



Assessment of Environmental Effects Seven-Year Capital Improvement Program 2017-2023

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Section 1: Introduction

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 2017 to 2023 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 replacement and maintenance/upgrades of existing facilities, Information Technology, and rehabilitation/upgrades of existing airport tenant 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 (2017 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 2017 through 2023. An Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS) has been prepared for all projects scheduled to be implemented in 2017 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
2017 - 2023 Capital Improvement Program**

MSP End of Life/Replacement Projects		2017	2018	2019	2020	2021	2022	2023
Notes	Terminal 1-Lindbergh							
(4)	Passenger Boarding Bridge Replacements	\$8,000,000		\$3,000,000		\$5,000,000		
(2)	Tram Systems Retrofit and Equipment	\$3,100,000	\$1,500,000	\$1,500,000				
(4)	Mezzanine HVAC/AHU Replacements & Penthouses		\$15,300,000					
(5)	Recarpeting Program					\$7,000,000	\$7,000,000	\$7,000,000
(4)	Replace Terminal 1 Tug Doors			\$600,000				
(3)	Concourse A/B PC Air Upgrades - Phase 2				\$3,800,000			
	Field and Runway							
(2)	Taxiway S Reconstruction		\$8,000,000					
(2)	Taxiway D Reconstruction				\$10,000,000			
(2)	Sanitary Sewer Replacement 34th Avenue					\$2,150,000		
(4)	Snow Melter Upgrades/Modifications		\$250,000	\$750,000				
(2)	Sanitary Sewer Replacement Taxiway R				\$3,250,000			
	Terminal Roads/Landside							
(2)	Lower Level Roadway Rehabilitation	\$200,000				\$1,100,000		
(2)	Upper Level Roadway Rehabilitation					\$2,000,000		
(2)	Upper Level Roadway Electrical System Rehabilitation					\$750,000		
(4)	Variable Message Signs Replacement, phase 3				\$1,600,000			
(2)	28th Avenue Watermain Replacement				\$1,250,000			
	Parking							
(4)	Parking Ramp Intercom System Replacement				\$1,000,000			
	Terminal 2-Humphrey							
(2)	Public Walk Aisle Terrazzo Floor Installation				\$1,700,000			
(5)	Recarpeting Program			\$500,000	\$500,000	\$500,000	\$500,000	
	Fire							
(3)	MSP Campus Fire Alarm System Upgrade/Transition	\$1,500,000	\$2,500,000	\$1,000,000	\$1,000,000			
(6)	ARFF #2		\$250,000		\$10,500,000			
	MSP End of Life/Replacement Subtotal	\$12,800,000	\$27,800,000	\$11,300,000	\$30,650,000	\$18,500,000	\$7,500,000	\$7,000,000

Table 1-1 (Cont'd)

MSP IT Projects		2017	2018	2019	2020	2021	2022	2023
Terminal 1-Lindbergh								
(4)	MAC Public Address System	\$1,100,000	\$1,100,000	\$850,000				
(4)	Telecom Relocation & Decommissioning	\$3,000,000						
(4)	Intelligent Monitoring and Control Systems (IMACS)	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000		
(4)	Fiber Optic Cable Infrastructure Upgrade/Expansion	\$1,000,000	\$900,000	\$900,000	\$500,000	\$500,000		
(3)	Wireless Network Connectivity or Communication	\$1,000,000						
(4)	MACNet Program	\$2,000,000	\$2,000,000	\$3,000,000				
(3)	Distributed Antenna System (DAS)	\$3,800,000						
Parking								
(4)	T1-Lindbergh Intelligent Parking Guidance System				\$500,000			
Police								
(4)	iViSN Program	\$4,500,000	\$3,700,000	\$3,500,000	\$2,000,000	\$2,000,000	\$2,000,000	
(5)	Card Access Modifications	\$2,400,000		\$2,000,000	\$3,500,000			
MSP IT Subtotal		\$20,300,000	\$9,200,000	\$11,750,000	\$8,000,000	\$4,000,000	\$2,000,000	\$0
MSP Long Term Comprehensive Plan Projects								
Terminal 1-Lindbergh								
(1)	D-Pod Outbound Baggage System			\$5,000,000				
(1)	FIS Recheck Operational Improvements				\$8,400,000			
(7)	MSP Long Term Comp Plan			\$1,500,000				
(1)	Baggage Claim/Ticket Lobby Operational Improvements			\$35,600,000	\$21,600,000	\$30,200,000	\$61,000,000	
(4)	Baggage Handling System	\$5,000,000		\$21,500,000		\$23,500,000		
(1)	Vertical Circulation Improvements	\$41,200,000						
(1)	South Security Exit and Façade Expansion		\$36,000,000					
(2)	East Curbside Check-in	\$5,000,000						
(2)	Checkpoint Expansion					\$11,000,000		
(1)	Lower Level Curbside Expansion		\$200,000		\$12,000,000			
(2)	Armed Forces Service Center Relocation			\$1,100,000				
Field and Runway								
(1)	Taxiway C1 Construction			\$6,000,000				
Parking								
(1)	T1 Parking Ramp - Parking Structure and RAC Facility	\$293,000,000						
(1)	T1 Parking Ramp - Parking Ramp Modifications			\$17,000,000				
(6)	Orange Ramp Additional Elevators					\$2,000,000		
Terminal 2-Humphrey								
(2)	T2 FIS Baggage Claim Improvements				\$1,000,000			
(7)	T2 North Gate Expansion Design Fees							\$5,000,000
MSP LTCP Projects Subtotal		\$344,200,000	\$36,200,000	\$87,700,000	\$43,000,000	\$66,700,000	\$61,000,000	\$5,000,000

Table 1-1 (Cont'd)

MSP Maintenance/Facility Upgrade Projects		2017	2018	2019	2020	2021	2022	2023
Terminal 1-Lindbergh								
(2)	Restroom Upgrade Program	\$2,000,000	\$7,500,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	
(4)	Way-Finding Sign Backlighting Replacement	\$1,600,000		\$1,600,000		\$1,600,000		
(2)	Folded Plate Repairs				\$8,900,000	\$8,900,000	\$8,900,000	\$8,900,000
(4)	G Concourse Moving Walks		\$5,000,000		\$2,500,000		\$2,500,000	
(4)	Lighting Infrastructure Technology and Equipment (LITE)			\$1,500,000	\$1,500,000	\$1,500,000	\$2,250,000	\$2,500,000
(5)	T1 Public Walk Aisle Terrazzo Floor Installation					\$4,400,000	\$4,400,000	\$4,500,000
(9)	Art Display Areas	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	
(9)	Arts Master Plan	\$40,000	\$150,000	\$1,000,000	\$1,900,000	\$5,000		
(2)	Observation Deck Improvements				\$1,600,000			
(4)	EVIDs / MUFIDs Digital Signs	\$750,000	\$800,000					
(5)	Landside Operations Offices Reconfiguration	\$150,000						
(5)	Airside Operations Center					\$1,250,000		
(6)	Employee Breakroom		\$250,000	\$250,000				
Energy Management Center								
(4)	Energy Savings Program		\$2,000,000		\$2,000,000		\$2,000,000	
Field and Runway								
(2)	Runway 12R-30L Tunnel Drainage Improvements - Phase 2	\$400,000						
(5)	AOA Gate Improvements				\$3,000,000			
(2)	Establish Taxiway J			\$150,000				
(4)	Runway LED Lighting Upgrade				\$1,000,000	\$1,500,000	\$1,700,000	\$2,650,000
(4)	Runway 4-22 In-Pavement Guard Lights			\$500,000				
(4)	Taxiways Bravo & Quebec Centerline Lights			\$6,400,000				
(4)	Runway 4 Glide Slope Installation	\$1,000,000						
(5)	Perimeter Gate Security Improvements					\$1,500,000	\$5,500,000	
Parking								
(2)	Parking Ramp Railing Refinishing	\$1,000,000		\$1,000,000		\$1,000,000		
Terminal 2-Humphrey								
(5)	T2 Skyway to LRT Flooring Installation			\$800,000				
(5)	Emergency Response/Multi-purpose Space	\$400,000						
(6)	Employee Breakroom				\$200,000			
Hangars and Other Buildings								
(6)	MAC Storage Facility			\$9,000,000				
Trades/Maintenance Buildings								
(6)	South Field Maintenance Building Wash Bay				\$1,300,000			
Police								
(6)	Safety and Operations Center		\$250,000		\$35,000,000			
(5)	Perimeter Fence Intrusion Detection System				\$1,000,000	\$1,000,000	\$1,000,000	
Fire								
(5)	Campus Fire Protection	\$500,000	\$500,000	\$500,000		\$500,000		\$500,000
General Office/Administration								
(5)	GO Building Improvements	\$500,000	\$500,000					
Environment								
(4)	Runway 12R-30L Glycol Forcemain Environmental Improvements				\$1,400,000			
(6)	Concourses C and G Compactor Canopies	\$450,000						
(4)	Runway 30R Deicing Pad Improvements		\$800,000					
(2)	Storm Sewer Rehabilitation				\$1,000,000		\$1,500,000	
(2)	T2 Remote Ramp Lot/Drainage Improvements						\$2,000,000	
(4)	Ground Service Equipment (GSE) Electrical Charging Stations			\$2,700,000	\$2,700,000			
(4)	Lift Station at Ponds 1 and 2				\$800,000			
(3)	Ponds 1 and 2 Inlet Structure Gate Replacement	\$900,000						
MSP Maintenance/Facility Upgrades Subtotal		\$9,940,000	\$18,000,000	\$27,650,000	\$68,050,000	\$25,405,000	\$34,000,000	\$19,050,000

Table 1-1 (Cont'd)

MSP Ongoing Maintenance Programs		2017	2018	2019	2020	2021	2022	2023
Terminal 1-Lindbergh								
(5)	Telecom Room Equipment Continuity (TREC)	\$1,000,000	\$1,000,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	
(4)	Electrical Infrastructure Program (EIP)	\$1,500,000	\$1,500,000	\$1,500,000	\$2,000,000	\$2,000,000	\$2,500,000	\$2,500,000
(4)	Terminal Miscellaneous Modifications	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,500,000	\$2,500,000
(4)	Emergency Power Upgrades	\$1,000,000	\$1,000,000	\$1,500,000	\$2,000,000	\$2,000,000	\$2,500,000	\$2,500,000
(4)	Air Handling Unit Replacement	\$2,000,000		\$2,500,000	\$2,500,000	\$3,000,000	\$3,000,000	\$3,000,000
(4)	Conveyance System Upgrades	\$3,000,000		\$3,000,000		\$3,000,000		
(4)	Plumbing Infrastructure Upgrade Program	\$500,000	\$500,000	\$500,000	\$500,000	\$600,000	\$600,000	\$600,000
(5)	Terminal Building Remediation Program	\$2,500,000	\$2,000,000	\$3,000,000	\$2,600,000	\$2,600,000	\$2,600,000	\$2,600,000
(4)	Concourse G Rehabilitation	\$6,500,000	\$4,000,000	\$5,000,000	\$5,000,000	\$6,000,000	\$5,000,000	\$5,000,000
(4)	Baggage System Upgrades	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Energy Management Center								
(4)	EMC Plant Upgrades (T1 & T2)	\$500,000	\$500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,300,000	
Field and Runway								
(2)	Airside Bituminous Rehabilitation/Electrical Construction	\$3,000,000			\$1,100,000	\$4,000,000	\$2,300,000	\$2,500,000
(2)	Pavement Joint Sealing/Repair	\$650,000	\$650,000	\$650,000	\$650,000	\$650,000	\$650,000	\$650,000
(2)	Miscellaneous Airfield Construction	\$400,000		\$800,000		\$900,000		
Terminal Roads/Landside								
(2)	Tunnel/Bridge Rehabilitation	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Parking								
(2)	T1/T2 Parking Structure Rehabilitation	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$3,000,000	\$3,000,000	\$3,000,000
Public Areas/Roads								
(2)	Landside Pavement Rehabilitation	\$400,000	\$400,000	\$400,000	\$400,000	\$450,000	\$450,000	\$450,000
(2)	Roadway Fixture Refurbishment	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Hangars and Other Buildings								
(2)	MSP Campus Building Roof Replacements				\$1,000,000			
(5)	Campus Building Rehab Program				\$500,000	\$1,500,000	\$1,500,000	\$1,500,000
(2)	Campus Parking Lot Reconstructions	\$1,600,000	\$1,100,000				\$650,000	\$650,000
(10)	End of Life Campus Building Demolition			\$200,000	\$200,000		\$375,000	
MSP Ongoing Maintenance Subtotal		\$30,200,000	\$18,300,000	\$27,700,000	\$27,100,000	\$35,850,000	\$31,175,000	\$28,200,000
MSP Noise Mitigation Projects								
(8)	Noise Mitigation Consent Decree Amendment	\$3,200,000	\$6,000,000	\$9,600,000	\$7,500,000			
MSP Other Subtotal		\$3,200,000	\$6,000,000	\$9,600,000	\$7,500,000	\$0	\$0	\$0
MSP Tenant Projects								
Terminal 1-Lindbergh								
(2)	Concessions Rebids	\$800,000	\$3,000,000	\$3,500,000				
(1)	Main Mall Food Court Seating Expansion							\$15,300,000
(2)	Concessions Upgrades /Revenue Development	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
(6)	Concourse G Concessions Storage	\$4,900,000						
Hangars and Other Buildings								
(1)	Freight Building Remodel for DHL		\$5,000,000					
(6)	Consolidated Loading Dock Facility			\$15,800,000				
MSP Tenant Subtotal		\$5,900,000	\$8,200,000	\$19,500,000	\$200,000	\$200,000	\$200,000	\$15,500,000

Table 1-1 (Cont'd)

Reliever Airports Long Term Comprehensive Plan Projects		2017	2018	2019	2020	2021	2022	2023
St. Paul								
(7)	Long Term Comp Plan					\$100,000		
Lake Elmo								
(7)	Long Term Comp Plan						\$100,000	
(1)	Runway 14-32 Replacement	\$500,000		\$3,000,000	\$2,000,000	\$2,000,000		
(1)	Airfield Modifications				\$3,000,000			
Airlake								
(7)	Long Term Comp Plan		\$100,000					
(1)	South Building Area Development - Phase 1				\$3,200,000			
Flying Cloud								
(7)	Long Term Comp Plan					\$100,000		
(6)	South Building Area Development							\$600,000
(2)	Electrical Vault Modifications							\$500,000
Crystal								
(7)	Long Term Comp Plan						\$100,000	
(1)	Runway 14R-32L & Taxiway E Modifications		\$2,000,000					
Anoka County - Blaine								
(7)	Long Term Comp Plan					\$100,000		
(1)	Building Area Development - Xylite St. Relocation							\$1,000,000
Reliever LTCP Projects Subtotal		\$500,000	\$2,100,000	\$3,000,000	\$8,200,000	\$2,300,000	\$200,000	\$2,100,000

Table 1-1 (Cont'd)

Reliever Airports Maintenance/Facility Upgrade Projects		2017	2018	2019	2020	2021	2022	2023
St. Paul								
(2)	Joint and Crack Repairs		\$100,000		\$100,000		\$100,000	
(5)	MAC Building Improvements		\$200,000	\$2,500,000	\$1,000,000		\$200,000	
(2)	St. Paul Runway 13-31 Pavement Reconstruction				\$2,000,000	\$2,500,000		
(2)	Parking Lot / Bayfield Pavement Rehabilitation	\$700,000						
(2)	Admin Building Apron Pavement Rehabilitation	\$900,000						
(5)	Roof Repairs / Replacement	\$200,000						
(2)	Storm Sewer Improvements Phase 2			\$1,500,000				
(5)	Maintenance Building Improvements		\$200,000					
(6)	Holman Terminal Sub drain				\$600,000			
(6)	Cold Equipment Storage Building							\$750,000
(4)	LED Edge Lighting Upgrades					\$1,500,000	\$1,000,000	
(2)	Runway 14-32 Reconstruction							\$10,000,000
(6)	Airport Perimeter Roads		\$400,000		\$400,000			
Lake Elmo								
(2)	Parallel Taxiways Reconstruction			\$600,000			\$600,000	
(2)	Runway 04-22 Pavement Rehabilitation					\$4,000,000		
(2)	Alleyways - South Building Area Pavement Rehab			\$900,000				
(5)	MAC Building Improvements			\$400,000				
(6)	Materials Storage Building		\$200,000					
Airlake								
(1)	Runway 12-30 Extension						\$8,000,000	
(2)	Existing Runway 12-30 Reconstruction						\$3,500,000	
(5)	MAC Building Improvements			\$400,000				
(6)	Public Restroom Facility			\$300,000				
(6)	Plane Wash Pad			\$150,000				
(6)	Materials Storage Building		\$200,000					
(4)	LED Edge Lighting				\$500,000		\$200,000	
(3)	Runway 12 PAPI & Hangar Obstruction Lights	\$150,000						
Flying Cloud								
(2)	Taxiway D Pavement Rehabilitation			\$600,000				
(2)	Taxiway E Pavement Rehabilitation			\$600,000				
(2)	Alleyways - SE, SW & NE Building Area Pavement Rehabilitation	\$700,000						
(6)	Equipment Storage Building	\$5,000,000						

Table 1-1 (Cont'd)

Reliever Airports Maintenance/Facility Upgrade Projects (Cont'd)		2017	2018	2019	2020	2021	2022	2023
(5)	MAC Building Improvements					\$520,000		
(5)	Roof Repairs / Replacement		\$100,000					
(2)	Runway 10L-28R Reclaim/Overlay							\$1,500,000
(2)	Runway 10R-28L Pavement Rehabilitation					\$1,200,000		
(2)	Gate A Relocation and Replacement	\$100,000						
Crystal								
(2)	Alleyways Pavement Rehabilitation		\$550,000		\$550,000			
(2)	Taxiways Pavement Rehabilitation			\$700,000				
(5)	MAC Building Improvements				\$500,000			\$500,000
(6)	Materials Storage Building	\$200,000						
(4)	LED Edge Lighting Upgrade					\$400,000	\$400,000	
Anoka County - Blaine								
(2)	Taxiway Pavement Reconstruction	\$500,000	\$600,000					
(2)	Alleyways Pavement Reconstruction			\$750,000	\$750,000	\$750,000		
(2)	South Service Road & East Landside Road Pavement Reconstruction			\$1,000,000				
(2)	Runways 09-27 and 18-36 Joint and Crack Repairs	\$200,000						
(4)	Obstructions Removal			\$100,000				
(5)	Air Traffic Control Tower Equipment Upgrades				\$100,000			
(5)	MAC Building Improvements		\$700,000				\$700,000	
(6)	Materials Storage Building	\$200,000						
(4)	LED Edge Lighting Upgrade				\$800,000		\$1,700,000	
(6)	West Perimeter Road							\$700,000
Reliever Maintenance/Facility Upgrade Subtotal		\$8,850,000	\$3,250,000	\$10,500,000	\$7,300,000	\$10,870,000	\$16,400,000	\$13,450,000
MSP Subtotal		\$426,540,000	\$123,700,000	\$195,200,000	\$184,500,000	\$150,655,000	\$135,875,000	\$74,750,000
Reliever Subtotal		\$9,350,000	\$5,350,000	\$13,500,000	\$15,500,000	\$13,170,000	\$16,600,000	\$15,550,000
Total 2016-2022 CIP		\$435,890,000	\$129,050,000	\$208,700,000	\$200,000,000	\$163,825,000	\$152,475,000	\$90,300,000

Notes:

- (1) A project that has potential substantive environmental effects.
- (2) A repair, rehabilitation, reconstruction, or replacement 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.
- (9) Art Programs; an EAW or EIS is not required.
- (10) Building demolition; an EAW or EIS is not required.

**Table 1-2
Summary Environmental Assessment of 2017 Projects in the MAC 2017-2023 Capital Improvement Program that Require an EAW or EIS**

Project Description	Are the Effects of the Project Addressed in an Approved EAW 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 Resources (Surface, Storm, Waste and Ground Water)	Wetlands	Infrastructure and Public Services	Farmland	Erosion and Sedimentation
Vertical Circulation Improvements	YES 2020 Improvements Final Environmental Assessment/ Environmental Assessment Worksheet Jan-13	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
T1 Parking Ramp - Parking Structure and RAC Facility	YES 2020 Improvements Final Environmental Assessment/ Environmental Assessment Worksheet Jan-13	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 are two Capital Improvement Program (CIP) projects scheduled in 2017 that have already been evaluated in the MSP 2020 Improvements Final Environmental Assessment/Environmental Assessment Worksheet (2020 Improvements EA/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, replacement of existing facilities and IT projects). 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 2017 and 2018, as well as those projects currently scheduled to be implemented in 2019 through 2023 that may have potential substantive environmental effects. The descriptions of projects scheduled to be implemented in 2019 through 2023 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.

Noise Mitigation

The 2017-2023 CIP includes a number of projects from the 2020 Improvements EA/EAW, as well as additional Residential Noise Mitigation based on actual noise contours for the preceding year. On September 25, 2013 the First Amendment to Consent Decree (Amendment) was adopted in City of Minneapolis, et al. v. Metropolitan Airports Commission, File No. 27-CV-05-005474 (Hennepin County District Court). The Amendment is designed to mitigate the impact of additional aircraft noise until the year 2023 and does not require completion of an EAW or EIS.

Minneapolis-St. Paul International Airport Projects

The Capital Improvement Program (CIP) includes projects focusing on infrastructure replacement and maintenance/upgrades, information technology (IT), and tenant improvements at Minneapolis-St. Paul International Airport (MSP) and the MAC's system of reliever airports. Additionally, the CIP includes projects consistent with the Long-Term Comprehensive Plans (LTCPs) for the respective airports. In the case of MSP, 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 the 2020 Improvements EA/EAW, a joint document satisfying both MEPA and the National Environmental Policy Act (NEPA) requirements for projects the MAC may implement at MSP through the year 2020.

In March 2013, the FAA determined that the 2020 Improvements 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 2020 Improvements 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.

St. Paul Downtown Airport Projects (Reliever)

The MAC completed an update to the St. Paul Downtown Airport (STP) Long-Term Comprehensive Plan (LTCP) in June 2010 and plans to begin another STP LTCP update in 2017. The 2010 plan does not propose any substantive expansion or enhancement of the facilities at STP. MAC anticipates the 2017 STP LTCP update will endorse these same recommendations.

Projects in 2017 at STP include pavement rehabilitation for the parking lot/Bayfield Street and the administrative building apron, as well as roof repairs/replacement. No additional environmental review is required for these three projects. This is because the proposed projects are repair, rehabilitation,

reconstruction, or replacement projects that do not physically alter the original size of any structures or are projects consisting of safety or security enhancements, facility maintenance or upgrades. Because the projects will not have substantive environmental effects, an EAW or EIS is not required.

Future CIP projects beyond 2017 at STP include joint and crack repairs (planned for 2018, 2020 and 2022); MAC building improvements (planned for 2018-2022); maintenance building improvements (planned for 2018); airport perimeter road maintenance (planned for 2018 and 2020); the second phase of storm sewer improvements (planned for 2019); pavement reconstruction for Runway 13-31 (planned for 2020-2021); Holman Terminal sub drain improvements (planned for 2020); parking lot/Bayfield Street pavement rehabilitation and Holman Terminal sub drain (planned for 2019); LED edge lighting upgrades (planned for 2021 and 2022); cold equipment storage building and Runway 14-32 reconstruction (planned for 2023). None of these projects meets the threshold in Minn. Stat. 473.614 for an EAW, so none will require additional environmental review. Other than temporary construction effects, none of the projects constitute long-term cumulative potential effects when combined with other projects at STP.

Lake Elmo Airport Projects (Reliever)

In 2016, the MAC updated the Long-Term Comprehensive Plan (LTCP) for Lake Elmo Airport (21D). The Final 2035 Lake Elmo Airport LTCP proposes construction of a new, longer runway that would be parallel to the existing Runway 14-32. The existing runway would then become a taxiway and other airfield modifications would be made to support the new runway location including the rerouting of 30th Street North located south of 21D. Additionally, a small extension is proposed for the crosswind Runway 4-22. Construction for these projects is currently planned to begin in 2019. Construction projects would involve grading, subgrade improvements, bituminous pavement installation, storm sewer management, and lighting and pavement marking. In 2017, the MAC will begin developing a joint Environmental Assessment (EA) and Environmental Assessment Worksheet (EAW) document for these projects. The environmental review process will be completed prior to construction. The EA/EAW document will be developed in accordance with the Federal Aviation Administration's (FAA) policies and procedures detailed in FAA Order 1050.1F (and related documents) for compliance with the National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations. In addition to addressing federal environmental review requirements, the documentation will address state review requirements in compliance with the Minnesota Environmental Policy Act (MEPA) and related Environmental Quality Board (EQB) guidance.

With the exception of the pre-construction engineering and environmental effort mentioned above, there are no 2017 CIP projects at 21D.

Other future CIP projects beyond 2017 at 21D include construction of a materials storage building (planned for 2018); parallel taxiways reconstruction (planned for 2019 and 2022); pavement rehabilitation for the alleyways in the south building area; MAC building improvements (planned for 2019); and Runway 4-22 pavement rehabilitation (planned for 2021). The proposed projects mentioned in this paragraph are for maintenance, repair, rehabilitation, reconstruction, or replacement or are projects to enhance safety and security. None of these projects meet the threshold in Minn. Stat. 473.614 for an EAW, so none will require additional environmental review. Other than temporary construction effects, none of the projects in this paragraph constitute long-term cumulative potential effects when combined with other projects at 21D.

Airlake Airport Projects (Reliever)

In 2016, the MAC initiated an update to the Long-Term Comprehensive Plan (LTCP) for Airlake Airport (LVN). It is anticipated that the LVN LTCP update will recommend the completion of the final phase of the South Building Area alleyway and associated utility development, as well as the extension of Runway 12-30 and rehabilitation of the existing runway pavement. 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 Department of Natural Resources (DNR) as part of the project. The first phase of the south building area development is planned for 2020 with the second and final phase of construction extending beyond this seven-year CIP. This 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 proposed extension of Runway 12-30 and the rehabilitation of the existing portion of the runway is currently planned for 2022. 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 only 2017 CIP project at LVN is installation of Runway 12 Precision Approach Path Indicator (PAPI) and hangar obstruction lights. No environmental review is required for this project, because it is an electrical device that indicates or controls existing conditions and does not have the potential for substantive environmental effects.

Other future CIP projects beyond 2017 at LVN include construction of a new materials storage building (planned for 2019); MAC building improvements, public restroom facility; plane wash pad (planned for 2020); and installation of LED edge lighting (planned for 2020 and 2022). The proposed projects mentioned in this paragraph do not meet the threshold in Minn. Stat. 473.614 for an EAW, and therefore will not require additional environmental review. Other than temporary construction effects, none of the projects constitute long-term cumulative potential effects when combined with other projects at LVN.

Flying Cloud Airport Projects (Reliever)

The MAC updated the Flying Cloud Airport (FCM) Long-Term Comprehensive Plan (LTCP) in October 2010. It is anticipated the FCM LTCP update will begin in 2017 and will propose development of the south building area and electrical vault modifications. These projects are currently planned for 2023 and are not anticipated to have substantive environmental effects.

Projects at FCM in 2017 include pavement rehabilitation for the alleyways in the southeast, southwest and northeast building area, the construction of an equipment storage building and relocation and replacement of Gate A. No additional environmental review is required for these three projects, because they are either a repair, rehabilitation, reconstruction or replacement project that does not physically alter the original size, or a new, replacement or expansion project that does not have substantive environmental effects.

Other future CIP projects beyond 2017 at FCM include roof repairs/replacement (planned for 2018); Taxiways D and E pavement rehabilitation (planned for 2019); Runway 10R-28L pavement rehabilitation; MAC building improvements (planned for 2021); and Runway 10L-28R pavement rehabilitation reclaim

and overlay (planned for 2023). The proposed projects mentioned in this paragraph are either for maintenance, repair, rehabilitation, reconstruction, or replacement or are small in scale, such as construction of the new equipment storage building. None of these projects meet the threshold in Minn. Stat. 473.614 for an EAW, so none will require additional environmental review. Other than temporary construction effects, none of the projects constitute long-term cumulative potential effects when combined with other projects at FCM.

Crystal Airport Projects (Reliever)

The MAC has drafted an update to the Long-Term Comprehensive Plan (LTCP) for Crystal Airport (MIC). The draft 2035 LTCP for MIC proposes “right-sizing” the airport infrastructure, including decommissioning Runway 14R-32L and converting it into a taxiway and rehabilitating portions of Taxiway E. Additionally, the turf runway, Runway 6R-24L, is also proposed to be decommissioned. These projects are planned to begin in 2018.

In 2017 and concurrent to the EA/EAW document for Lake Elmo Airport, the MAC will begin developing a joint EA/EAW document for the projects in the 2035 LTCP for MIC. The environmental review process will be completed prior to construction. The EA/EAW document will be developed in accordance with the Federal Aviation Administration’s (FAA) policies and procedures detailed in FAA Order 1050.1F (and related documents) for compliance with the National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations. In addition to addressing federal environmental review requirements, the documentation will address state review requirements in compliance with the Minnesota Environmental Policy Act (MEPA) and related Environmental Quality Board (EQB) guidance.

The only 2017 CIP project at MIC is to construct a new materials storage building. No additional environmental review is required because the proposed project is small in scale and does not have the potential for substantive environmental effects.

Other future CIP projects beyond 2017 for MIC include pavement rehabilitation for the alleyways (planned for 2018 and 2020); pavement rehabilitation for the taxiways (planned for 2019); MAC building improvements (planned for 2020 and 2023); and LED edge lighting upgrade (planned for 2021 and 2022). The projects mentioned in this paragraph do not meet the threshold in Minn. Stat. 473.614 for an EAW, and therefore will not require additional environmental review. Other than temporary construction effects, none of the projects constitute long-term cumulative potential effects when combined with other projects at MIC.

Anoka County – Blaine Airport Projects (Reliever)

The MAC and the Federal Aviation Administration (FAA) prepared and approved a Final Environmental Impact Statement (FEIS) for the Anoka County-Blaine Airport (ANE) in January 2003. All projects included in the FEIS are now complete, except for one. The FEIS included the proposed Xylite Street Relocation Project, which is planned for 2023. 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.

The MAC anticipates beginning an update to the ANE Long Term Comprehensive Plan (LTCP) in 2017. Upon finalization of the ANE LTCP update, environmental documentation, if needed, will be completed as part of the planning and related CIP processes.

The 2017 projects at ANE include taxiway pavement reconstruction (also planned for 2018), joint and crack repairs on both runways and construction of a new materials storage building. No additional environmental review is required for these three projects, because they are either a repair, rehabilitation, reconstruction or replacement project that does not physically alter the original size, or a new, replacement or expansion project that does not have substantive environmental effects.

Other future CIP projects beyond 2017 at ANE include MAC building improvements (planned for 2018 and 2022); pavement reconstruction for alleyways (planned for 2019-2021); pavement reconstruction for the south service road and east landside road (planned for 2019); obstructions removal (planned for 2019); Air Traffic Control Tower equipment upgrades (planned for 2020); LED edge lighting upgrade (planned for 2020 and 2022); and west perimeter road reconstruction (planned for 2023). The projects mentioned in this paragraph do not meet the threshold in Minn. Stat. 473.614 for an EAW, and therefore will not require additional environmental review. Other than temporary construction effects, none of the projects constitute long-term cumulative potential effects when combined with other projects at FCM.

**Appendix A – Description of Projects in the
2017-2023 Capital Improvement Program**



FIGURE A-1

**CAPITAL IMPROVEMENT PROJECTS WITH
POTENTIAL ENVIRONMENTAL EFFECTS
MINNEAPOLIS - ST. PAUL INTERNATIONAL AIRPORT**

PROPOSED PROJECT SCHEDULE

- 2017**
VERTICAL CIRCULATION IMPROVEMENTS
T1 PARKING RAMP - PARKING STRUCTURE AND RAC FACILITY
- 2018**
SOUTH SECURITY EXIT AND FACADE EXPANSION
FREIGHT BUILDING REMODEL FOR DHL
LOWER LEVEL CURBSIDE EXPANSION
- 2019**
D-POD OUTBOUND BAGGAGE SYSTEM
TAXIWAY C1 CONSTRUCTION
T1 PARKING RAMP - PARKING RAMP MODIFICATIONS
BAGGAGE CLAIM / TICKET LOBBY OPERATIONAL IMPROVEMENTS
CONSOLIDATED LOADING DOCK FACILITY
- 2020**
FIS RECHECK OPERATIONAL IMPROVEMENTS
LOWER LEVEL CURBSIDE EXPANSION
BAGGAGE CLAIM / TICKET LOBBY OPERATIONAL IMPROVEMENTS
- 2021**
BAGGAGE CLAIM / TICKET LOBBY OPERATIONAL IMPROVEMENTS
- 2022**
BAGGAGE CLAIM / TICKET LOBBY OPERATIONAL IMPROVEMENTS
- 2023**
MAIN MALL FOOD COURT SEATING EXPANSION

2017 Capital Improvement Program**MSP End of Life/Replacement Projects****Terminal 1-Lindbergh****Passenger Boarding Bridge Replacements****\$8,000,000**

This project provides for the replacement of jet bridges at Terminal 1. Bridges to be replaced will be determined based on a condition assessment and input from the airlines. Aircraft parking positions will be optimized at the impacted gates and fuel pits adjusted as necessary. Podiums and door openings may also be adjusted to optimize gate hold area. It is assumed fixed walkways may need to be replaced or added to meet ADA slope requirements and all gate hold areas will be upgraded with security doors, card readers, and cameras.

T1 Tram Systems Retrofit and Equipment**\$3,100,000**

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 prior to the year 2020. This project will replace and upgrade the radio communication system and GE components to Tram Control Systems on both the Hub and Concourse Trams over the course of a five-year program from 2015 to 2019.

Terminal Roads/Landside**Lower Level Roadway Rehabilitation****\$200,000**

This project provides for reconditioning of the steel bridge members for the Elevated Roadway Bridge, adjacent to Terminal 1-Lindbergh.

Fire**MSP Campus Fire Alarm System Upgrade/Transition****\$1,500,000**

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

MSP IT Projects**MAC Public Address System****\$1,100,000**

The MAC Public Address System (MACpas) project involves a multi-year overhaul to the system to eliminate discontinued components and replace them to maintain the operation and reliability of this critical system. The current public address system was installed in 1999, provides travelers with over 12,000 messages daily and has exceeded its expected life cycle.

Telecom Relocation & Decommissioning**\$3,000,000**

This program involves vacating the current major MAC telecommunications area, constructing a new space and consolidating, relocating and/or replacing equipment (e.g. critical fiber and copper connections) as needed to the new, larger telecommunications room.

Intelligent Monitoring and Control Systems (IMACS)**\$1,500,000**

This is a continuation of a multi-year program to upgrade all MAC building automation systems to an open

architecture protocol so that MAC can bid maintenance and construction contracts more competitively. This project will replace sole-source controllers such as Siemens and Legacy Honeywell with controllers from Honeywell, Circon, Distech, and TAC systems that are LonMark certified products.

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

This program provides for the upgrade of MAC IS fiber infrastructure. This year's project includes the upgrade/maintenance of fiber cabling network, the upgrade of air blown fiber at various locations, airfield duct banks, and modifications to a telecommunication room in Terminal 2-Humphrey.

Wireless Network Connectivity or Communication **\$1,000,000**

This program provides campus-wide wireless network to be implemented in phases. This system will allow remote wireless access to the MAC systems such as Facilities Intelligent Monitoring and Control System (IMACS). The platform will also allow access to data and drawings from the MAC network as well as from remote vehicles on the airfield.

MACNet Program **\$2,000,000**

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.

Distributed Antenna System (DAS) **\$3,800,000**

The project will focus on the consolidation and implementation of a single cellular Distributed Antenna System (DAS) to be used by all cellular carriers for the MSP campus. This initiative will provide increased cellular signal coverage for airport users and better control of MAC communication facilities by establishing a single communication platform. MSP will not only see a higher level of service for travelers and airport employees but we will realize an improved business model including increased revenue for the MAC.

Police

iViSN Program **\$4,500,000**

This project is the continuation of the program to systematically replace and integrate existing cameras into the new iViSN system and to expand the camera coverage within the terminals.

Card Access Modifications **\$2,400,000**

This project will revise hardware to provide card access to doors leading to the lower level of Concourse E and F to prevent public access except in the case of emergency. This program will also add card access controls at passenger boarding bridge doors for improved security at a pace faster than only adding the controls as bridges are replaced.

MSP Long Term Comprehensive Plan Projects

Terminal 1- Lindbergh

Baggage Handling System **\$5,000,000**

This project will provide baggage handling system improvements/modifications, both temporary and permanent, to support current and future phases of the Operational Improvements program.

Vertical Circulation Improvements**\$41,200,000**

This project will remove existing scissors escalators (12 in total) and the original elevators in the South end of the terminal arrivals and departures halls and add new high-speed, smart elevators. Escalators that have reached their end of life will be replaced with new escalators in new locations to enhance passenger flows. (See Figure A-2).

East Curbside Check-in**\$5,000,000**

This project develops a replacement for the west curbside sky cap and curbside check-in at the south end of the upper level roadway during phases of the Operational Improvements construction that require the removal of the existing system for construction OF the new façade of the building.

Parking**T1 Parking Ramp – Parking Structure and RAC Facility****\$293,000,000**

This project will construct a new, 11-level, parking ramp east of the existing Blue and Red Parking Ramps. The ramp will provide public parking and rental car parking facilities. Work includes relocating the rental car ready/return areas from the red and blue ramps. This project includes constructing a new transit center, rental car customer service building, vertical circulation building, entrance ramp, exit ramp, and all associated utilities, lighting, landscaping, signage, roadways, and security features. This project also includes extending an underground walkway to serve the future expansion of the ramp. (See Figure A-3).

MSP Maintenance/Facility Upgrade Projects**Terminal 1- Lindbergh****Restroom Upgrade Program****\$2,000,000**

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 based on its condition. This program will provide for the phased modernization of the T1-Lindbergh restrooms to include upgraded finishes, lighting, air quality, energy saving upgrades, and ADA compliance. This year's project will create a SARA/pet relief room and a Nursing Mothers' Room at the north end of the C-G Connector.

Way-Finding Sign Backlighting Replacement**\$1,600,000**

LED lighting will replace the existing cold-cathode lamps in the lighted sign boxes at both terminals. Many lamps from the 2008 retrofit have failed and the long-term energy costs recovery from the LEDs fits into MAC's energy reduction model.

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 will be the first of two phases to support an outdoor Art Park adjacent to the Hotel for permanent and rotating exhibits with public access for travelers and hotel guests.

Arts Master Plan**\$40,000**

This program supports procurement of commissioned art and rotating exhibits as part of the Percent for Arts program.

EVIDSs/MUFIDs Digital Signs**\$750,000**

MAC is in need of expanding its digital signage. This project will include new wait time digital signs at Terminal 1-Lindbergh and Terminal 2-Humphrey, replacing exiting topper displays with digital signage, adding additional digital toppers, Public Information Displays (PIDs), digital directories and brochure holders. Work elements associated with the digital signage expansion include sensors, programming, hardware, and miscellaneous items for installation and completion of signage units.

Landside Offices Reconfiguration**\$150,000**

This project will provide space for licensing services outside of the secure terminal areas.

Field and Runway**Runway 12R-30L Tunnel Drainage Improvements – Phase 2****\$400,000**

This project provides for storm sewer and subsurface drainage improvements at the Runway 12R-30L vehicular tunnel, including the cleaning and repair of storm sewers, rehabilitation of subdrains, and sealing of tunnel roof joints.

Runway 4 Glide Slope Installation**\$1,000,000**

This project will install a new glide slope system at the end of Runway 4.

Parking**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 corrode. If not repaired, the degraded metal railings could become at risk for detachment. The rust 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.

Terminal 2-Humphrey**Emergency Response/Multi-purpose Space****\$400,000**

This project will build out space adjacent to the new lobby restrooms for use during emergencies as well as large group gatherings.

Fire**Campus Fire Protection****\$500,000**

This project is part of a new multi-year program to upgrade fire protection systems in various MAC-owned buildings on the MSP campus.

General Office/Administration**G.O. Building Improvements****\$500,000**

Continual maintenance of MAC buildings is necessary for comfort and safety as well as sustainability of the MAC asset. Age and weather contribute to building deterioration, mold and other health issues. The General Office Building, built in the 1960's, has recently experienced a number of window and building issues that need to be corrected, including window sealing and replacements, curtain wall sealing and roof repairs.

Environment**Concourses C and G Compactor Canopies****\$450,000**

This project will construct canopies over the compactors on the C and G Concourse to improve functionality and longevity of the equipment.

Ponds 1 and 2 Inlet Structure Gate Replacement**\$900,000**

This project will replace existing non-functioning aluminum gates with stainless steel slide gates and reconstruct the top slabs to provide at grade access for maintenance at the Ponds 1 and 2 diversion

structures.

MSP Ongoing Maintenance Projects

Terminal 1- Lindbergh

Telecommunications Room Equipment Continuity (TREC) **\$1,000,000**

The MAC network (MACNet) carries, along with other information, credit card data collected from the landside parking revenue control system. Merchants like the MAC are required to meet credit card security standards created 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 multi-year program addresses these standards by providing security equipment and relevant network hardware for the 150 telecommunications rooms on the MAC campus.

Electrical Infrastructure 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 resources of MAC's maintenance and trades staff to accomplish. These projects are prioritized and completed either as a series of contracts or as purchase orders. Typical work includes door replacements, emergency upgrades to mechanical, electrical, plumbing or HVAC systems, loading dock work, etc. The list of potential projects will be compiled and prioritized in early 2017.

Emergency Power Upgrades **\$1,000,000**

A study and survey of Terminal 1-Lindbergh transfer switches and emergency lighting was completed in 2008. This year's project is part of a multi-year program that will continue the design and implementation of emergency power and lighting corrective work identified in this study.

Air Handling Unit Replacement **\$2,000,000**

There are existing air handling units serving Terminal 1-Lindbergh that were installed with the original terminal construction in 1958-60 and are over 50 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 has been implemented to provide for the replacement of the units that have been identified as needing replacement. 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 **\$3,000,000**

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 and installs new conveyance systems if needed.

Plumbing Infrastructure Upgrades **\$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 2017 project is to continue the replacement of aging plumbing systems.

Terminal Building Remediation**\$2,500,000**

Continual maintenance of the terminal buildings is imperative to passenger comfort and safety as well as sustainability of the MAC asset. Age and weather contribute to building deterioration, mold and other health issues. Building and concourse envelope issues include curtain wall systems, glazing, sealant repair/replacement, louver repair/replacement, metal panel repair/replacement, and soffit repair/replacement and insulation systems.

Concourse G Rehabilitation**\$6,500,000**

This multi-year program will provide operational improvements to the existing concourse over time, including replacing elevators, modifying and replacing structural, electrical and mechanical systems.

Baggage System Upgrades**\$500,000**

This multi-year program will provide necessary upgrades to the inbound and outbound baggage systems not covered by general system maintenance.

Energy Management Center**EMC Plant Upgrades (T1 & T2)****\$500,000**

This six-year program provides upgrades to the MAC's Energy Management Center (EMC) Boiler and Chiller Plants at both Terminal 1-Lindbergh and Terminal 2-Humphrey. The work includes upgrades to the aging Chilled Water and Heating Water systems throughout both terminals. The pumping and piping systems on both the heating and cooling systems are aging and in need of repair work beyond regular maintenance.

Field and Runway**Airside Bituminous Rehabilitation/Electrical Construction****\$3,000,000**

This project provides for the removal and replacement of elevated and in-pavement runway guard lights along Runway 12R-30L. Work also includes general cable maintenance and upgrades to airside electrical components.

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.

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

This is an ongoing program to consolidate various 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.

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.

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 **\$150,000**

Many of the light poles, clearance restriction boards, sign units, fence sections, and canopies on the airport roadways are in need of repainting and maintenance. This project provides for refurbishment of these fixtures.

Hangars and Other Buildings

Campus Parking Lot Reconstructions **\$1,600,000**

This ongoing program will replace, rehabilitate, and/or reconstruct bituminous and concrete parking lots that belong to MAC. There are over 85.3 acres of parking lots on the MSP campus that need to be replaced or reconstructed over the next several years. This program will systematically make improvements to the parking lots on the campus. This year's project will include reconstruction of the FAA building parking lot, along with any associated sidewalk and lighting/electrical systems improvements.

MSP Noise Mitigation Projects

Noise Mitigation Consent Decree Amendment **\$3,200,000**

The Consent Decree First Amendment Program is a residential noise mitigation program that began in March 2014 under the terms of an amended legal agreement (Consent Decree) between the Metropolitan Airports Commission (MAC) and the cities of Richfield, Minneapolis, and Eagan, and approved by the Hennepin County District Court (effective until December 31, 2024). Under this program, eligibility of single- family and multi-family homes will be determined annually, based upon actual noise contours that are developed for the preceding calendar year, beginning in March 2014. This project will provide noise mitigation for those single family and multifamily homes meeting the eligibility requirements of the program.

MSP Tenant Projects

Terminal 1-Lindbergh

Concessions Rebids **\$800,000**

This program provides support for required infrastructure to be brought to lease-lines, shell-space for new build-outs, and for other major changes required to implement the concessions rebid programs at Terminal 1-Lindbergh.

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 or other revenue generating programs at the

airport.

Concourse G Concessions Storage**\$4,900,000**

This project will enclose space left by the relocated Delta Cargo Stores facility and create concessions storage spaces, a delivery node, and an electrical room at the lower level of the east end of Concourse G.

Reliever Airports Long Term Comprehensive Plan Projects**Lake Elmo****Runway 14-32 Replacement****\$500,000**

The updated long term comprehensive plan for this airport proposes relocating and extending the primary runway northeast of its current alignment. This year's scope includes the engineering/environmental effort involved prior to starting construction, which is currently envisioned to begin in 2019.

Reliever Airports Maintenance/Facility Upgrade Projects**St. Paul****Parking Lot/Bayfield Pavement Rehabilitation****\$ 700,000**

This is part of an ongoing effort to rehabilitate airport pavements 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 airport parking lot near the MAC Administration Building and MAC Maintenance Shop.

Administration Building Apron Pavement 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 the rehabilitation of the apron pavement at the MAC Administration Building.

Roof Repairs/Replacement**\$200,000**

This project will address deficiencies in some of the roof structures on MAC buildings. This project accounts for identification of the exact type of roof deficiencies as well as completion of the most cost-effective repairs or replacements.

Airlake**Runway 12 PAPI & Hangar Obstruction Lights****\$150,000**

This project includes the installation of a precision approach path indicator (PAPI) system to Runway 12. The PAPI for Runway 12 will provide mitigation for obstructions to the 20:1 visual area surface associated with the instrument approach procedures for this runway. This project also includes the installation of obstruction lights on the hangars nearest the runway that are located within the 14 CFR Part 77 primary surface.

Flying Cloud**Alleyways 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 the full-depth rehabilitation of alleyways in the Southeast Building Area.

Equipment Storage Building**\$5,000,000**

This project includes the construction of a MAC storage building for the airfield maintenance equipment along with an office space and restrooms for the Airport Manager and airfield staff. The existing storage facilities do not provide adequate space to store all of the existing equipment and some pieces of equipment are too large to fit inside the existing buildings. The previously utilized office and restroom space was lost years ago when the FAA took back control of the space within their Air Traffic Control Tower structure. An appropriately-sized storage facility will provide added security and protection from the elements for the airport maintenance equipment.

Gate A Relocation and Replacement**\$100,000**

This project includes relocation of Gate A, currently located near the MAC Maintenance Building. The new gate location would be south of the existing location, along the entrance road. This location will allow access through an operator controlled vehicle gate to the southeast hangar area (near the tower) and the south building area. The project will also include a portion of security fence in this location.

Crystal**Materials Storage Building****\$200,000**

This project includes the construction of a MAC storage building for the containment of airfield maintenance products such as salt, sand, and topsoil to comply with MPCA requirements.

Anoka County – Blaine**Taxiway Pavement Reconstruction****\$500,000**

This is an ongoing program to reconstruct 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 A1 between Runway 36 and Taxiway C.

Runways 09-27 and 18-36 Joint and Crack Repairs**\$200,000**

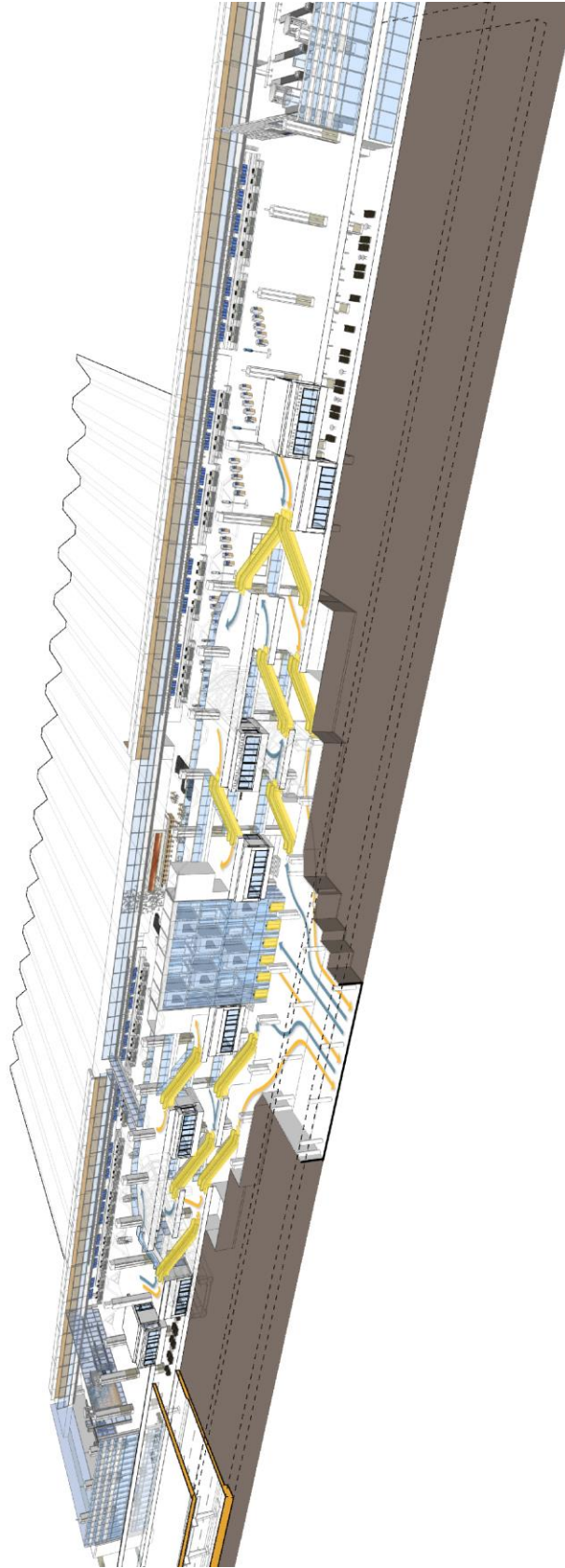
The need for crack repair and joint sealing is critical to maintain pavement strength and pavement life. This year's project is anticipated to include joint and crack repairs on Runways 09-27 and 18-36.

Materials Storage Building**\$200,000**

This project includes the construction of a MAC storage building for the containment of airfield maintenance products such as salt, sand, and topsoil to comply with MPCA requirements.

Figure A-2

2015 Operational Improvements
Metropolitan Airports Commission



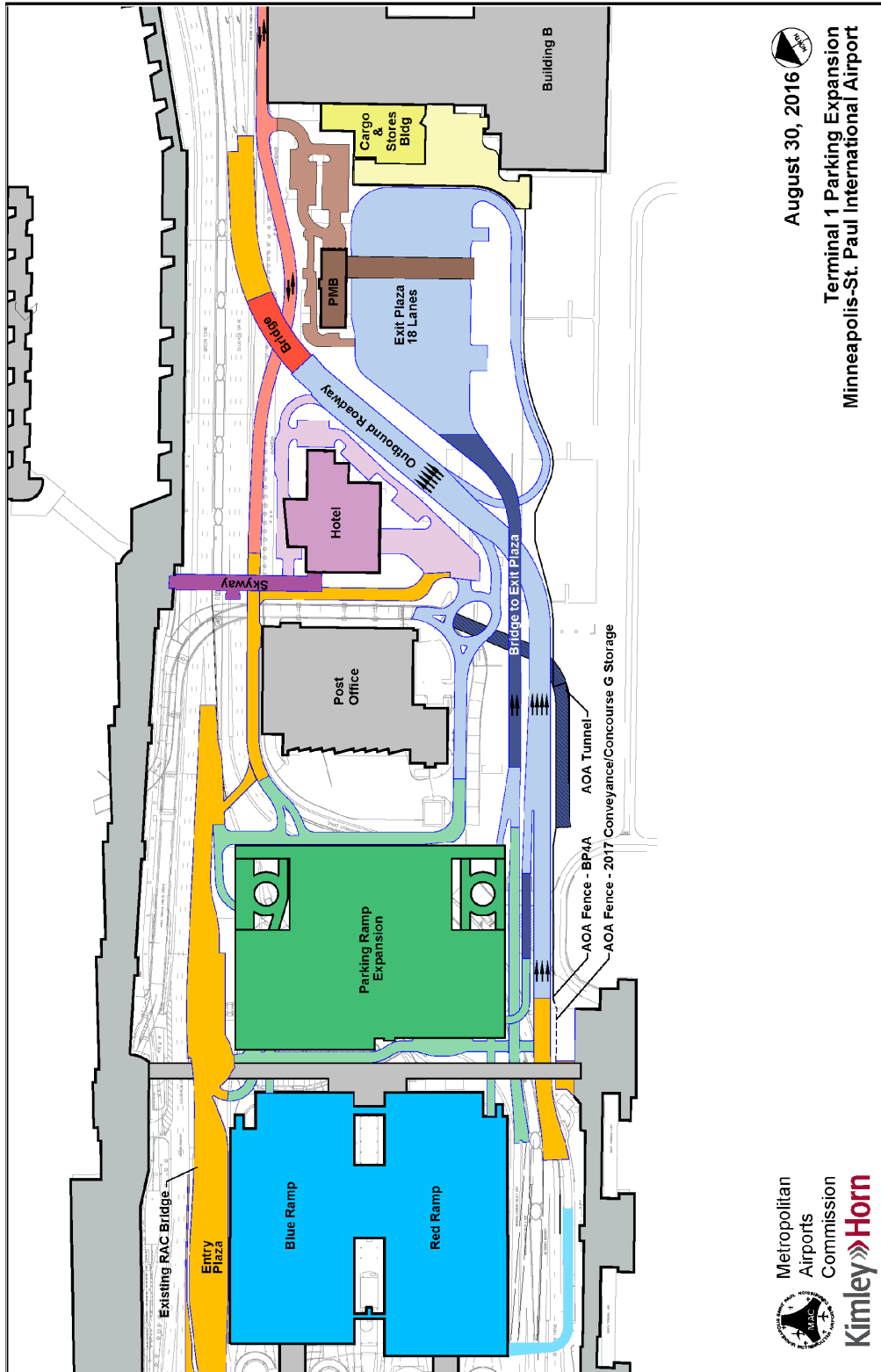
A-11

Vertical Circulation Diagram
Comm. No. 2015040 3 September 2015



ALLIANCE

Figure A-3



2018 Capital Improvement Program**MSP End of Life/Replacement Projects****Terminal 1-Lindbergh****T1 Tram Systems Retrofit and Equipment \$1,500,000**

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 prior to the year 2020. This project will replace and upgrade the radio communication system and GE components to Tram Control Systems on both the Hub and Concourse Trams over the course of a five-year program from 2015 to 2019.

Mezzanine HVAC/AHU Replacements & Penthouses \$15,300,000

The existing air handling equipment in the East and Center Mezzanine mechanical rooms have reached end of life and are overdue for replacement. In order to provide new equipment, increase energy efficiency, and meet the goals of the Operational Improvements program, this project will replace the equipment in relocated penthouses to be constructed on the north end of the Terminal 1-Lindbergh center mezzanine.

Field and Runway**Taxiway S Reconstruction \$8,000,000**

This project provides for reconstruction of a 2,500-foot length of Taxiway S between Taxiway D and the Delta Airlines Hangar. The existing concrete pavement was constructed in 1967. Major items of work include pavement removals, excavation and backfill, concrete taxiway pavement, bituminous shoulder pavement, airfield lighting and signage.

Snow Melter Upgrades/Modifications \$250,000

This project is the first of a two-year program that provides for the evaluation, maintenance, miscellaneous modifications, and replacement of existing airfield snow melters located around MSP International Airport.

Fire**MSP Campus Fire Alarm System Upgrade/Transition \$2,500,000**

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

ARFF #2 \$250,000

This project covers fees for conceptual design of a building to replace Aircraft Rescue and Fire Fighting station number two which has reached the end-of-life.

MSP IT Projects**Terminal 1-Lindbergh****MAC Public Address System \$1,100,000**

The MAC Public Address System (MACpas) project involves a multi-year overhaul to the system to eliminate discontinued components and replace them to maintain the operation and reliability of this critical system. The current public address system was installed in 1999, provides travelers with over 12,000

messages daily and has exceeded its expected life cycle.

Intelligent Monitoring and Control Systems (IMACS)**\$1,500,000**

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

Fiber Optic Cable Infrastructure Upgrade/Expansion**\$900,000**

This project provides for the upgrade of MAC IS fiber infrastructure which includes the upgrade/maintenance of fiber cabling network, the upgrade of air blown fiber at various locations, and the construction of a telecommunication room (TR) on Concourse C.

MACNet Program**\$2,000,000**

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.

Police**iViSN Program****\$3,700,000**

This project is the continuation of the program to systematically replace and integrate existing cameras into the new iViSN system and to expand the camera coverage within the terminals.

MSP Long Term Comprehensive Plan Projects**Terminal 1-Lindbergh****South Security Exit and Facade Expansion****\$36,000,000**

This project, part of the Operational Improvements program, will replace the existing curtain wall system with a new system to match the north end of the building, including additional queue area for the South Security Checkpoint, and includes a relocation of the existing security exit at the south end of the main mall to a new location on Concourse G. The project also includes unstaffed exit technologies, elevators, and escalators.

Lower Level Curbside Expansion**\$200,000**

This project evaluates options to relieve lower level curbside congestion and vehicle recirculation rates.

MSP Maintenance/Facility Upgrade Projects**Terminal 1-Lindbergh****Restroom Upgrade Program****\$7,500,000**

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 based on its condition. This program will provide for the phased modernization of the T1-Lindbergh restrooms to include upgraded finishes, lighting, air quality, energy saving upgrades, and ADA compliance.

This year's project will construct the second of two new restrooms on Concourse F which was delayed to better coincide with the Concessions Rebid program.

Concourse G Moving Walks**\$5,000,000**

This is the first project of a multi-year program to replace the near end-of-life moving walks on the G Concourse. This year's project will replace the western moving walk, nearest the main mall. The walk will also be shortened to accommodate the South Security Exit project of the Operational Improvements program.

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 will be the second of two phases to support an outdoor Art Park adjacent to the Hotel for permanent and rotating exhibits with public access for travelers and hotel guests.

Arts Master Plan**\$150,000**

This program supports procurement of commissioned art and rotating exhibits as part of the Percent for Arts program.

EVIDSs/MUFIDs Digital Signs**\$800,000**

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

Employee Breakroom**\$250,000**

This project will provide a second MSP employee break room that will have a quiet area for employees who work multiple shifts on the campus to eat, read, etc. By providing this quality work support area, front line and other employees will be able to rest and eat out of view of the public.

Energy Management Center**Energy Savings Program****\$2,000,000**

The scope of this year's project of this multi-year program includes: replace existing chilled water and hot water globe control valves with new ball control valves on T2 AHUs, reduce leakage through valves, save on pumping energy, replace boilers at the Trades Building with high efficiency boilers, install IMACS lighting controls on E and F concourses and Hub Core area, implement Motor Efficiency Controllers on more moving walkways and escalators in Terminal 1 and Terminal 2.

Police**Safety and Operations Center****\$250,000**

This project covers fees for conceptual design of a new operations center for Airport Police staff. The project will consolidate more than a dozen areas across the campus currently occupied by APD staff and/or storage, and will improve emergency response capabilities by housing critical equipment and staff in a location outside the terminal buildings.

Fire**Campus Fire Protection****\$500,000**

This project is part of a new multi-year program to upgrade fire protection systems in various MAC-owned buildings on the MSP campus.

General Office/Administration**G.O. Building Improvements****\$500,000**

Continual maintenance of MAC buildings is necessary for comfort and safety as well as sustainability of the MAC asset. Age and weather contribute to building deterioration, mold and other health issues. The General Office Building, built in the 1960's, has recently experienced a number of window and building issues that need to be corrected, including window sealing and replacements, curtain wall sealing and roof repairs.

Environment**Runway 30R Deicing Pad Improvements****\$800,000**

This project provides for utility and lift station construction at the Runway 30R deicing pad intended to collect glycol-impacted groundwater. Site construction includes pavement removals, pumping station installation, construction of subdrain and forcemain utilities, pavement restoration, and pavement markings.

MSP Ongoing Maintenance Projects**Terminal 1-Lindbergh****Telecommunications Room Equipment Continuity (TREC)****\$1,000,000**

The MAC network (MACNet) carries, along with other information, credit card data collected from the landside parking revenue control system. Merchants like the MAC are required to meet credit card security standards created 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 multi-year program addresses these standards by providing security equipment and relevant network hardware for the 150 telecommunications rooms on the MAC campus.

Electrical Infrastructure 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 resources of MAC's maintenance and trades staff to accomplish. These projects are prioritized and completed either as a series of contracts or as purchase orders. Typical work includes door replacements, emergency upgrades to mechanical, electrical, plumbing or HVAC systems, loading dock work, etc. The list of potential projects will be compiled and prioritized in early 2018.

Emergency Power Upgrades**\$1,000,000**

A study and survey of Terminal 1-Lindbergh transfer switches and emergency lighting was completed in 2008. This year's project is part of a multi-year program that will continue the design and implementation of emergency power and lighting corrective work identified in this study.

Plumbing Infrastructure Upgrades**\$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 2018 project is to continue the replacement of aging plumbing systems.

Terminal Building Remediation**\$2,000,000**

Continual maintenance of the terminal buildings is imperative to passenger comfort and safety as well as sustainability of the MAC asset. Age and weather contribute to building deterioration, mold and other health issues. Building and concourse envelope issues include curtain wall systems, glazing, sealant repair/replacement, louver repair/replacement, metal panel repair/replacement, and soffit repair/replacement and insulation systems.

Concourse G Rehabilitation**\$4,000,000**

This multi-year program will provide operational improvements to the existing concourse over time, including replacing elevators, modifying and replacing structural, electrical and mechanical systems.

Baggage System Upgrades**\$500,000**

This multi-year program will provide necessary upgrades to the inbound and outbound baggage system not covered by general system maintenance.

Energy Management Center**EMC Plant Upgrades (T1 & T2)****\$500,000**

This six-year program provides upgrades to the MAC's Energy Management Center (EMC) Boiler and Chiller Plants at both Terminal 1-Lindbergh and Terminal 2-Humphrey. The work includes upgrades to the aging Chilled Water and Heating Water systems throughout both terminals. The pumping and piping systems on both the heating and cooling systems are aging and in need of repair work beyond regular maintenance.

Field and Runway**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.

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.

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**\$150,000**

Many of the light poles, clearance restriction boards, sign units, fence sections, and canopies on the airport

roadways are in need of repainting and maintenance. This project provides for refurbishment of these fixtures.

Hangars and Other Buildings

Campus Parking Lot Reconstructions

\$1,100,000

This ongoing program will replace, rehabilitate, and/or reconstruct bituminous and concrete parking lots that belong to MAC. There are over 85.3 acres of parking lots on the MSP campus that need to be replaced or reconstructed over the next several years. This program will systematically make improvements to the parking lots on the campus. This year's project will include reconstruction of the MAC General Offices parking lot, along with any associated sidewalk and lighting/electrical systems improvements.

MSP Noise Mitigation Projects

Noise Mitigation Consent Decree Amendment

\$6,000,000

The Consent Decree First Amendment Program is a residential noise mitigation program that began in March 2014 under the terms of an amended legal agreement (Consent Decree) between the Metropolitan Airports Commission (MAC) and the cities of Richfield, Minneapolis, and Eagan, and approved by the Hennepin County District Court (effective until December 31, 2024). Under this program, eligibility of single-family and multi-family homes will be determined annually, based upon actual noise contours that are developed for the preceding calendar year, beginning in March 2014. This project will provide noise mitigation for those single family and multifamily homes meeting the eligibility requirements of the program.

MSP Tenant Projects

Terminal 1-Lindbergh

Concessions Rebids

\$3,000,000

This program provides support for required infrastructure to be brought to lease-lines, shell-space for new build-outs, and for other major changes required to implement the concessions rebid programs at Terminal 1-Lindbergh.

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 or other revenue generating programs at the airport.

Hangars and Other Buildings

Freight Building Remodel for DHL

\$5,000,000

This project includes remodel and expansion of the DHL air freight facility located on Cargo Road to accommodate a package processing facility. The air freight facility sits adjacent to the West Cargo Ramp where DHL currently has airside access for their daily aircraft arrivals. The cost of remodel and expansion will be paid through a lease agreement with DHL.

Reliever Airports Long Term Comprehensive Plan Projects

Airlake

Long Term Comp Plan

\$100,000

This project includes updates to the most recent long term comprehensive plan.

Crystal

Runway 14R-32L & Taxiway E Modifications

\$2,000,000

It is anticipated that the updated long term comprehensive plan for this airport will propose “right-sizing” the airport infrastructure, including decommissioning Runway 14R-32L. This project includes converting Runway 14R-32L into a parallel taxiway and rehabilitating portions of Taxiway Echo. The project also includes the required environmental review studies.

Reliever Airports Maintenance/Facility Upgrade Projects

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 most in need of repair.

MAC Building Improvements

\$ 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.

Maintenance Building Improvements

\$200,000

This project provides for facility maintenance to ensure continued efficient operation of MAC buildings, specifically the main airport maintenance building.

Airport Perimeter Roads

\$400,000

This is an ongoing effort to rehabilitate airport pavements 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 rehabilitation of the airport perimeter road near the intersection of Bayfield Street and Airport Road.

Lake Elmo

Materials Storage Building

\$200,000

This project includes the construction of a MAC storage building for the containment of airfield maintenance products such as salt, sand, and topsoil to comply with MPCA requirements.

Airlake

Materials Storage Building

\$200,000

This project includes the construction of a MAC storage building for the containment of airfield maintenance products such as salt, sand, and topsoil to comply with MPCA requirements.

Flying Cloud**Roof Repairs/Replacement****\$100,000**

This project provides for repair, and in some cases replacement, of the roof structures on MAC-owned buildings. This project accounts for identification of the exact type of roof deficiencies as well as completion of the most cost-effective repairs or replacements.

Crystal**Alleyways Pavement Rehabilitation****\$550,000**

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 rehabilitation of alleyways in the North Building Area.

Anoka County - Blaine**Taxiway Pavement Reconstruction****\$600,000**

This is an ongoing program to reconstruct 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 rehabilitation of Taxiway Foxtrot.

MAC Building Improvements**\$700,000**

This is an ongoing program to provide for facility modifications to ensure continued efficient operation of MAC buildings. This year's project includes improvements to the MAC Maintenance Building, Air Traffic Control Tower Building, restroom buildings, and other MAC-owned hangars.

2019 – 2023 Capital Improvement Program

Description of projects expected to be implemented in 2019–2023 are preliminary, and only those that have potential substantive environmental effects are included in this section.

MSP Long Term Comprehensive Plan Projects

Terminal 1-Lindbergh

D-Pod Outbound Baggage System **\$5,000,000**

This project will provide an expansion of the existing outbound baggage handling system in the lower level of the Concourse D-Pod area.

FIS Recheck Operational Improvements **\$8,400,000**

This project would relocate existing restrooms to new buildout space adjacent to gate G1 to allow for expansion of the airline baggage recheck operations and create the required queue space and wayfinding for the checkpoint.

Baggage Claim/Ticket Lobby Operational Improvements **\$148,400,000 (2019-2022 cumulative)**

This program addresses issues of congestion and functionality in the Baggage Claim and Ticket Lobby. It will provide new baggage claim devices (carousels) to meet the level of service requirements for short- and medium-term growth of the origination and destination passengers, including walkways that meet required codes, public seating areas, centralized meet and greet space, unclaimed baggage storage, baggage service offices, concessions, improved lighting, fire protection throughout the space, structural enhancements, improved sight lines, curbside lighting and access, ticket counter consolidations, airline ticket offices, improved vestibules and access, east mezzanine removal/reduction, structural enhancements, curtain wall replacement, and other operational improvements.

Lower Level Curbside Expansion **\$12,000,000**

This project includes the reconfiguration of the arrivals curb at Terminal 1-Lindbergh to address congestion issues. In addition to potential roadway modifications, the program would include additional seating, vestibules, restrooms, curbside waiting areas, lighting and other functions.

Field and Runway

Taxiway C1 Construction **\$6,000,000**

This project proposes to add a taxiway connector between Taxiway S and Taxiway C2 from Taxiway D to M (crossing Runway 4-22) to improve aircraft maneuvering at Terminal 2-Humphrey.

Parking

T-1 Parking Ramp – Parking Ramp Modifications **\$17,000,000**

This project consists of changes and modifications to the existing Red and Blue ramps to provide public parking in areas that previously had rental car parking. It will also include transit center modification, landscaping, rental car exit bridge removal, and other modifications for public parking at Terminal 1.

MAC Tenant Projects**Terminal 1-Lindbergh****Main Mall Food Court Seating Expansion****\$15,300,000**

This project expands the existing food court to the roof of the building and expands north two bays to allow larger concessions units and additional public seating within the food court.

Reliever Airports Long Term Comprehensive Plan Projects**Lake Elmo****Runway 14-32 Replacement****\$7,000,000 (2019-2021 cumulative)**

The updated long term comprehensive plan for this airport proposes relocating and extending the primary runway northeast of its current alignment. This project includes all wetland mitigation, earthwork grading, subgrade improvements, electrical lighting system and bituminous pavement installation.

Airfield Modifications**\$3,000,000**

This project includes all necessary airfield modifications in conjunction with the replacement of Runway 14-32. Specifically, this project includes the construction of taxiway systems to serve the new runway, conversion of the existing Runway 14-32 to a parallel taxiway, and relocation of 30th Street North (a Township Road) to accommodate the new runway construction and provide FAA-compliant Runway Protection Zones.

Airlake**South Building Area Development – Phase 1****\$3,200,000**

This project will provide for alleyway construction at 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 225th Street that connects to Cedar Avenue.

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.

Reliever Airports Maintenance/Facility Upgrade Projects**Airlake****Runway 12-30 Extension****\$8,000,000**

This project will provide for the extension of Runway 12-30 from 4,098 feet to the maximum feasible length (approximately 4,850 feet) that can be provided without having to relocate Cedar Avenue, which lies directly east of the airfield. Project details are currently being evaluated in the process to update the airport's Long Term Comprehensive Plan.