Metropolitan Airports Commission

TO: Planning, Development and Environment Committee

FROM: Heather J. Leide, Director – Airport Development (612-726-8128)

SUBJECT: **Preliminary 2022 – 2028 Capital Improvement Program**
Program Overview

DATE: September 1, 2021

FOR ACTION

Summary

Each year, MAC staff prepares a seven-year Capital Improvements Program (CIP) for review and approval by the full Commission. A preliminary version of the 2022-2028 CIP listing is provided in September in order to give Commissioners, Affected Municipalities and the public an opportunity to see what is planned for the upcoming seven-year program, with specifics included for the proposed projects forthcoming for construction contract award in 2022.

The seven-year CIP includes projects for both the Minneapolis-St. Paul International Airport (MSP) and the six airports in the Reliever Airport System. The majority of projects in the attached project listing focus on the rehabilitation and replacement of airport infrastructure, existing assets, and terminal systems to ensure that airport safety, security and operations are not compromised.

Fiscal Impact

☐ No Impact ☐ Operating Budget ☒ CIP ☐ Other

The Airport Development Department works closely with Finance staff during the CIP development process to review funding for the seven-year program. Any project changes to the preliminary CIP will be reflected in the final version brought to the Commission in December for final adoption. At that time, Finance will also provide a companion funding analysis for the first three years of the program for information.

Action Requested

1. **Recommend that the full Commission accept the attached preliminary 2022-2028 Capital Improvement Program for purposes of conducting the affected municipalities review and the Assessment of Environmental Effects (AOEE) process; and**

2. **Authorize staff to proceed with these processes.**

Background

The 2022-2028 preliminary CIP includes the following (attached to this memo):

(a) Anticipated CIP process schedule;
(b) Draft listing of projects by category with proposed year and estimated cost for each; and
(c) Draft project narratives for the projects listed in 2022.

Applicable Legal Authority

MAC's Bylaws, Minnesota Statutes Sec. 473.621, Subd. 6 and 7.

Analysis

Ongoing economic realities and uncertainties related to the global pandemic and associated reduction in air travel make this is another challenging project planning cycle. Last year, a significant number of projects were deferred and new project requests held back. This preliminary draft exceeds currently anticipated available funds but ensures that all potential projects will be vetted through the affected municipalities review and AOEE processes. Staff will work closely to refine funding plans, coordinate grant opportunities, and consider critical timing with project stakeholders prior to bringing the final draft to the Commission in December.

In 2022, there are significant dollars associated with the major enhancements to the Terminal 1 arrivals and departures levels (continuing from previous years) via the Operational Improvements Program. This program provides benefit to the local travelers who utilize the check-in, baggage drop, baggage claim, and security-related passenger processing facilities. Also at MSP are planned major investments for necessary pavement reconstruction. Terminal 1 West Checked Baggage Inspection System is another significant investment to be made in 2022 but is under agreement for 100% reimbursement by the TSA.

In addition, the seven-year program includes the next phases associated with proposed runway changes at the Lake Elmo Airport as outlined in MAC's Long Term Comprehensive Plans for that facility.

The preliminary seven-year program as attached will be made available to affected municipalities for review and comment. Affected municipalities will have 60 days to review the proposed program and offer comments to MAC staff for consideration when preparing the final

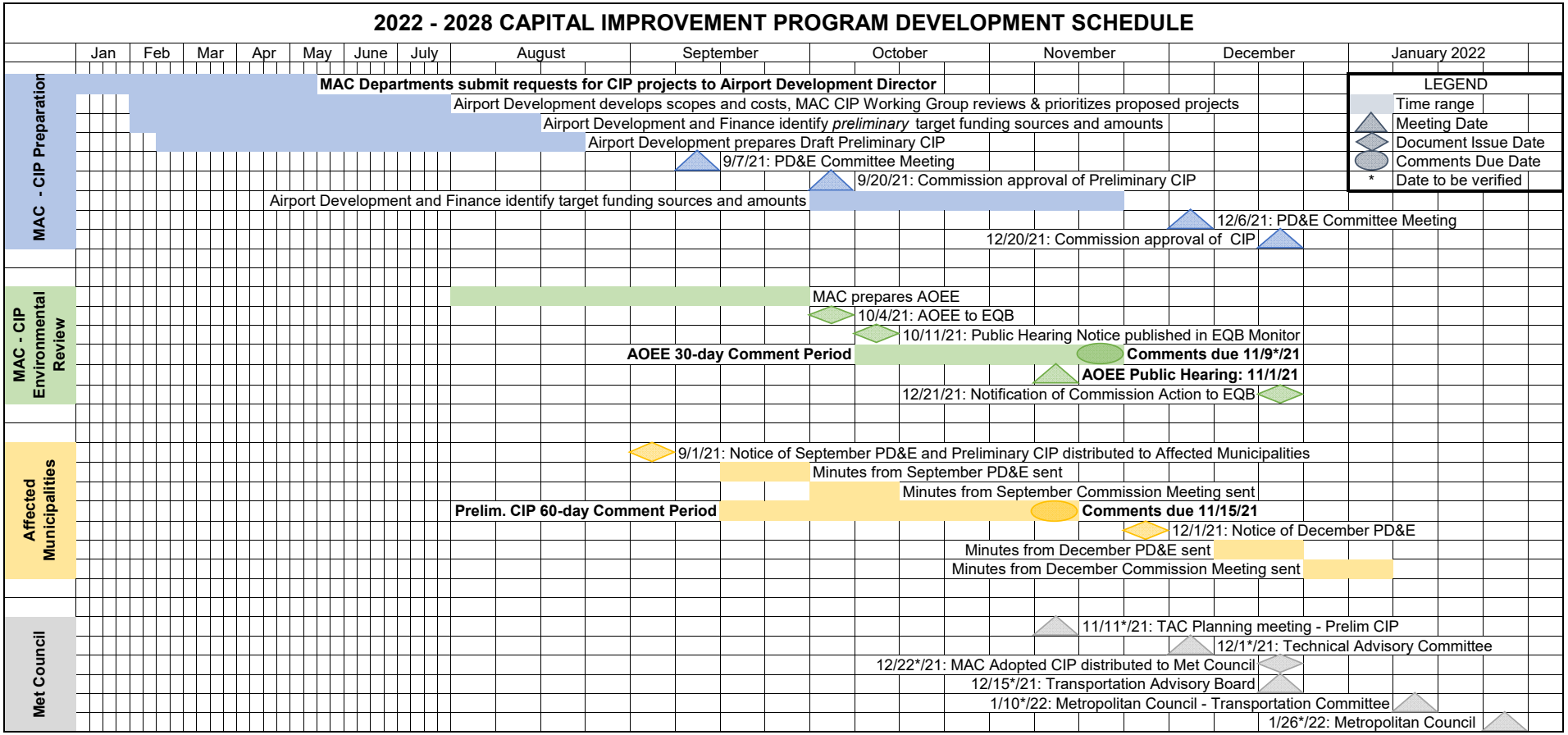
program recommendations for review by the full Commission in December. The 60-day comment period is anticipated to run from September 20 through November 15, 2021.

The preliminary program will also be utilized to develop the annual Assessment of Environmental Effects (AOEE) document, as outlined in the companion memorandum to this agenda item.

As required by Minnesota law, MAC's seven-year CIP must be reviewed by the Metropolitan Council. This preliminary program will be submitted to the sub-committees of the Metropolitan Council for initial review and discussion. Upon MAC's adoption of the final December version of the program, MAC will request review by the full Metropolitan Council of the adopted program in January 2022.

Looking forward, please note that the recommended action in December specific to the 2022-2028 CIP will include adoption of a proposed final CIP as well as authorize staff to:

(a) Prepare plans and specifications and advertise for bids for the 2022 projects.
(b) Conduct further studies to refine the scopes and costs, and to prepare plans and specifications for the 2023 projects.
(c) Conduct studies and develop preliminary plans and specifications for the 2024 projects.
(d) Utilize consultants as necessary in accordance with MAC's consultant use policies.
(e) Initiate appropriate documentation to apply for federal, state, and PFC funding.
(f) Forward the adopted 2022-2028 CIP to the Metropolitan Council for their review.


2022 - 2028 CAPITAL IMPROVEMENT PROGRAM DEVELOPMENT SCHEDULE
Jan
Feb
Mar
Apr
May
June
July
August
September
October
November
December
January 2022
MAC - CIP Preparation
MAC Departments submit requests for CIP projects to Airport Development Director
Airport Development develops scopes and costs, MAC CIP Working Group reviews & prioritizes proposed projects
Airport Development and Finance identify preliminary target funding sources and amounts
Airport Development prepares Draft Preliminary CIP
9/7/21: PD&E Committee Meeting
9/20/21: Commission approval of Preliminary CIP
Airport Development and Finance identify target funding sources and amounts
12/6/21: PD&E Committee Meeting
12/20/21: Commission approval of CIP
MAC - CIP Environmental Review
MAC prepares AOEE
10/4/21: AOEE to EQB
10/11/21: Public Hearing Notice published in EQB Monitor
AOEE 30-day Comment Period
Comments due 11/9*/21
AOEE Public Hearing: 11/1/21
12/21/21: Notification of Commission Action to EQB
Affected Municipalities
9/1/21: Notice of September PD&E and Preliminary CIP distributed to Affected Municipalities
Minutes from September PD&E sent
Minutes from September Commission Meeting sent
Prelim. CIP 60-day Comment Period
Comments due 11/15/21
12/1/21: Notice of December PD&E
Minutes from December PD&E sent
Minutes from December Commission Meeting sent
Met Council
11/11*/21: TAC Planning meeting - Prelim CIP
12/1*/21: Technical Advisory Committee
12/22*/21: MAC Adopted CIP distributed to Met Council
12/15*/21: Transportation Advisory Board
1/10*/22: Metropolitan Council - Transportation Committee
1/26*/22: Metropolitan Council
LEGEND
Time range
Meeting Date
Document Issue Date
Comments Due Date
* Date to be verified

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
MSP End of Life/Replacement Projects							
10 - Terminal 1							
Concourse and Hub Tram Replacement		$ 500,000			$ 300,000,000	$ 300,000,000	
LRT Ground Water Drainage Infrastructure Upgrades	$ 3,500,000						
Passenger Boarding Bridge Replacements	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ 4,000,000
Recarpeting Program			$ 7,000,000	$ 7,000,000	$ 7,000,000		
TSA Recapitalization	$ 22,500,000						
13 - Energy Management Center							
Concourse E and F Bridge Heating and Cooling System Replacement		$ 2,100,000	$ 2,200,000	$ 1,800,000			
EMC Boiler and Chiller Replacement Study		$ 155,000					
GTC Dual-temperature Pump Improvements		$ 1,800,000					
Heating Pump Upgrades	$ 900,000						
Variable Air Volume (VAV) Box Replacement	$ 935,000	$ 935,000	$ 935,000	$ 935,000			
21 - Field and Runway							
30L Deicing Pad Reconstruction		$ 10,000,000		$ 10,000,000	$ 10,000,000		
30L EMAS Replacement					$ 19,000,000		
Airfield Snow Melter Replacement/Upgrades	$ 1,800,000	$ 1,800,000	$ 1,800,000	$ 1,800,000	$ 1,800,000	$ 2,000,000	$ 2,000,000
Bituminous Shoulder Reconstruction	$ 1,500,000		$ 7,500,000	$ 7,000,000	$ 7,000,000	$ 7,000,000	
Concourse G Apron Pavement Reconstruction	$ 11,000,000	$ 7,500,000	$ 18,750,000	$ 7,500,000		$ 7,000,000	
Runway 12L-30R and 4-22 Intersection Reconstruction			$ 11,000,000				
Taxiway A Pavement Reconstruction					$ 6,500,000	$ 9,500,000	$ 8,500,000
Taxiway B Pavement Reconstruction	$ 6,125,000	$ 4,000,000		$ 4,000,000		$ 4,000,000	
Taxiway P Pavement Reconstruction	$ 9,000,000						
26 - Terminal Roads/Landside							
Lower Level Roadway Rehabilitation			$ 1,100,000				
Upper Level Roadway Electrical System Rehabilitation			$ 1,000,000				
Upper Level Roadway Rehabilitation			$ 2,000,000				
UPS Loop Pavement Reconstruction			$ 1,600,000				
Variable Message Signs Replacement, Phase 3			$ 1,600,000				
31 - Parking							
Parking Ramp Snow Melter Replacement/Upgrades			$ 1,350,000	$ 1,350,000			
36 - Terminal 2							
Terminal 2 Pre-conditioned Air (PCA)		$ 2,000,000					
Terminal 2 Recarpeting Program	$ 500,000	$ 500,000	$ 500,000	$ 500,000			
39 - Public Areas/Roads							
East 62nd Street Reconstruction						$ 3,500,000	
East 70th Street Reconstruction			$ 2,300,000				
Post Road Reconstruction Project					$ 4,500,000		
56 - Trades/Maintenance Buildings							
MSP Liquid Deicer Storage Facility		$ 7,300,000					
70 - General Office/Administration							
GO Building VAV Replacement and Upgrade				$ 2,000,000			
MSP End of Life/Replacement Projects Subtotal	**$ 61,760,000**	**$ 42,590,000**	**$ 64,635,000**	**$ 47,885,000**	**$ 359,800,000**	**$ 337,000,000**	**$ 14,500,000**

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
MSP IT Projects							
10 - Terminal 1							
Concourse C and G Digital Directory Replacement			$ 200,000				
Customs and Border Protection Camera System Upgrade	$ 1,800,000	$ 850,000					$ 1,000,000
Intelligent Monitoring and Control Systems (IMACS)	$ 1,750,000						
MAC Technology Upgrades	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 10,000,000
Telecom Room Equipment Continuity (TREC)	$ 1,510,000		$ 1,510,000				
63 - Police							
Card Access Modifications	$ 1,300,000		$ 500,000	$ 1,000,000			
Radio DAS Coverage Deficiency Resolution	$ 2,000,000						
66 - Fire							
Fire Alarm System Transition	$ 1,400,000	$ 1,500,000	$ 2,000,000	$ 1,200,000	$ 1,000,000	$ 1,200,000	
MSP IT Projects Subtotal	**$ 19,760,000**	**$ 12,350,000**	**$ 14,210,000**	**$ 12,200,000**	**$ 11,000,000**	**$ 11,200,000**	**$ 11,000,000**

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
MSP Long Term Comprehensive Plan Projects							
10 - Terminal 1							
Baggage Claim/Ticket Lobby Operational Improvements	$ 42,100,000	$ 45,425,000	$ 15,000,000				
Baggage Handling System	$ 42,650,000						
Checkpoint Expansion				$ 11,000,000			
D-Pod Outbound Baggage System						$ 5,000,000	
Expand and Remodel International Arrivals Facility				$ 5,000,000			
MSP Airport Layout Plan	$ 800,000			$ 1,000,000			
MSP Long Term Plan	$ 750,000						
Unstaffed Exit Lanes				$ 2,500,000			
21 - Field and Runway							
Runway 30R Parallel Taxiway				$ 12,000,000	$ 10,000,000	$ 14,000,000	
36 - Terminal 2							
Terminal 2 North Gate Expansion			$ 195,000,000				
MSP Long Term Comprehensive Plan Projects Subtotal	**$ 86,300,000**	**$ 45,425,000**	**$ 210,000,000**	**$ 31,500,000**	**$ 10,000,000**	**$ 19,000,000**	**$ -**

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
MSP Maintenance/Facility Upgrade Projects							
10 - Terminal 1							
ADO Office Expansion			$ 4,000,000				
Art Display Areas	$ 150,000	$ 200,000	$ 250,000				
Arts Master Plan	$ 1,050,000	$ 1,680,000	$ 830,000	$ 580,000	$ 500,000	$ 600,000	$ 600,000
C/G Connector Lighting Improvements			$ 1,000,000				
Concourse A Heating System Upgrade			$ 4,900,000				
Concourse G Moving Walks				$ 6,000,000			
Delivery Node Redevelopment	$ 500,000	$ 2,700,000	$ 2,300,000	$ 2,700,000	$ 7,800,000	$ 4,320,000	$ 5,000,000
F/G Connector & Skyclub Repairs and Improvements				$ 1,100,000			
Folded Plate Repairs	$ 8,900,000		$ 8,900,000		$ 8,900,000		$ 8,900,000
Lavatory Building Overhead Door Upgrades			$ 200,000				
Lighting Infrastructure Technology and Equipment (LITE)		$ 2,300,000		$ 2,550,000		$ 2,550,000	
Red/Blue Parking Levels 2 & 3				$ 8,000,000			
Restroom Upgrade Program		$ 2,050,000	$ 2,050,000	$ 2,050,000	$ 2,050,000	$ 2,050,000	$ 2,050,000
Steam System Upgrade Program			$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000
Terminal 1 Curbside Canopy Repairs and Lighting Upgrades			$ 350,000				
Terminal 1 Employee Breakroom		$ 350,000					
Terminal 1 Mechanical Room C-1043		$ 9,800,000					
Terminal 1 Public Walk Aisle Terrazzo Floor Installation				$ 4,400,000	$ 4,400,000	$ 4,500,000	$ 4,500,000
Terminal 1 Tug Door Replacement	$ 555,000						
Terminal 1 Tug Drive Heater Replacement		$ 1,500,000	$ 2,000,000				
Terminal 1 Tug Drive Waterproofing			$ 2,900,000	$ 2,900,000	$ 2,900,000	$ 2,900,000	
Tug Door 9 Improvements			$ 375,000				
Way-Finding Sign Backlighting Replacement	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000
13 - Energy Management Center							
Chiller Plant Optimization			$ 3,000,000				
Concourse B Heating System Upgrades	$ 4,900,000						
EMC Roof Replacement and Break Room Remodel	$ 8,300,000						
Energy Savings Program		$ 2,000,000		$ 2,000,000		$ 2,000,000	
Indoor Air Quality Monitoring System	$ 2,250,000						
MAC Automation Infrastructure Program		$ 2,300,000	$ 2,300,000	$ 2,300,000	$ 2,400,000	$ 2,400,000	$ 2,400,000
Material Storage Building - Boiler Room Addition		$ 1,830,000					
PowerNet Server Decommissioning and Electrical Meter Replacement	$ 900,000						
Steam Trap Monitoring System					$ 3,000,000		
Terminal 2 Penthouse Chiller Plant Infrastructure Upgrades			$ 5,500,000				
Victaulic Piping Replacement			$ 2,000,000		$ 2,000,000		
21 - Field and Runway							
Apron Lighting LED Upgrade			$ 5,000,000	$ 1,000,000	$ 3,000,000	$ 1,000,000	
Localizer Array Upgrade		$ 2,000,000					
Runway LED Lighting Upgrade		$ 1,500,000	$ 1,700,000	$ 2,700,000			
Taxiways B & Q Islands	$ 700,000						
Taxiway T Centerline Lights	$ 1,000,000						
Terminal 2 Glycol Lift Station/forcemain			$ 1,100,000				
Tunnel Lighting LED Upgrade			$ 1,100,000	$ 1,000,000	$ 900,000	$ 400,000	$ 1,200,000
31 - Parking							
Orange Ramp Metal Panel Replacement	$ 500,000						
Parking Guidance System				$ 6,500,000			
Parking Ramp Railing Refinishing	$ 1,000,000		$ 1,000,000		$ 1,000,000		$ 1,000,000
36 - Terminal 2							
Terminal 2 Employee Breakroom	$ 350,000						
Terminal 2 Gate Area Passenger Amenities				$ 1,000,000			
Terminal 2 Gate Desk/Podium Replacement						$ 450,000	
Terminal 2 Ground Transportation Waiting Area Expansion				$ 400,000			
Terminal 2 MUFIDS/EVIDS Millwork Upgrades				$ 350,000			
Terminal 2 Rentable Space Build-out	$ 700,000						
Terminal 2 Skyway to LRT FLooring Installation				$ 800,000			
Terminal Door Locks and Emergency Egress Upgrades			$ 400,000				

MSP Maintenance/Facility Upgrade Projects continues on the next page.

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
MSP Maintenance/Facility Upgrade Projects (cont.)							
39 - Public Areas/Roads							
34th Avenue Traffic Control Improvements			$ 200,000				
Diverging Diamond Intersection Rehabilitation						$ 340,000	
Terminal 1 Ground Transportation Modifications		$ 750,000					
Terminal 1 Inbound Roadway Median Improvements				$ 3,000,000			
Tunnel Fan Replacement			$ 4,700,000	$ 6,800,000			
46 - Hangars and Other Buildings							
MAC Storage Facility		$ 10,000,000					
Safety and Security Center			$ 100,600,000				
56 - Trades/Maintenance Buildings							
South Field Maintenance Building Wash Bay			$ 3,500,000				
63 - Police							
Perimeter Fence Intrusion Detection System				$ 1,000,000			
Perimeter Gate Security Improvements	$ 8,200,000		$ 6,500,000	$ 6,500,000			
Public Safety Modifications		$ 1,000,000		$ 1,000,000			
RAC Terminal 1 QTA Security Enhancements	$ 1,350,000						
Terminal 1 APD Locker Room Expansion	$ 1,200,000						
66 - Fire							
Campus Fire Protection	$ 2,800,000		$ 2,400,000		$ 3,400,000		$ 1,900,000
70 - General Office/Administration							
GO Building Improvements	$ 500,000						
76 - Environment							
Glycol Sewer & Storm Sewer Inspection/Rehabilitation				$ 1,400,000	$ 500,000		
Ground Service Equipment (GSE) Electrical Charging Stations			$ 3,000,000				
LIft Station at Ponds 1 and 2		$ 1,400,000					
Runway 12R-30L Glycol Forcemain Environmental Improvements		$ 2,000,000					
Terminal 2 Remote Ramp Lot/Drainage Improvements			$ 2,000,000				
MSP Maintenance/Facility Upgrade Projects Subtotal	**$ 47,005,000**	**$ 46,560,000**	**$ 178,855,000**	**$ 70,830,000**	**$ 45,550,000**	**$ 26,310,000**	**$ 30,350,000**

MSP Noise Mitigation Consent Decree Amendment	**$ 500,000**	**$ 500,000**	**$ 1,000,000**				

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
MSP Ongoing Maintenance Programs							
10 - Terminal 1							
Air Handling Unit Replacement	$ 6,500,000	$ 6,500,000	$ 6,500,000	$ 6,500,000	$ 6,500,000	$ 3,000,000	$ 3,000,000
Baggage System Upgrades	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
Concourse G Rehabilitation	$ 4,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	
Conveyance System Upgrades	$ 3,000,000			$ 3,000,000			
Electrical Infrastructure Program (EIP)	$ 2,000,000	$ 2,500,000	$ 2,500,000		$ 2,500,000	$ 2,500,000	$ 2,500,000
Electrical Substation Replacement	$ 2,500,000	$ 2,500,000	$ 2,500,000	$ 1,300,000	$ 1,300,000		
Emergency Power Upgrades		$ 6,600,000	$ 2,500,000		$ 2,500,000	$ 2,500,000	$ 2,500,000
Plumbing Infrastructure Upgrade Program	$ 600,000	$ 600,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000
Terminal Building Remediation Program	$ 2,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000
Terminal Miscellaneous Modifications	$ 2,500,000	$ 2,500,000	$ 2,500,000	$ 2,500,000	$ 2,500,000	$ 2,500,000	$ 3,000,000
13 - Energy Management Center							
EMC Life Safety Infrastructure Program			$ 1,900,000	$ 1,900,000	$ 1,900,000	$ 1,900,000	$ 1,900,000
EMC Plant Upgrades (T1 & T2)	$ 2,000,000	$ 1,800,000			$ 1,500,000		
21 - Field and Runway							
Airside Electrical Construction	$ 2,000,000	$ 2,000,000	$ 2,500,000	$ 4,500,000			
Airside Roadway Pavement Restoration	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000
Glycol Tank Repairs	$ 800,000						
Miscellaneous Airfield Construction	$ 3,500,000	$ 1,500,000	$ 1,500,000				
Pavement Joint Sealing/Repair	$ 800,000	$ 800,000	$ 800,000	$ 800,000	$ 800,000	$ 800,000	$ 800,000
26 - Terminal Roads/Landside							
Tunnel Approaches Reconstruction		$ 2,370,000					
Tunnel/Bridge Inspections	$ 100,000	$ 100,000	$ 120,000	$ 120,000	$ 120,000	$ 120,000	$ 150,000
Tunnel-Bridge Misc Mods				$ 1,000,000		$ 1,000,000	
31 - Parking							
Parking Structure Rehabilitation	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000
39 - Public Areas/Roads							
34th Ave Sanitary Sewer Replacement					$ 2,200,000		
34th Avenue Bus Area Reconstruction			$ 700,000				
34th Avenue Reconstruction					$ 7,000,000	$ 7,000,000	
Concrete Joint Repair	$ 400,000	$ 900,000	$ 1,000,000	$ 300,000	$ 400,000	$ 1,200,000	$ 2,900,000
Landside Pavement Rehabilitation	$ 500,000	$ 500,000	$ 500,000	$ 500,000		$ 500,000	$ 600,000
Landside Utility Rehabilitation	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000		
Roadway Fixture Refurbishment	$ 150,000	$ 150,000	$ 150,000				
46 - Hangars and Other Buildings							
Campus Building Rehab Program	$ 500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000		$ 1,500,000	
Campus Parking Lot Reconstructions		$ 650,000	$ 650,000				$ 700,000
End of Life Campus Building Demolition		$ 400,000	$ 400,000		$ 3,300,000		
MSP Campus Building Roof Replacements	$ 1,100,000	$ 9,600,000	$ 18,000,000	$ 2,300,000	$ 10,200,000	$ 1,000,000	$ 1,000,000
56 - Trades/Maintenance Buildings							
Sump Pump Controls			$ 4,000,000	$ 4,000,000	$ 3,500,000		
MSP Ongoing Maintenance Programs Subtotal	**$ 40,400,000**	**$ 56,920,000**	**$ 64,370,000**	**$ 44,370,000**	**$ 60,370,000**	**$ 38,920,000**	**$ 27,450,000**

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
MSP Tenant Projects							
10 - Terminal 1							
Concessions Upgrades/Revenue Development	$ 100,000	$ 100,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
Delta Re-booking Station		$ 200,000					
Elevator and concourse improvements related to relocated United Club		$ 200,000					$ 1,000,000
Terminal 1 FIS Gate Common Use Additions	$ 1,000,000	$ 1,000,000					
Terminal 1 Pre-Conditioned Air (PCA)	$ 2,000,000		$ 2,500,000				
36 - Terminal 2							
Terminal 2 Concessions Development		$ 2,800,000					
46 - Hangars and Other Buildings							
Delta Building B Tunnel Water Mitigation	$ 1,000,000						
Ground Service Equipment (GSE) Maintenance Facility		$ 200,000					$ 2,000,000
MSP Tenant Projects Subtotal	**$ 4,100,000**	**$ 4,500,000**	**$ 2,700,000**	**$ 200,000**	**$ 200,000**	**$ 200,000**	**$ 3,200,000**

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
Reliever Airports Long Term Comprehensive Plan (LTCP) Projects							
81 - St. Paul							
STP Airport Layout Plan		$ 400,000					
STP Long Term Comprehensive Plan		$ 400,000					
82 - Lake Elmo							
21D Long Term Comp Plan				$ 100,000			
21D Runway 14-32 Replacement	$ 4,000,000						
83 - Airlake							
LVN Long Term Comp Plan				$ 100,000			
LVN Runway 12-30 Improvements		$ 3,500,000					
84 - Flying Cloud							
FCM Airport Layout Plan	$ 300,000						
FCM Long Term Comprehensive Plan	$ 250,000						
FCM Purchase and Demolition of Hangars		$ 1,300,000					
FCM South Building Area Utilities					$ 600,000		
85 - Crystal							
MIC Long Term Comp Plan				$ 100,000			
86 - Anoka County - Blaine							
ANE Airport Layout Plan	$ 400,000						
ANE Building Area Development - Xylite St. Relocation				$ 1,000,000			
ANE LTCP Update			$ 400,000				
Reliever Airports LTCP Projects Subtotal	**$ 4,950,000**	**$ 5,600,000**	**$ 400,000**	**$ 1,300,000**	**$ 600,000**	**$ -**	**$ -**

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
Reliever Airports Maintenance/Facility Upgrade Projects							
80 - Reliever Airports							
Relievers Building Miscellaneous Modifications	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000
Relievers Obstruction Removal		$ 300,000		$ 300,000		$ 300,000	
Relievers Pavement Rehabilitation Miscellaneous Modifications	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000
81 - St. Paul							
STP Airport Perimeter Roads				$ 500,000			
STP Airport Road and Eaton Street Retaining Wall							$ 700,000
STP Cold Equipment Storage Building					$ 750,000		
STP Customs and Border Protection General Aviation Facility			$ 2,000,000				
STP Floodwall Inspection and Repairs		$ 200,000					
STP Intelligent Monitoring and Control System (IMACS) Expansion			$ 2,250,000				
STP LED Edge Lighting Upgrades		$ 500,000	$ 1,500,000				
STP MAC Building Improvements		$ 200,000		$ 200,000		$ 200,000	
STP Pavement Rehabilitation-Taxilanes/Tower Road					$ 500,000		
STP Runway 13-31 Pavement Reconstruction		$ -		$ 5,000,000			
STP Runway 14-32 Lighting Replacement	$ 700,000						
STP Runway 14-32 EMAS Replacement						$ 10,000,000	
STP Runway 14-32 Reconstruction				$ 5,000,000	$ 5,000,000		
STP Storm Sewer Improvements			$ 1,500,000				
STP Taxiway B Rehabilitation				$ 800,000			
STP Taxiway Lima Rehabilitation						$ 200,000	
STP Vehicle Gate Replacement		$ 500,000					
82 - Lake Elmo							
21D Intelligent Monitoring and Control System (IMACS)				$ 1,150,000			
21D Materials Storage Building			$ 500,000				
21D North Building Area Pavement Rehabilitation			$ 900,000				
21D North Service Roads Rehabilitation				$ 500,000			
21D Northside Taxiway Reconstruction				$ 600,000			
21D Runway 04-22 Pavement Rehabilitation			$ 4,000,000				
83 - Airlake							
LVN Existing Runway 12-30 Reconstruction		$ 3,500,000					
LVN Intelligent Monitoring and Control System (IMACS)					$ 1,150,000		
LVN LED Edge Lighting		$ 200,000					
LVN Maintenance Building Renovation				$ 750,000			
LVN North Service Road Pavement Rehabilitation						$ 400,000	
LVN North Taxilanes Pavement Rehabilitation						$ 1,000,000	
LVN South Building Area Utilities and Taxilanes			$ 1,300,000				
84 - Flying Cloud							
FCM Airport Access Roads and Tango Lane					$ 500,000		
FCM Airport Access Roads Pavement Rehabilitation ~~Phase 2~~						$ 500,000	$ 500,000
FCM Electrical Vault Modifications					$ 500,000		
FCM Gate Replacements				$ 500,000			
FCM Intelligent Monitoring and Control System (IMACS)		`	$ 2,250,000				
FCM MAC Building Improvements					$ 600,000		
FCM Runway 10R-28L Pavement Rehabilitation			$ 2,450,000				
FCM Underground Fuel Storage Tank Replacement			$ 400,000				
85 - Crystal							
MIC Existing Hangar Revitalization					$ 800,000		
MIC Intelligent Monitoring and Control System (IMACS)					$ 1,150,000		
MIC LED Edge Lighting Upgrade		$ 400,000					
MIC North Building Area Sewer/Water for Future Hangars	$ 200,000						
MIC Runway 6L-24R Pavement Rehabilitation						$ 2,000,000	
MIC Service Roads		$ 1,200,000					
MIC Taxilanes Pavement Rehabilitation	$ 550,000	$ 750,000		$ 600,000		$ 600,000	
MIC Underground Fuel Storage Tank Replacement			$ 400,000				
Reliever Airports Maintenance/Facility Upgrade Projects continues on the next page.							

2022-2028 Capital Improvement Program - Preliminary Draft	2022	2023	2024	2025	2026	2027	2028
Reliever Airports Maintenance/Facility Upgrade Projects (cont.)							
86 - Anoka County - Blaine							
ANE Building Demolition	$ 200,000						
ANE Electrical Vault Improvements				$ 750,000			
ANE Equipment Storage and Maintenance Building		$ 700,000					
ANE Gate Controller Upgrades					$ 400,000		
ANE Intelligent Monitoring and Control System (IMACS)				$ 1,150,000			
ANE Pavement Rehabilitation - Taxiway A and Edge Lights		$ 1,800,000					
ANE Runway 18-36 Pavement Rehabilitation						$ 2,500,000	
ANE Underground Fuel Storage Tank Replacement			$ 400,000				
ANE West Perimeter Road			$ 1,500,000				
Reliever Airports Maintenance/Facility Upgrade Projects Subtotal	**$ 2,350,000**	**$ 10,950,000**	**$ 22,050,000**	**$ 18,500,000**	**$ 12,050,000**	**$ 18,400,000**	**$ 1,900,000**

MSP Subtotal	$ 259,825,000	$ 208,845,000	$ 535,770,000	$ 206,985,000	$ 486,920,000	$ 432,630,000	$ 86,500,000
Relievers Subtotal	$ 7,300,000	$ 16,550,000	$ 22,450,000	$ 19,800,000	$ 12,650,000	$ 18,400,000	$ 1,900,000
Total	**$ 267,125,000**	**$ 225,395,000**	**$ 558,220,000**	**$ 226,785,000**	**$ 499,570,000**	**$ 451,030,000**	**$ 88,400,000**

2022-2028 Preliminary CIP
2022 Capital Improvement Program Narratives
Metropolitan Airports Commission

10 – Terminal 1

LRT Ground Water Drainage Infrastructure Upgrades **$3,500,000**

This project will replace the piping in LRT Station platform that drains ground water in the interstitial space above the Terminal 1 LRT station ceiling. Over time the piping has become filled with mineral deposits and is completely blocked, rendering the drains in the interstitial space unusable. In addition to replacing the piping, this project will provide an automated bulk chemical feed system with piping routed in the interstitial space to each floor drain to prevent the new drainage piping from plugging up with mineral deposits. The project will also waterproof the flooring above the LRT electrical rooms to prevent any further damage from water entering the electrical rooms below.

Passenger Boarding Bridge Replacements **$4,000,000**

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.

TSA Recapitalization **$22,500,000**

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

13 – Energy Management Center

Heating Pump Upgrades **$900,000**

Elastomeric fittings have a life expectancy of 15-20 years. The proposed project includes removal and replacement of over 100 fittings of this type that are at or past the end of their useful life. The project would replace the fittings with piping where possible and steel braided fittings in other locations. When these pipes and fittings fail it is typically a small pin hole leak versus a major failure, like the one that occurred in July 2018.

Variable Air Volume (VAV) Box Replacement **$935,000**

This program will replace Variable Air Volume (VAV) boxes throughout Terminal 1 with more efficient equipment connected to the IMACS system and located for maintenance accessibility.

21 – Field and Runway

Airfield Snow Melter Replacement/Upgrades **$1,800,000**

This project will replace, modify and/or upgrade snow melters on the airfield that are beyond their useful life.

Bituminous Shoulder Reconstruction **$1,500,000**

This project provides for the reconstruction of full depth bituminous shoulder at the end of Runway 30R from Taxiway P1 to Taxiway P3. Work will include removals, crushed aggregate base, bituminous pavement, pavement marking, and electrical construction.

Concourse G Apron Pavement Reconstruction **$11,000,000**
This project will reconstruct a portion of the apron area adjacent to Concourse G. Work will include removals, excavation, granular material, crushed aggregate base, concrete pavement, fuel pits, and pavement marking.

Taxiway B Pavement Reconstruction **$6,125,000**
This project will reconstruct a portion of Taxiway B. Work will include removals, excavation, granular material, crushed aggregate base, concrete pavement, bituminous shoulders, pavement marking, and taxiway centerline lights.

Taxiway P Pavement Reconstruction **$9,000,000**
This project provides for the reconstruction of concrete pavement along Taxiway P between Taxiway M and Taxiway P10 and from Taxiway P1 to Taxiway P3. Work will include removals, concrete pavement, pavement markings and electrical construction.

36 – Terminal 2
Terminal 2 Recarpeting Program **$500,000**
This multi-year program will replace end of life carpeting throughout Terminal 2.

MSP IT Projects

10 – Terminal 1
Customs and Border Protection Camera System Upgrade **$1,800,000**
The Customs and Border Protection's security camera system has reached the end of its functional and repairable life. The agency requires a standalone camera system rather than one integrated with the MAC IVISN system. The 2022 project includes audio recording in interview rooms and processing podiums at Terminal 1, exterior gate camera coverage, FIS corridor, and main terminal G Concourse seating areas, as well as the entirety of Terminal 2's processing FIS, baggage, corridors, exterior gates. Future projects will complete gaps in coverage, additional cameras to support CBP operational needs, and life cycle upgrade of the system.

Intelligent Monitoring and Control Systems (IMACS) **$1,750,000**
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.

MAC Technology Upgrades **$10,000,000**
Each year, there are a number of IT projects that are beyond the resources of MAC's staff and operating budget to accomplish. These projects are prioritized and completed either as a series of contracts or as purchase orders. Work may include Fiber Optic Cable Upgrades, MACNet maintenance and upgrades, EVIDs/MUFIDs digital signs, Wireless System enhancements, and MAC Public Address System maintenance and upgrades. The list of potential projects will be compiled and prioritized in early 2022.

Telecommunications Room Equipment Continuity (TREC) **$1,510,000**
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.

63 – Police

Card Access Modifications **$1,300,000**

This is a multi-year program to refresh the inventory of card access security readers as they get to end of life, add outdoor biometric readers, add mobile card readers, add other readers as needed throughout the campus, and align card access control with other surveillance technology including IVISN.

Radio DAS Coverage Deficiency Resolution **$2,000,000**

This project will continue past efforts to improve the public safety radio signal coverage on the MSP campus by expanding the Distributed Antenna System (DAS).

66 – Fire

Fire Alarm System Transition **$1,400,000**

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 Long Term Comprehensive Plan Projects

10 – Terminal 1

Baggage Claim/Ticket Lobby Operational Improvements **$42,100,000**

This is continuation of a program that will provide the level of service requirements for short- and medium-term growth of the Origin & Destination (O&D) passengers, addressing issues of congestion and functionality in the Terminal 1 Arrivals and Departures areas. This program will complete the expansion of the east terminal façade, including walkways that meet required codes, public seating areas, curtain wall replacement, improved lighting and sight lines, east mezzanine removal/reduction, structural enhancements, improved vestibules and curbside. In the Departures Hall this program will increase the depth of the check-in area and include airline check-in facilities, ticket offices, and TSA space. The Center Mezzanine will be expanded with a cantilevered corridor, allowing security observation, and facilitating future remodeling. On the Arrivals Level, baggage claim device capacity will be increased.

Baggage Handling System **$42,650,000**

This project includes baggage handling system (BHS) work associated with the north half of Terminal 1 related to several phases of operational improvements between the baggage claim and ticket lobby levels. Improvements to the inbound BHS include new baggage claim devices and conveyors. The outbound BHS improvements include self-service bag drop devices, related conveyors, oversize bag screening and tub returns.

MSP Airport Layout Plan **$800,000**

This project will prepare a new Airport Layout Plan (ALP) and Exhibit A Property Map using updated AGIS survey data.

MSP Long Term Plan **$750,000**

The MSP 2030 Long Term Comprehensive Plan (LTCP), previously completed in April 2010, was scheduled to be updated in 2020. While work that had already started with forecasting and gap analyses was paused early in 2020, efforts to continue work on the LTCP document started later in 2021, will continue in 2022.

MSP Maintenance/Facility Upgrade Projects

10 – Terminal 1

Art Display Areas **$150,000**

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.

Arts Master Plan **$1,050,000**

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

Delivery Node Redevelopment **$500,000**
MAC's existing node delivery and storage system requires long-term improvements at Terminal 2, and Terminal 1 (Concourses A, C, E, F, and G) to provide for safe and efficient delivery, by the logistics company, to MAC and airport tenants. This program will improve or replace existing nodes with more centralized locations that should include loading docks, elevators where needed, adjacent storage, trash and recycling, etc. The existing main dock at Terminal 1, replaced by the MAC Receiving and Distribution Center, will also be studied to find highest use, including the possibility of D-Street becoming SIDA access. This phase will study needs and opportunities to refine the budgets for future construction phases.

Folded Plate Repairs **$8,900,000**
This is the first of four phases to repair and replace the roof assembly on the folded plate roof at Terminal 1.

Terminal 1 Tug Door Replacement **$555,000**
This project includes the removal and replacement of high-speed rolling doors at Terminal 1-Lindbergh in the Main Tug Drive Area and in Concourse D. Included with the door replacement is the addition of new door controls, sensors, and ground loops. Also included in this project is the installation of new bollards, guardrails, speedbumps, and miscellaneous signage. Several existing high-speed rolling doors will be connected to IMACS monitoring as part of this work.

Way-Finding Sign Backlighting Replacement **$1,200,000**
Wayfinding is a critical customer service piece of our passenger's experience at MSP. Based on multiple data sources including comment cards, passenger surveys, and staff experiences we know that as a passenger and visitor finding their way around the airport is critical to travel experience success. Helpful wayfinding reduces stress on the passenger and enhances our one journey goal and being the most accessible airport.
Existing wayfinding signs are outdated, provide information no longer relevant, or are no longer illuminated. This program replaces the failed cold-cathode illumination with LED backlit signs as it has not been practical or cost effective to repair them. This program updates sign information, locations, and provide new illuminated signs and/or digital signs where needed at Terminal 1 and Terminal 2 and supports repair that exceeds routine maintenance budgets.

13 – Energy Management Center
Concourse B Heating System Upgrades **$4,900,000**
This project will upgrade Concourse B's fin tube radiation and variable air volume boxes as they are inefficient, expensive to operate and at the end of their expected life.

EMC Roof Replacement and Break Room Remodel **$8,300,000**
This project will upgrade and rebuild portions of the EMC including replacing the entire roof, replacing narrow curtain wall system at the north exit, and building an addition to house new locker room facilities and a new workshop.

Indoor Air Quality Monitoring System **$2,250,000**
This project continues efforts begun in 2021 to add CO2 and NO2 sensors where required and tie new and existing sensors to the IMACS system for remote monitoring and automatic safety ventilation. It will provide the Energy Management Center with advanced modular Indoor Air Quality sensors to install temporarily at any location with IMACS connectivity. The project will also upgrade controls wiring for the post fire smoke evacuation systems.

PowerNet Server Decommissioning and Electrical Meter Replacement **$900,000**
This project will replace an end-of-life server's operating system and the 13 Electrical Power Quality Meters it supports around campus. These meters assist the MAC with billing, troubleshooting, planning and the day-to-day operation of the MSP Electrical System.

21 – Field and Runway

Taxiways B and Q Islands **$700,000**

This project will construct taxiway islands created by Taxiways A and B, C and D, and P and Q.

Taxiway T Centerline Lights **$1,000,000**

This project provides for the construction of taxiway centerline lighting systems for Taxiway T through the infield apron between the connectors from Taxiway M and Taxiway Y. Work includes installation of taxiway centerline lights and conductors, and modifications at the ALEC North building.

31 – Parking

Orange Ramp Metal Panel Replacement **$500,000**

This project will provide a permanent installation to replace the temporary repair completed immediately following damage done by a high wind event in December 2017.

Parking Ramp Railing Refinishing **$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.

36 – Terminal 2

Terminal 2 Employee Breakroom **$350,000**

This project will provide an 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.

Terminal 2 Rentable Space Build-out **$700,000**

This project will build out previously vacant and unfinished rentable spaces in the terminal to support additional airline accommodations as well as existing tenant growth.

63 – Police

Perimeter Gate Security Improvements **$8,200,000**

This project provides for the reconstruction of Gate 269 with a full crash beam gate, updated electrical controls, and a new guard booth.

RAC Terminal 1 QTA Security Enhancements **$1,350,000**

This project provides for construction of additional security enhancements at the Terminal 1 RAC QTA on the ground level of the Red and Blue Parking Ramps. Improvements include security doors in fence line, slide gates on spine road, additional perimeter fencing, improvements to emergency egress routes, additional security cameras, and a crash/security gate located on the southwest corner of the Red Ramp.

Terminal 1 APD Locker Room Expansion **$1,200,000**

This project will reconfigure spaces in the Airport Police Department administration space to expand the locker rooms, consolidating those facilities that have been distributed along the mezzanine hallway in found spaces as the staff count grew.

66 – Fire

Campus Fire Protection **$2,800,000**

This program addresses deficiencies in water-based fire protection systems and firefighting water supplies. It will provide for needed compliance with the MN State Fire and Building Codes, the MAC Design and Construction Standards. It will ensure continued capability for the Airport Fire Department to respond to fire emergencies, and to fight fires and mitigate hazards effectively and efficiently. In 2022, the project scope will address issues both in the terminals and throughout the MSP campus.

70 – General Office/Administration

GO 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 experienced a number of window and building issues that need to be corrected including window sealing and replacements, curtain wall sealing, roof repairs, and valve replacements. This program will also address replacement of end-of-life finishes as required.

MSP Noise Mitigation Projects

Noise Mitigation Consent Decree Amendment **$500,000**

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 Ongoing Maintenance Projects

10 – Terminal 1

Air Handling Unit Replacement **$6,500,000**

There are existing air handling units serving Terminal 1-Lindbergh that were installed with the original terminal construction in 1958-60 and are over 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.

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.

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.

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.

Electrical Infrastructure Program (EIP) **$2,000,000**

There are 53 electrical substations that serve the Terminal 1 complex. It is imperative that these substations be routinely inspected, cleaned, and upgraded in order to ensure their continued performance.

Electrical Substation Replacement **$2,500,000**
This is a multi-year program to replace electrical substations which are at or very near end of life. This program will also improve redundancy.

Plumbing Infrastructure Upgrades **$600,000**
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 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 2021 project is to continue the replacement of aging plumbing systems.

Terminal Building Remediation Program **$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.

Terminal Miscellaneous Modifications **$2,500,000**
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 2022.

13 – Energy Management Center
EMC Plant Upgrades (T1 & T2) **$2,000,000**
This multi-year program provides upgrades to the MAC's Energy Management Center (EMC) Boiler and Chiller Plants at both Terminal 1 and Terminal 2. 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.

21 – Field and Runway
Airside Electrical Construction **$2,000,000**
This program provides for the removal and replacement of airfield lighting and signage with LED technology, and lighting control upgrades..

Airside Roadway Pavement Restoration **$1,200,000**
This is an ongoing program to rehabilitate roadways on the airfield through bituminous overlays, seal coats, or in some instances, reconstruction, to restore the surfaces to a smooth, even condition and improve overall operating conditions. The pavement condition index report as well as an inspection of the pavement will be completed to determine the areas most in need of repair on an annual basis.

Glycol Tank Repairs **$800,000**
This project provides for repair of leaking construction joints and cracks in concrete walls and floors of the glycol tanks located at the MSP Glycol Management Facility. The 2022 project will include liner repairs to all three tanks as well as regrading and restoration of the turf area west of the tanks.

Miscellaneous Airfield Construction **$3,500,000**
This program supports Part 139 Airport Certification through grading and drainage improvements within runway safety areas, airfield pavement marking modifications, and other miscellaneous airside projects that are too small to accomplish independently or arise unexpectedly.

Pavement Joint Sealing/Repair **$800,000**
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.

26 – Terminal Roads/Landside
Tunnel/Bridge Inspections **$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.

31 – Parking
Parking Structure Rehabilitation **$3,000,000**
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.

39 – Public Areas/Roads
Concrete Joint Repair **$400,000**
This project is to complete landside pavement joint repair on MSP campus roadways as a preventative maintenance activity to prolong the existing pavement from reconstruction.

Landside Pavement Rehabilitation **$500,000**
This is an ongoing program of preventative maintenance activities such as crack sealing, surface treatments, and resurfacing on roadways located outside of the Air Operations Area (AOA). This program effectively slows deterioration rates, extends service life and delays need for total reconstruction of bituminous and concrete pavements. Inspection of pavements and appurtenances determines what areas are to be prioritized for rehabilitation under each year's project.

Landside Utility Rehabilitation **$750,000**
Each year there are a number of landside utility projects that are beyond the resources of MAC's staff and operating budget to accomplish. These projects are prioritized annually and completed with either a series of contracts or purchase orders. Electric power, sanitary sewer, storm sewer and watermain improvements will be addressed with this program. Also, a study will be conducted as part of the first year's project to identify future potential projects. The study will be updated annually reflect current priorities.

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.

46 – Hangars and Other Buildings
Campus Building Rehab Program **$500,000**
Continual maintenance of MAC non-terminal buildings is imperative in providing a stable infrastructure and meeting the MAC's sustainability goals. Age and weather contribute to building deterioration, mold and other health issues. Building envelope issues include curtain wall systems, glazing, sealant repair/replacement, louver repair/replacement, metal panel replacement and/or painting/tuck-pointing, structural repair and insulation systems. This program will also include repair/replacement related to interior issues. This is part of an on-going program to maintain MAC buildings as assets.

MSP Campus Building Roof Replacement **$1,100,000**
A report has been developed within the MAC that evaluates one-half of the roofs every other year. This on-going program allows these roofs that have been evaluated to be prioritized and programmed for repair. The focus of the 2022 project will be on roof drain repairs at Terminal 2 and replacement of portions of the

South Field Maintenance Building roof. Emergency repairs may also be needed on some other roofs; this program will provide dollars for such instances.

MSP Tenant Projects

10 – Terminal 1

Concessions Upgrades/Revenue Development **$100,000**

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.

Terminal 1 FIS Gate Common Use Additions **$1,000,000**

Install two common use podiums, backwalls, and boarding pass reader podiums, along with all associated IT equipment for two Concourse G gates connected to the Terminal 1 FIS facility. Two additional gates are planned to be addressed in 2023.

Terminal 1 Pre-Conditioned Air (PCA) **$2,000,000**

This program will provide and/or replace PCA units serving passenger boarding bridges to eliminate the use of idling airplane engines to heat and cool the ambient air. This program will reduce emissions on the campus.

46 – Hangars and Other Buildings

Delta Building B Tunnel Water Mitigation **$1,000,000**

This project will install a permanent lift station and directionally bored piping at the end of the existing drain tile to pump water to the sanitary sewer to keep the tunnel dry.

Reliever Airports Long Term Comprehensive Plan Projects

82 – Lake Elmo

21D Runway 14-32 Replacement **$4,000,000**

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 fourth phase of construction for this project which focuses on converting the old Runway 14-32 to a taxiway.

84 – Flying Cloud

FCM Airport Layout Plan **$300,000**

The new ALP will show current conditions and any development proposed in the 2040 Long-Term Comprehensive Plan (LTCP). A portion of the budget will be used to acquire new AGIS base mapping to create a new Airport Layout Plan (ALP) set that complies with current FAA guidelines and criteria.

FCM Long Term Comprehensive Plan **$250,000**

This project continues the 2021 effort to review current airport facilities, identify service gaps, and better facilitate the safe movement of aircraft at Flying Cloud Airport, which is part of the MAC's system of reliever airports designated by the FAA to reduce congestion at the Minneapolis-St. Paul International Airport and to provide improved general aviation facilities in the overall community.

86 – Anoka County-Blaine

ANE Airport Layout Plan **$400,000**

The new ALP will show current conditions and any development proposed in the 2040 Long-Term Comprehensive Plan (LTCP). A portion of the budget will be used to acquire new AGIS base mapping to create a new Airport Layout Plan (ALP) set that complies with current FAA guidelines and criteria.

Reliever Airports Maintenance/Facility Upgrade Projects

80 – Reliever Airports

Reliever Building Miscellaneous Modifications **$400,000**

This program will address ongoing needs for repairs and modifications of MAC-owned buildings at the five of the reliever airports, excluding St. Paul. These items may include: crew rest areas, heating, air

conditioning, structural repairs, and aesthetic updates. The list of potential projects will be compiled and prioritized in early 2021.

Reliever Pavement Rehabilitation Miscellaneous Modifications **$300,000**
This program will address ongoing needs for crack sealing, joint repairs, pavement rejuvenation, and pavement repairs at the six reliever airports. The list of potential projects will be compiled and prioritized in early 2021.

81 – St. Paul
STP Runway 14-32 Lighting Replacement **$700,000**
This project will replace the lights, conduit, wires and some signs for runway 14-32. MAC electricians have been monitoring this circuit and it continues to expend more power than it is using during their quarterly testing. This scope of work would typically be done during the runway reconstruction planned in 2025 and 2026, but due to the poor condition of this circuit, it must be addressed now.

85 – Crystal
MIC North Building Area Sewer/Water For Future Hangars **$200,000**
This project is planned to provide sewer and water availability for new hangar construction in the new north building area at the Crystal Airport.

MIC Taxilanes 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. The pavement condition index report as well as an inspection of the pavement will be completed to determine the area most in need of repair.

86 – Anoka County - Blaine
ANE Building Demolition **$200,000**
This project will demolish the former Anoka Technical College building, which is owned by the MAC. This will facilitate future lease potential for a tenant construction project.