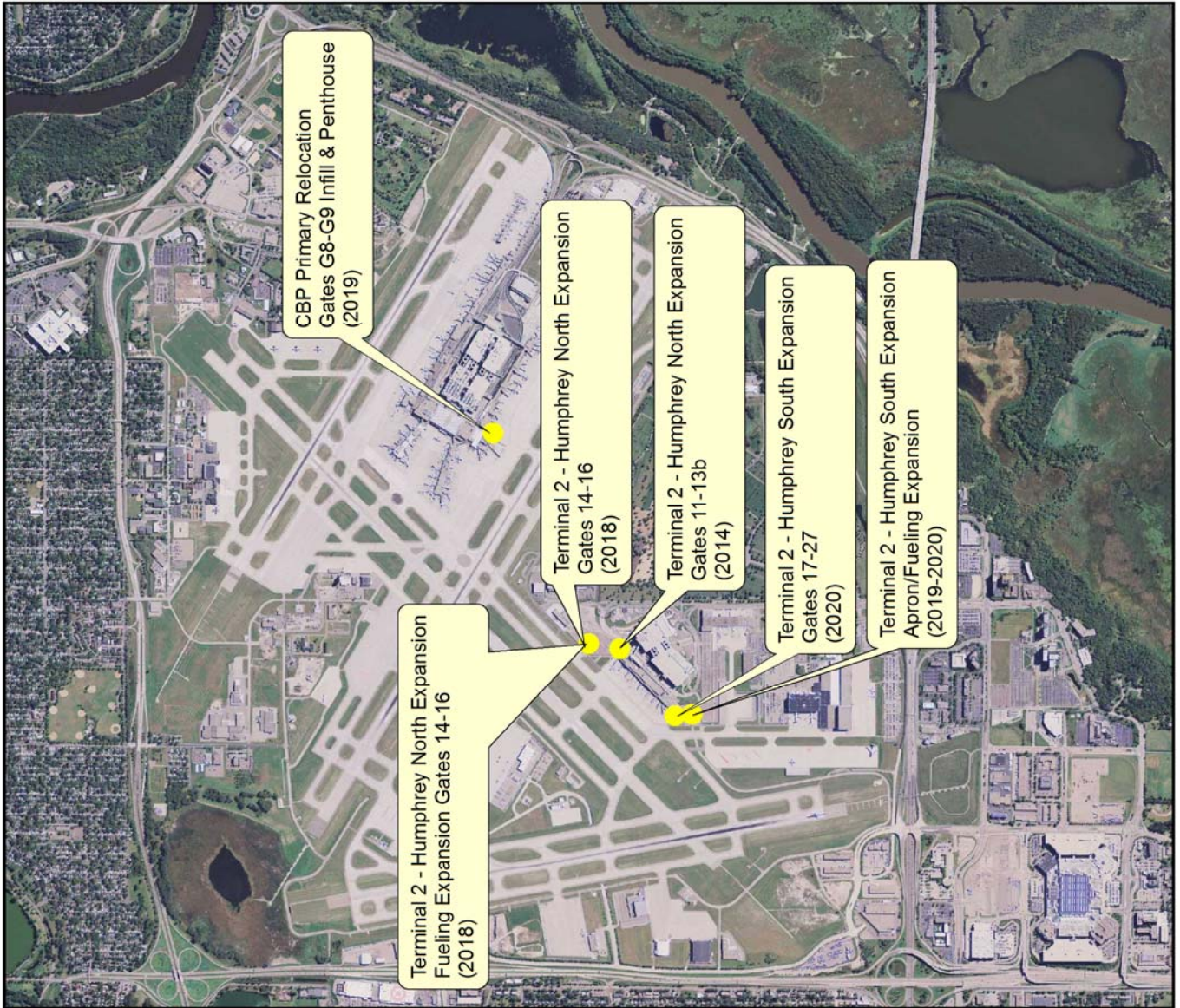
### **Description of Projects in the 2014 – 2020 Capital Improvement Program**

# Figure A-1 Capital Improvement Projects with Potential Environmental Effects

Minneapolis - St. Paul International Airport  
2014-2020

## Proposed Project Schedule

2014	Terminal 2 - Humphrey North Expansion - Gates 11-13b
2015	
2016	
2017	
2018	Terminal 2 - Humphrey North Expansion - Gates 14-16 Terminal 2 - Humphrey North Expansion - Fueling Expansion Gates 14-16
2019	Terminal 2 - Humphrey South Expansion - Apron/Fueling Expansion CBP Primary Relocation Gates G8-G9 Infill and Penthouse
2020	Terminal 2 - Humphrey South Expansion - Apron/Fueling Expansion Terminal 2 - Humphrey South Expansion - Gates 17-27





## 2014 Capital Improvement Program

### Noise Mitigation – 2010 Program

Noise Mitigation Settlement \$900,000

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 2014 project budget will reimburse homeowners in the 2005 60-64 DNL contours for approved noise mitigation work (Phase 3).

### Terminal 1- Lindbergh

#### Safety/Security Projects

Telecommunications Room Equipment Continuity and Security \$3,300,000

The MAC network (MACNet) carries credit card data from the Landside Parking Revenue Control System. The credit card industry has created security standards which merchants, like the MAC, are required to meet to protect card holder data. Among these requirements are security standards for the physical locations where MACNet equipment is located. Additionally, the network equipment itself must have added security features to prevent unauthorized network access. This program will address these standards by providing security equipment and relevant network hardware for the 150 telecommunications rooms on the MAC campus. This program is being coordinated with the iVSN and Fiber Optic Cable Infrastructure Upgrade/Expansion programs to avoid duplication of effort and cost. This will be a multi-year program.

Fall Protection Program \$100,000

The Occupational Safety and Health Administration (OSHA) requires that employers protect their employees who work on roof tops, next to roof edges, and other locations where there could be the potential for injuries due to falls. Options range from guardrails, structural life line systems to structural tie-off systems. A Roof Fall Protection Committee has been reviewing roof areas around the MSP campus to determine potential hazards and mitigation options. This program is being implemented to address all roof areas and provide plans that show hazards and determine walkway areas to all equipment for use by anyone who has need to access a roof. This assessment is to be used as a reference for all roof projects including reroofing, repairs, access rights, concessions tenants.

TSA West CBIS Equipment Upgrade \$16,300,000

In 2005 the Commission approved construction of the West Checked Baggage Inspection System (CBIS), which included a TSA contribution of seven CTX devices, supporting technologies and equipment, and staff. Subsequently, the CTX devices have begun to approach end-of-life status based on current required maintenance cost, as determined by the TSA. The TSA has offered to negotiate a 100% funded (no MAC cost) "Other Transaction Agreement" (OTA) for design and construction services for device replacement and other required upgrades to accommodate the new technology. The OTA for the design phase has been approved and executed by both MAC and TSA. A second OTA for the construction phase will be negotiated in 2013. This project will

provide for the design and installation of TSA furnished devices and other required equipment at no cost to the MAC.

#### Facilities Rehabilitation

Electrical Infrastructure Rehabilitation Program \$2,500,000

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 a continuation of a multi-year program that began in 2009.

Terminal Miscellaneous Modifications \$2,400,000

Each year, there is a list of "maintenance" projects that are beyond the capability of the MAC's maintenance staff and trades to accomplish. These projects are prioritized and completed either as a series of contracts or as purchase orders. The list of potential projects will be compiled and prioritized in early 2014.

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

Building Exterior Rehabilitation \*

A continuation of the program to rehabilitate the exterior of the terminals and other MAC buildings, including roof and curtainwall rehabilitation.

Terminal Electrical Modifications \*

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 \*

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 \*

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.

MSP Campus Modifications \*

An ongoing program to modify or remodel areas within other facilities around the MSP Campus to meet the needs of the various tenants/general public/MAC departments utilizing the facilities.

Emergency Power Upgrades \$2,300,000

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

Lower Level Roadway/GTC Water Infiltration Mitigation \$1,000,000

Water infiltration through the structural concrete slab above the Ground Transportation Center and lower level of Terminal 1-Lindbergh has required the use of buckets and other containers to collect the water. Long-term water infiltration of structural members will result in deterioration of the structural concrete and will shorten the life of the structure. This project will continue the efforts to determine the causes of the infiltration and complete repairs.

Restroom Upgrade Program \$8,500,000

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

Air Handling Unit Replacement \$1,500,000

There are existing air handling units serving Terminal 1-Lindbergh that were installed with the original terminal construction in 1958-60 and are over 40 years old. A study of these units has been completed that evaluated each unit's age, condition, and its ability to adequately heat or cool the spaces it serves. A multi-year program to provide for the replacement of the units that have been identified as needing replacement has been implemented. The 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 asbestos abatement.

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 functional, and utilize aging water meter systems. There are also deteriorated sections of the existing sanitary and storm water systems. This ongoing program was implemented in 2012 to upgrade the plumbing infrastructure system to meet current code requirements and MAC standards. The focus of the 2014 project is to continue the survey and replacement of aging plumbing isolation valves that no longer shut-off or have become inaccessible. This phase will also start to focus on aging sanitary sewer pipes.

Terminal Curtainwall Repair \$100,000

Sealants are integral to a building envelope. Without sealants, there is air infiltration, water infiltration and other contaminants, including birds nesting, etc. This program provides for the replacement of failing sealants on one area of the terminal within the curtain wall system.

Lighting Infrastructure Technology and Equipment \$1,400,000

This is a multi-year program that analyzes, assembles, and organizes lighting system upgrade recommendations for the MSP campus. Annual investment in lighting infrastructure is necessary to ensure its safe operation, reduce energy and maintenance costs, and to implement technology

upgrades that improve lighting quality. Light fixtures age and degrade due to time, heat or exterior elements. Lighting technologies also change and upgrades will provide for more energy efficient lighting systems.

T1 Tram Systems Upgrades and Retrofit \$200,000

The MAC Hub and Concourse Tram systems were originally placed into public service in 2001 and 2004, respectively. As part of the installation, the automatic train control system utilized multiple components provided by GE Intelligent Platforms. In late 2011, GE indicated they would discontinue support of selected components beyond the year 2019. This project will replace and upgrade the GE components to Tram Control Systems on both the Hub and Concourse Trams. Completion is required prior to December 2019. Both Trams are integral to the overall efficient flow of passengers throughout the airport and are expected to continue that role into the foreseeable future.

Passenger Amenities

Art Display Areas \$250,000

This program is a continuation of the existing program, in partnership with the MSP Foundation, to provide opportunities and space build out for the display of permanent and temporary/rotating art exhibits. This year's project includes work on the C concourse short film and performance space.

Concessions Revenue Upgrades/Revenue Development \$200,000

This is an annual program to fund miscellaneous upgrades such as finishes, furniture, signage, and/or modified connections to utilities for the concession programs.

Way-Finding Signage Additional Directories \$600,000

With recent changes in the terminals, there is a need to improve access/visibility to the public, add elevator signs and modify overhead illuminated and non-illuminated signage to improve passenger way-finding.

T1 and T2 Ticket Counter Expansion \$400,000

Terminal 1-Lindbergh and Terminal 2-Humphrey will require ticket counters when CTX devices are removed in 2014 and 2015 which, at T1-L, will prepare the space for additional new entrant carriers. The overall space available between the two terminals is roughly 150' of space, or 30 ticket counters.

Operational Improvements

Open Architecture Building Automation (OABA) \$1,500,000

This is a continuation of a multi-year program to upgrade all MAC building automation systems to the LonMark open architecture protocol so that the MAC can bid maintenance and construction contracts more competitively. This project will replace sole-source controllers such as Siemens and Legacy Honeywell with LonMark controllers from Honeywell, Circon, Distech, or TAC systems that are all LonMark certified product lines.

Fiber Optic Cable Infrastructure Upgrade/Expansion \$1,200,000

This project provides for the upgrade/installation of air blown fiber optic cable at various airport locations, installation of manhole/duct bank with tube and fiber optic cable from the Maroon Ramp to the Fire Foam building. Project also included fiber modifications, repairs and upgrades as necessary to maintain and improve the fiber infrastructure at MSP. 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 multi-year 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 \$500,000

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

MACNet Upgrade – Connectivity Elements \$3,000,000

The MACNet provides the critical and required infrastructure to support all of the current and future MAC voice, data, and video systems. This includes systems supporting mission critical applications and systems that are used by airside and landside operations, public safety, airport planning and development, environment and noise, finance and accounting, human resources, and overall MAC administration. This system has been modified over time to support the current systems in place as well as new systems, business, and operational requirements as they have been identified. The current version of MACNet, however, has reached its operational capacity and is not capable of supporting future growth. The upgraded MACNet will be implemented over a number of years to provide the necessary infrastructure to support all next generation systems and applications to be implemented in upcoming years.

## Energy Management Center

Energy Savings Projects \$2,000,000

This ongoing program provides for the implementation of projects that would save the Commission energy costs in its operating budget. Discussions with both Xcel and Centerpoint have identified additional projects that are eligible for energy saving rebates and will save the Commission additional energy costs. In order to qualify, projects must provide at least a five year pay back.

Modular Cooling Tower Installation \$1,800,000

The EMC has requested an additional cooling tower to provide redundancy and emergency back-up for the Terminal 1-Lindbergh cooling system. MAC MECP has made improvements over the years that have made the EMC much more efficient than ever before. With all of these efforts the plant is still just short on cooling tower capacity. During 90 - 95 degree days the tower capacity runs at 100% with nothing left. If the EMC plant were to lose even one element of the towers, they would lose the ability to keep the airport at appropriate cooling and comfort levels. Equipment replacement time for these types of cooling systems can be up to 48 hours at which time we would lose cooling control of the terminal building.

## 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 (AOA) and repair or replace airfield electrical circuitry, lighting and signage. Inspection of bituminous pavements, lighting, and electrical circuits determines what areas are to be prioritized for rehabilitation under each year's project.

Pavement Joint Sealing/Repair \$650,000

This is an ongoing program to provide for the resealing of joints, sealing of cracks, and limited surface repairs on existing concrete pavements. The areas scheduled for sealing will be as defined in the overall joint sealing program or as identified by staff inspection in the early spring of each year.

Pavement Rehabilitation – Aprons \$3,700,000

This is an ongoing program to replace sections of concrete pavement in the aircraft operational areas that have deteriorated to a point where routine maintenance is no longer a viable option. This year's project will replace approximately 6,000 square yards of concrete apron located adjacent to Concourse C between Gates C7 and C9.

Miscellaneous Airfield Construction \$400,000

This is an ongoing program to consolidate various incidental repairs beyond the work load capabilities of the Field Maintenance personnel, or to handle airfield problems requiring repair that come up unexpectedly.

## Terminal Roads/Landside

Tunnel/Bridge Rehabilitation \$100,000

The MSP campus has MAC-owned bridges and tunnels. Bridge and tunnel inspections are conducted each year to identify maintenance and repairs which are then implemented in a timely fashion.

## Parking

T1/T2 Parking Structure Rehabilitation \$2,500,000

This is an annual 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.

T2 Purple Core Retrofit \$1,000,000

This project includes the post RAC (car rental) retrofit of the T2 Purple Ramp Core area. This is the area on the south end of the T2 Purple Ramp Core that housed the interim car rental counters and commercial vehicle support areas. This area and its systems have been mutated over the years to accommodate the previously described interim operations. This project will restore and retrofit the T2 Purple Ramp Core area into support space for the Landside commercial vehicle areas, Airport Police Department office, and off airport car rental set ups, etc. This project also

completes the finishes, fire protection, electrical and other infrastructure in the T2 Purple Ramp Core area.

T1 Parking Structures Drainage Mods \$1,000,000

Cleaning of the parking ramps is a required part of annual maintenance and extends the life of the structures. This project provides for extending sanitary sewer outlets and water service connections to each level of the parking structures for discharge of used cleaning solution and rinse water directly into the sanitary sewer system.

## Terminal 2 – Humphrey

### Operational Improvements

Incident Response Friends and Relatives Fit-up \$1,300,000

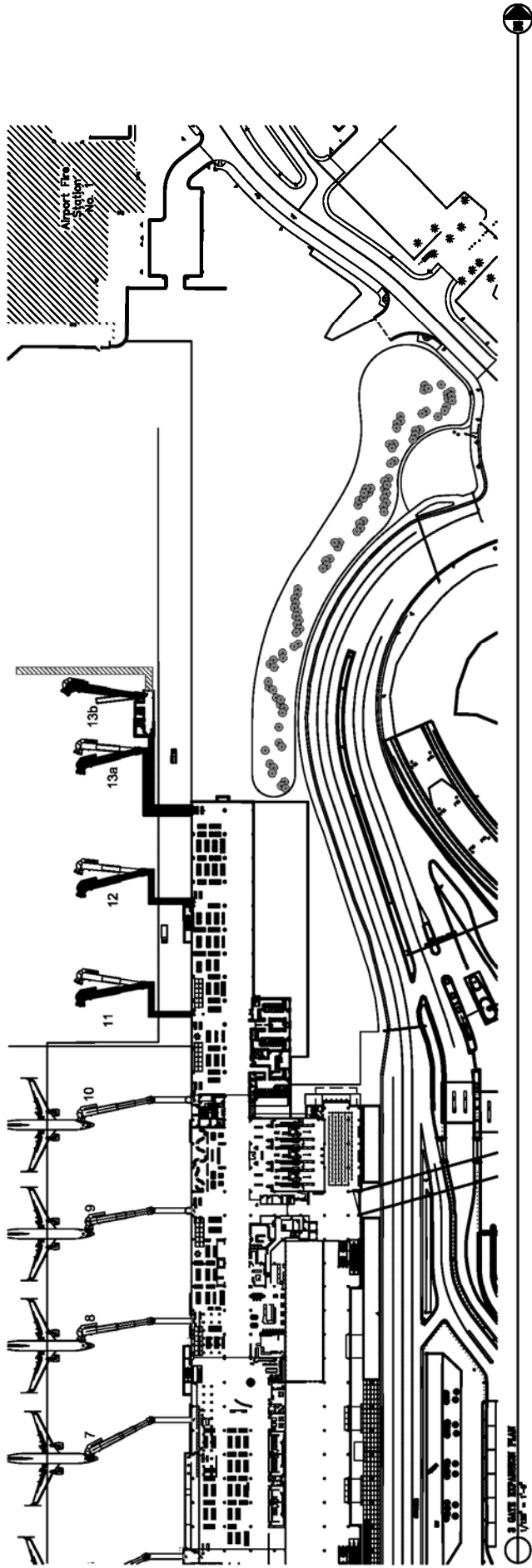
The MAC has used several different locations over the years to serve as a Friends and Relatives Incident Response center in the event of an airline incident, weather related event such as a tornado, or possibly a terrorist incident. A facility such as this would be available for family and friends of those killed/injured in the incident to gather for incident updates and counseling. The 2012 Emergency Preparedness Exercise used the old Navy Administration Building as the “survivor” center. The MAC Fire Marshall, however, has stated that this building does not have the required facilities and does not meet the current codes to function in this capacity. This 2014 project will build out a currently undeveloped area on the first level of T2-Humphrey that has been created with the construction of the Security Check Point project. The project will provide a large room that will house up to 100 people with tables and chairs, phones, TVs and data connections. There will also be small rooms for families and a re-unification room for family and airport personnel. A kitchenette and new restrooms will also be constructed. This facility could also be rented out for other functions.

### Terminal 2-Humphrey North Expansion

Gates 11 – 13b \$35,000,000

This project will provide three new gates with associated gate lobbies, and four new passenger boarding bridges for current and future fleet mixes, with ground boarding accommodation at the northern most gate, providing maximum short and long-term flexibility. Modified passenger boarding bridge routes will create more accessible routes to all planned aircraft types, from regional to large narrow-body aircraft. Gate lobbies will provide 85% of seating for the planned aircraft, improving the waiting experience for the customer. The upper level build-out will include: public walkways; gate lobby space; restrooms; concessions, including vending and future build-outs; mechanical/penthouse space and equipment; fire/life-safety systems; other required appurtenances; publicly accessible power; EVIDS/MUFIDS installations; and way-finding signage revisions on the north end of the terminal. This expansion will make use of the 2013 aircraft apron and fueling expansion project, and will provide additional access to Remain Over Night (RON) and for the ground boarding of smaller regional aircraft. (See Figure A-2).

Figure A-2



**T2-HUMPHREY  
3-GATE AREA PLAN**

SEPTEMBER 25, 2013

**TOTAL 3 GATE AREA = 44,023 SF**



## Public Areas/Roads

### Landside Pavement Rehabilitation \$400,000

This is an ongoing program to construct or reconstruct bituminous pavements outside of the Air Operations Area (AOA). Inspection of pavements and appurtenances determines what areas are to be prioritized for rehabilitation under each year's project.

### Roadway Fixture Refurbishment \$100,000

Many of the light poles, clearance restriction bars, sign units, fence sections, and canopies on the airport roadways are in need of repainting and maintenance. This is a multi-year program that provides for refurbishment of these fixtures utilizing both MAC staff and temporary seasonal staff as available.

## Environment

### Sustainability Plan \$700,000

The development of a Sustainable Management Plan will provide a foundation for the formal integration of sustainability into the MAC's organizational culture, while providing a coordinated and accountable approach to establishing metrics, goals, strategies, and assessment and improvement frameworks that address long-term environmental, operational, financial, and social needs. This effort will strive to establish an ongoing programmatic framework that will reduce cost of environmental compliance within the MAC, and help to strengthen the positive social, environmental, and economic impacts of the MAC presence and operation in the Minneapolis-St. Paul metropolitan area.

### Ground Service Equipment (GSE) Electrical Charging Stations \$1,000,000

This project will purchase and install charging stations for electric ground support equipment (GSE). These fast, energy-efficient charging stations allow for simultaneous charging, adjustable charging rates, and automatic shut-off when the GSE are fully charged or when overheating occurs. The charging stations are to be installed at Terminal 1 for use by Delta GSE. This project fits into the proposed long term goal of converting all Delta GSE to electric power thereby reducing overall air emissions and noise pollution at MSP from fossil fuel-burning GSE.

## St. Paul

### Joint and Crack Repairs \$100,000

Given the extremely poor sub grade materials at this airport, 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 area's most in need of repair.

### MAC Building Maintenance \$250,000

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 – Taxiway C \$800,000

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 Taxiway Charlie and its taxiway lighting system along with other minor areas.

Electrical Vault Improvements \$900,000

The existing electrical vault and vault equipment serving the airfield electrical system requires improvements and upgrades to become compliant with the National Electric code and to improve system performance. This project will upgrade the facility, replace sub-standard equipment, and address airfield signage deficiencies.

Lake Elmo

There are no projects planned for Lake Elmo Airport in 2014.

Airlake

Maintenance Building Improvements \$100,000

This project will include improvements to the existing maintenance building, specifically in the restroom and shower areas, as well as address structural deficiencies of the building masonry exterior.

Flying Cloud

Commercial Development – All Relievers \$200,000

Similar to the costs expended in 2011 for a revenue generating parcel at Flying Cloud, these costs allow for the MAC to research and/or prepare sites at the Reliever Airports for potential development. Costs may include site preparation, surveying, marketing, and/or other development related costs. Funds expended for each parcel will be assessed to the developer who ultimately takes on the commercial development.

Runway 10R-28L Grooving \$500,000

This project provides for grooving of the bituminous runway pavement of Runway 10R-28L to improve surface drainage during wet weather.

Crystal

Pavement Rehabilitation \$700,000

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 includes rehabilitation of portions of Taxiway Bravo on the west side of the airport along with other pavement repairs and crack sealing.

Roof Repairs/Replacement

\$250,000

A site inspection has identified deficiencies in some of the roof structures on MAC-owned buildings at the Crystal Airport. This project will include further investigation of existing problems, determine if repairs or replacement is needed, evaluate the benefits and costs, and complete the improvements if warranted.

Anoka County – Blaine

Runway 9-27 Grooving

\$500,000

This project provides for the grooving of the bituminous runway pavement of Runway 9-27 to improve surface drainage during wet weather.

## 2015 Capital Improvement Program

### Terminal 1- Lindbergh

#### Safety/Security Projects

Automated External Defibrillator Notification System \$550,000

This project will provide an automated and wireless location notification system for the existing Automated External Defibrillators (AEDs) currently installed throughout the Lindbergh and Humphrey Terminals. The system will tie into the existing facilities monitoring system and to the Emergency Communications Center (ECC). If a door to an AED is opened, ECC will be immediately notified, and will be able to dispatch Fire to the general location. If a 911 call is made, the nearest AEDs' notification lights can be alarmed/flushed, and overhead announcements can be made for the AED location and the response location.

Telecommunications Room Equipment Continuity and Security \$1,500,000

The MAC network (MACNet) carries credit card data from the Landside Parking Revenue Control System. The credit card industry has created security standards which merchants, like the MAC, are required to meet to protect card holder data. Among these requirements are security standards for the physical locations where MACNet equipment is located. Additionally, the network equipment itself must have added security features to prevent unauthorized network access. This program will address these standards by providing security equipment and relevant network hardware for the 150 telecommunications rooms on the MAC campus. This program is being coordinated with the iVSN and Fiber Optic Cable Infrastructure Upgrade/Expansion programs to avoid duplication of effort and cost. This will be a multi-year program.

#### Facilities Rehabilitation

Electrical Infrastructure Rehabilitation Program \$1,500,000

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 a continuation of a multi-year program that began in 2009.

Terminal Miscellaneous Modifications \$2,400,000

Each year, there is a list of "maintenance" projects that are beyond the capability of MAC's maintenance staff and trades to accomplish. These projects are prioritized and completed either as a series of contracts or as purchase orders. The list of potential projects will be compiled and prioritized in early 2015.

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

Building Exterior Rehabilitation \*

A continuation of the program to rehabilitate the exterior of the terminals and other MAC buildings including roof and curtainwall rehabilitation.

Terminal Electrical Modifications \*

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 \*

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 \*

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.

MSP Campus Modifications \*

An ongoing program to modify or remodel areas within other facilities around the MSP Campus to meet the needs of the various tenants/general public/MAC departments utilizing the facilities.

Emergency Power Upgrades \$1,500,000

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

Restroom Upgrade Program \$8,500,000

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

Air Handling Unit Replacement \$1,500,000

There are existing air handling units serving Terminal 1-Lindbergh that were installed with the original terminal construction in 1958-60 and are over 40 years old. A study of these units has been completed that evaluated each unit's age, condition, and its ability to adequately heat or cool the spaces it serves. A multi-year program to provide for the replacement of the units that have been identified as needing replacement will be implemented. The 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 asbestos abatement.

Conveyance System Upgrades \$1,000,000

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 useful life of each system including the availability of replacement parts and technical support of the equipment. 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 safety devices or features that are commonly installed on modern equipment. This multi-year program modernizes and replaces elements of the conveyance systems.

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 functional, and utilize aging water meter systems. There are also deteriorated sections of the existing sanitary and storm water systems. This ongoing program was implemented in 2012 to upgrade the plumbing infrastructure system to meet current code requirements and MAC standards. The focus of the 2015 project is to continue the survey and replacement of aging plumbing systems.

Baggage Claim, Ticket Lobby, Mezz. Op Improvements & Blast Mitigation \$25,000,000

This program will include operational Improvements to Terminal 1-Lindbergh's Baggage Claim, Ticket Lobby, and Mezzanine levels in the Lindbergh Terminal. Major renovations to security checkpoints, conveyance systems, bag claim devices and restrooms make up the bulk of this multi-year endeavor, along with building upgrades and physical security enhancements that will address potential vulnerabilities.

Lighting Infrastructure Technology and Equipment \$1,600,000

This is a multi-year program that analyzes, assembles, and organizes lighting system upgrade recommendations for the MSP campus. Annual investment in lighting infrastructure is necessary to ensure its safe operation, reduce energy and maintenance costs, and to implement technology upgrades that improve lighting quality. Light fixtures age and degrade due to time, heat or exterior elements. Lighting technologies also change and upgrades will provide for more energy efficient lighting systems.

T1 Tram Systems Upgrades and Retrofit \$1,250,000

The MAC Hub and Concourse Tram systems were originally placed into public service in 2001 and 2004, respectively. As part of the installation, the automatic train control system utilized multiple components provided by GE Intelligent Platforms. In late 2011, GE indicated they would discontinue support of selected components beyond the year 2019. This project will replace and upgrade the GE components to Tram Control Systems on both the Hub and Concourse Trams. Completion is required prior to December 2019. Both Trams are integral to the overall efficient flow of passengers throughout the airport and are expected to continue that role into the foreseeable future.

Passenger Amenities

Art Display Areas \$250,000

This project is a continuation of the partnership with the Airport Foundation to provide opportunities for the display of permanent and temporary/rotating art exhibits.

Concessions Upgrades/Revenue Development \$200,000

This is an annual program to fund miscellaneous upgrades such as finishes, furniture, signage, and/or modified connections to utilities for the concession programs.

Terminal Seating Improvements \$800,000

This project is a continuation of the 2013 seating replacement in T1 Lindbergh. It is expected that seat replacements will occur in the rental car areas, ground transportation atrium, and other terminal locations.

Electronic Video Information Display Systems \$400,000

This project will include new and replacement digital toppers, digital food courts signs, digital directories and brochure holders.

Operational Improvements

Open Architecture Building Automation (OABA) \$1,500,000

This is a continuation of a multi-year program to upgrade all MAC building automation systems to the LonMark open architecture protocol so that the MAC can bid maintenance and construction contracts more competitively. This project will replace sole-source controllers such as Siemens and Legacy Honeywell with LonMark controllers from Honeywell, Circon, Distech, or TAC systems that are all LonMark certified product lines.

Fiber Optic Cable Infrastructure Upgrade/Expansion \$1,700,000

This project provides for the upgrade/installation of air blown fiber optic cable at various airport locations, installation of manhole/duct bank with tube and fiber optic cable. Project also includes fiber modifications, repairs and upgrades as necessary to maintain and improve the fiber infrastructure at MSP. 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 multi-year 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.

Landside Operations Offices Upgrades \$500,000

The layout and composition of Landside offices wastes valuable terminal space, places cash at risk of theft, and fails to properly segregate essential functions to meet current customer service, vehicle enforcement or parking operational needs or meet staff productivity needs. This project will consist of space and security modifications to address these issues.

MACNet Upgrade – Connectivity Elements \$2,500,000

The MACNet provides the critical and required infrastructure to support all of the current and future MAC voice, data, and video systems. This includes systems supporting mission critical applications and systems that are used by airside and landside operations, public safety, airport planning and development, environment and noise, finance and accounting, human resources, and overall MAC administration. This system has been modified over time to support the current systems in place as well as new systems, business, and operational requirements as they have been identified. The current version of MACNet, however, has reached its operational capacity and is not capable of

supporting future growth. The upgraded MACNet will be implemented over a number of years to provide the necessary infrastructure to support all next generation systems and applications to be implemented in upcoming years.

Energy Management Center

Alternative Energy Projects \$900,000

As part of an ongoing program, this project will evaluate potential alternative energy projects including solar power, wind power, geothermal technology for heating and cooling of new buildings, and other alternative energy approaches for the MAC.

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 (AOA) and repair or replace airfield electrical circuitry, lighting and signage. Inspection of bituminous pavements, lighting, and electrical circuits determines what areas are to be prioritized for rehabilitation under each year's project.

Pavement Joint Sealing/Repair \$650,000

This is an ongoing program to provide for the resealing of joints, sealing of cracks, and limited surface repairs on existing concrete pavements. The areas scheduled for sealing will be as defined in the overall joint sealing program or as identified by staff inspection in the early spring of each year.

Pavement Rehabilitation – Aprons \$7,600,000

This is an ongoing program to replace sections of concrete pavement in the aircraft operational areas that have deteriorated to a point where routine maintenance is no longer a viable option. This year's project will replace approximately 18,000 square yards of concrete apron located adjacent to Concourse C between Gates C1 and C6. Work will include removals, concrete pavement, pavement marking, and replacement of existing fuel utilities.

Miscellaneous Airfield Construction \$400,000

This is an ongoing program to consolidate various incidental repairs beyond the work load capabilities of the Field Maintenance personnel or to handle airside problems requiring repair which come up unexpectedly.

Terminal Roads/Landside

Tunnel/Bridge Rehabilitation \$100,000

The MSP campus has MAC-owned bridges and tunnels. Bridge and tunnel inspections are conducted each year and maintenance repairs are then implemented in a timely fashion.



## Parking

T1/T2 Parking Structure Rehabilitation \$2,500,000

This is an annual 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.

T1-Lindbergh Valet/Commercial Entrance Lanes Mods \$1,000,000

The valet entrance area at T1 is congested with incoming commercial vehicles that waste valuable operational space. The addition of a drive lane close to the Green Ramp on ground level would shift the commercial vehicle entrances on ground level toward the structure without impacting operations. This shift would allow for a new lane for valet and taxi drivers to utilize. Our valet customers could then enter a separate lane for inspection, unencumbered by incoming taxi and shuttle drivers. Modifications to the exit lanes to reduce confusion and congestion will also be accomplished under this project.

Parking Ramp Railing Refinishing Project \$1,000,000

This multi-year project will address the parking ramp metal railings that have weathered and degraded over time. The paint has chipped and peeled away, which caused the exposed metal rail to rust and erode. The rust from the degrading metal railings has stained the concrete walls and concrete slabs creating an unsightly appearance for airport customers and resulting in concrete repair work in the surrounding areas.

## Public Areas/Roads

Landside Pavement Rehabilitation \$400,000

This is an ongoing program to construct or reconstruct bituminous pavements outside of the Air Operations Area (AOA). Inspection of pavements and appurtenances determines what areas are to be prioritized for rehabilitation under each year's project.

## Hangars and other Buildings

Roof Replacements \$1,000,000

A report has been developed within the MAC that evaluates one-half of the roofs every other year. This project allows these roofs that have been evaluated to be prioritized and programmed for repair. Emergency repairs may also be needed on some roofs; this program will provide dollars for such instances.

## Police

Public Safety Facility \$100,000

This project will relocate the MAC Police Department to a new stand-alone facility outside of the terminal complex. The new facility will have convenient access to both the airside and landside with improved response to both terminals via airside or public roadways. The building is envisioned as a multi-story structure that will accommodate future growth and consolidation of the Emergency Communications Center and Airport Operations into one building. The dollars to be spent in 2015

will update the scope of the building planned and review the feasibility and costs for potential sustainability efforts.

iVISN Improvements \$7,000,000

This project is the continuation of the program to systematically replace and integrate the approximately 1800 existing cameras into the new iVISN system and to expand the camera coverage within the terminals. A grant application has been approved by the TSA for eligible project costs.

Security Exit Equipment Installations \$3,700,000

This project will include unstaffed exit technologies installations at T1-Lindbergh Check Points #1, #5, and #10, and at the T2-Humphrey Check Points #1 and #2 to provide new space and technologies to replace TSA (or MAC) staffing. There may be a mix of technologies and types of exits and system considered, tested, and implemented.

Fire

MSP Campus Fire Alarm System Upgrade \$850,000

In an effort to improve monitoring reliability and eliminate the existing single point of failure configuration, this two-year project will include database redundant systems, device controller upgrades and the decentralization of the fire alarm master control equipment.

St. Paul

Pavement Rehabilitation – Runway 14/32 \$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 includes rehabilitation of the Runway 14/32 pavement through the installation of a bituminous overlay. The runway lighting system will also be upgraded and repaired as required.

Lake Elmo

Alleyway Rehabilitation \$900,000

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 includes rehabilitation of alleyways in the North Building Area.

Flying Cloud

Pavement Rehabilitation – Taxiway A – Phase 1 \$800,000

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 includes the full-depth reconstruction of the portion of Taxiway Alpha which lies west of Runway 18/36, and will include taxiway lighting systems installation.

Anoka County – Blaine

Airfield signage/Electrical Improvements

\$500,000

The existing airfield electrical system requires improvements and upgrades to increase reliability and replace old infrastructure. The project will address aging airfield signs, circuitry, and regulators with the primary focus being the airfield guidance sign systems.

## 2016 – 2020 Capital Improvement Program

(Description of projects expected to be implemented in 2016 – 2020 are preliminary, and only those that have potential substantive environmental effects are included in this section.)

### Terminal 1-Lindbergh

#### Operational Improvements

CBP Primary Relocation Gates G8-G9 Infill & Penthouse \$51,000,000

This project will relocate the Customs Border Patrol (CBP) primary checking from the gate level to the penthouse level. There will be a two level infill between gates G8 and G9 that would reclaim the gate G8-G10 lobby. The two existing claim devices would be lengthened and two additional claim devices would be installed.

### Terminal 2 – Humphrey

#### Terminal 2 – Humphrey North Expansion

Gates 14-16 \$65,000,000

In accordance with the LTCP, this project will add 3 new gates to the north end of Terminal 2-Humphrey including gate hold areas, passenger boarding bridges, and space for concessions.

Fueling Expansion Gates 14-16 \$1,500,000

This project will provide for the construction of the aircraft fueling pits to accommodate Gates 14-16.

#### Terminal 2 – Humphrey South Expansion

Apron/Fueling Expansion – South \$40,000,000

The south expansion of Terminal 2 Humphrey will require the expansion of the terminal apron. This project will provide for the construction of the apron and fueling pits to accommodate gates 17-27.

Gates 17-27 \$65,000,000

In accordance with the LTCP, this project will add 11 new gates to the south end of Terminal 2-Humphrey including gate hold areas, passenger boarding bridges, office/airline operations space, a new security checkpoint, skyway access from the terminal to the parking ramp, and space for concessions.

## Reliever Airport Programs

### Lake Elmo

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.

Runway 14/32 Replacement \$5,000,000

The current LTCP for the Lake Elmo Airport demonstrates a need to have an extended runway length of 3,200 feet to accommodate the existing users. While the LTCP originally envisioned an extension would occur on the crosswind Runway 4/22, the MAC is considering accommodating the 3,200-foot length as part of a Runway 14/32 replacement project, in which a new longer runway would be constructed parallel to the existing Runway 14/32. The existing runway would then become a taxiway.

### Airlake

South Building Area Development \$2,700,000

This project will provide for alleyway construction at the Airlake Airport, 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.

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.

### Crystal

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

As defined in the Crystal Airport 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.

### 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 and construction of a berm and landscaping.