

Metropolitan Airports Commission **Sustainability**Annual Report 2023

Published Jan. 31, 2024



Sustainability Annual Report Executive Summary

The 2023 Omnibus Transportation Bill passed by the Minnesota Legislature requires the Metropolitan Airports Commission (MAC), which owns and operates Minneapolis-St. Paul International Airport (MSP) and six general aviation airports, to provide an annual report on climate mitigation and adaptation. In accordance with the legislation, the 2023 report includes a summary of activities and an evaluation of performance at MSP in support of the MAC's 2030 sustainability goals; a summary of findings from the MAC's 2023 waste characterization study at MSP; and a plan and timeline for the reduction of single-use plastics, including but not limited to a potential ban on single-use plastic water bottles.

The MAC's 2030 sustainability goals

The MAC is committed to a sustainable future and has set goals and created organizational structures that reflect its commitment to sustainability. In February 2020, staff recommended and the commission unanimously adopted four sustainability goals to achieve by 2030:

- Emissions: Reduce MSP total emissions 80% from a 2014/2015 baseline.
- Water: Reduce MSP water use per passenger by 15% from a 2015 baseline.
- Waste: Reduce, reuse, recycle or compost 75% of MSP solid waste.
- Engagement: Achieve a MAC Employee Sustainability Score of 85.

Achievements and milestones

In 2023, the MAC advanced its sustainability goals through a wide variety of initiatives, pilot programs and infrastructure planning. Highlights from the report include:

 Preparing for and managing electrification, including growth of electric vehicles across sectors, enabling Delta Air Lines to reach its goal of electrifying 50% of its ground support equipment at MSP by 2025.

- Completing a water reuse study focused on irrigation reduction; findings led staff to reduce irrigation by 25% in 2023 compared to 2022.
- Partnering with local nonprofit Loaves and Fishes to donate 35 tons of food that would have otherwise been managed as waste.
- Planning for an organics recycling program for paper towels across MSP that will increase the diversion rate by an estimated 10% to 15% once fully implemented.
- Coordinating an America Recycles Day campaign to reduce single-use plastics — such as bags, straws and bottles — and to promote reuse and recycling.

Key findings in the 2023 MSP Waste Characterization Study

The MAC engaged an external consultant to conduct a large-scale waste characterization study at MSP in May 2023. The objective was to quantify and categorize material in MSP's trash. Findings indicate that 30% of the trash is "true trash" and currently has no beneficial outlet. The remaining 70% of the materials could be addressed through composting (31%), recycling (19%), alternative management strategies (16%) and reuse or reduction (4%).

Waste Reduction Roadmap

Using the results of the 2023 MSP Waste Characterization Study and stakeholder engagement feedback, the MAC developed a waste reduction roadmap to achieve the MAC goal of diverting 75% of waste at MSP by 2030. This roadmap will guide new programs, MSP employee training and compliance, passenger education, procurement guidelines and requirements, and further waste characterization studies.

Single-use plastics reduction plan

The transitory nature of airports and the abundant supply of plastics make single-use plastics a go-to solution for many of the MAC's stakeholders, which include airport businesses and local vendors. Reducing single-use plastics is an important component of the new waste roadmap. The MAC engaged with stakeholders in the second half of 2023 regarding reducing single-use plastics, with emphasis on collecting feedback about a potential single-use plastic water bottle ban. Key stakeholder feedback themes were:

- Concerns around supply chain issues.
- Financial impacts of lower customer purchases and profit margins.
- The amount of transition time needed to order new inventory and sell existing inventory, and update point-of-sales information.

Next steps

In 2024, the MAC will conduct additional research and stakeholder engagement necessary to fully understand the environmental, social and financial impacts of a single-use plastic water bottle ban and possible alternatives. The MAC will make a decision about the potential single-use plastic water bottle ban prior to submitting the 2024 Sustainability Legislative Report on Jan. 31, 2025. The MAC will continue to measure and share its progress toward its 2030 sustainability goals, on metroairports.org.

The MAC is proud to present this report and encourage full readership to learn about the many initiatives MAC is leading to advance sustainability at MSP and beyond.

Contents

About the MAC	. 1
The MAC's Sustainability Commitment	. 1
Minnesota Legislative Report Requirement	. 2
Progress Toward 2030 Sustainability Goals	. 2
Scorecard	. 2
2023 Initiative Highlights	. 2
Waste at MSP	. 4
2023 Waste Characterization Study	. 4
Waste Roadmap and Single-Use Plastic Reduction Plan	. 6
Single-Use Plastics – Stakeholder Engagement	. 6
Single-Use Plastic Water Bottle Ban Evaluation and Next Steps	9
Climate Adaptation and Resilience	. 9
Conclusion	. 9
	2

Locklinhon.

III a.

an II

.....

About the MAC

The Metropolitan Airports Commission (MAC) owns and operates one of the nation's largest airport systems, including Minneapolis-St. Paul International Airport (MSP) and six general aviation airports. The MAC's purpose is to provide exceptional airport experiences so Minnesota thrives. The airport system connects the region to the world and showcases Minnesota's extraordinary culture to millions of passengers from around the globe who arrive or depart through MAC airports each year. Though a public corporation of the state of Minnesota, the organization is not funded by income or property taxes. Instead, the MAC's operations are funded by rents and fees generated by users of its airports.

The MAC's Sustainability Commitment

The MAC is committed to a sustainable future. In February 2020, staff recommended and the commission unanimously adopted four sustainability goals to achieve by 2030 (the 2030 sustainability goals):

- Emissions: Reduce MSP total emissions 80% from a 2014/2015 baseline.
- Water: Reduce MSP water use per passenger by 15% from a 2015 baseline.
- Waste: Reduce, reuse, recycle or compost 75% of MSP solid waste.
- Engagement: Achieve a MAC Employee Sustainability Score of 85.

Building upon its 2030 sustainability goals, the organization's new <u>2023-2027 enterprise strategic</u> <u>plan</u> includes a focus area to "Actively manage sustainability and stakeholder and community relations."

MAC staff established an internal structure that facilitates, guides and supports collaboration, innovation and measurable progress in sustainability. In addition to an active Executive Sustainability Committee composed of leaders from across the organization, the MAC has dedicated working groups for water, waste and emissions that exist to develop roadmaps, action plans and strategies to advance our commitments.

As part of its commitment to sustainability, the MAC has joined several influential sustainability collaboratives. The MAC is a supporting partner of the Minnesota Sustainable Aviation Fuel Hub. which launched in 2023. The organization has been a member of the Minnesota Sustainable Growth Coalition since 2016 and is participating in GREATER MSP's MBOLD coalition to advance circular economy efforts for plastic film. The MAC actively participates in Airports Council International-North America's sustainability working groups. The Airport Carbon Accreditation program, the industry certification committed to reducing carbon and increasing airport sustainability, has recognized the MAC for its carbon emissions reduction efforts at MSP.

These formalized MAC-wide commitments follow decades of signature projects and progress focused on environmental stewardship. Some examples of signature projects include building one of the largest rooftop solar energy facilities in Minnesota, installing water-saving fixtures in restrooms, and creating a successful organics recycling and food recovery program for concessionaires. The MAC continues to commit to new programs that will accomplish its goals. The MAC is dedicated to achieving sustainable design certification on a selection of new projects, and currently has three major building construction projects with LEED gold design with a combined estimated cost of \$685 million.

Minnesota Legislative Report Requirement

The 2023 Omnibus Transportation Bill passed by the Minnesota Legislature requires the MAC to provide an annual report on climate mitigation and adaptation. According to the bill, this year's report must include a summary of activities and evaluation of performance at MSP in support of the MAC's 2030 sustainability goals; a summary of findings from the MAC's 2023 waste characterization study at MSP; and a plan and timeline for the reduction of single-use plastics, including but not limited to a potential ban on single-use plastic water bottles. The following report provides detailed information on each of these items and showcases the MAC's industryleading commitment to sustainability.

Progress Toward 2030 Sustainability Goals

The MAC annually reports progress on its 2030 sustainability goals. This information is publicly available on the MAC's website. The scorecard below shows progress through the end of 2023. Note that the emissions figure is preliminary, calculated using Xcel Energy's 2022 emission factor, and will be updated when Xcel publishes its 2023 emission factor (anticipated in mid-2024).

2023 Initiative Highlights

The MAC executed several sustainability initiatives over the course of 2023, many in partnership with airlines, tenants and employees. Ranging from infrastructure and capital improvements to researching and studying potential technologies and solutions for future projects, these initiatives advanced sustainability at MSP and beyond.

Emissions

Energy efficiency

The MAC applied for and received \$4.625 million in Federal Aviation Administration Supplemental Climate Change Funding to replace aging air handling units at MSP in Terminal 1 and preconditioned air units at multiple gates. This investment will yield significant energy savings. The MAC continued to invest in LED lighting upgrades across its campus to save energy.

Advancing through the Airports Carbon Accreditation Program

The MAC began collecting required data to achieve Level 3 of the Airport Carbon Accreditation program. Progressing in certification levels will require the MAC to engage with tenants to help them accurately track, report and influence their emissions reductions.

Scorecard



Waste Δ

GOAL: Reduce, reuse, recycle or compost 75% of MSP solid waste.



Engagement

GOAL: Achieve a MAC Employee Sustainability Score of 85.



Net Zero Pathway mapping

The MAC conducted net zero pathway mapping in 2023 reflecting up-to-date information from the MSP long-term plan, such as terminal expansion projects, energy projects and Xcel Energy plans. This mapping will help the MAC identify the types of projects that will make it possible to reach an 80% reduction in emissions by 2030 and pursue the airport industry goal to be net zero by 2050.

Preparing for and managing electrification

In 2023, the MAC prepared for the expected growth of electric vehicles (EVs) on the MSP campus:

• Airlines: Supported airlines in achieving their sustainability goals by developing infrastructure for their electric ground support equipment (eGSE).

These efforts enabled Delta Air Lines to reach its goal of electrifying 50% of its GSE at MSP by 2025.

The MAC collaborated with Sun Country Airlines to identify infrastructure needs for future integration of eGSE into its fleet.

- Rental Car Agencies: Partnered with MSP rental car agencies to plan for and build out the infrastructure needed to expand vehicle charging capacity in 2024.
- **Passengers:** Developed recommendations for EV charging expansion to meet forecasted passenger demands.
- MAC fleet: Participated in a fleet electrification study of MAC vehicles to identify good candidates for replacement with an EV.

Water

Water reuse study

The MAC completed a study to map opportunities for using rainwater from rooftops for irrigation at MSP Terminal 1. By mapping irrigation usage, the project team identified significant reduction strategies to implement immediately, reducing irrigation by 25% in 2023 compared to 2022. The project also cultivated concepts of new rainwater reclamation strategies, such as using rainwater for toilet flushing in the terminals.

Steps to install low-flow bathroom fixtures

The MAC inventoried all water fixtures at MSP in 2022 and is accelerating the installation of new toilets that use half the amount of water to flush, with plans to replace 175 toilets in older bathroom facilities each year for the next three years to reduce overall water usage at MSP by an estimated 7% or more.

Waste

Food recovery for donation

The MAC has partnered with Loaves and Fishes, a local nonprofit devoted to food recovery for donation to people in need in the region. In the spring of 2023, the partnership expanded with increased tenant participation, adding five new groups. In 2023, the program donated 35 tons of food — up from 27 tons in 2022 — equivalent to 57,750 meals.

Liquid diversion

The MAC has been working to keep heavy, messy liquid out of the trash, lowering the weight of waste sent to the landfill and reducing the risk of spills. Liquid diversion stations are available in MSP Terminal 1, and based on the success of these stations, the MAC has been adding stations at Terminal 2.

Organics recycling of paper towels

Following a successful small-scale pilot project in 2022, the MAC planned and budgeted for a full launch throughout 2024 and beyond. Processing paper towels as organic material with compactors rather than as trash will increase the MAC's diversion rate by an estimated 10% to 15%.

Waste audit

The MAC conducted a waste characterization study in 2023. The methodology for this study and the results can be seen in the "Waste at MSP" section of this report.

Engagement

Plate-to-Garden event

In May 2023, the MAC hosted its annual Plate-to-Garden event for employees during International Compost Awareness Week. At the event, employees picked up compost made from organic materials collected in the MAC General Office and throughout MSP.

America Recycles Day campaign

The MAC coordinated an America Recycles Day campaign in November to reduce single-use plastics and promote correct recycling practices. Tenants were asked to distribute plastic straws and to-go bags only upon customer request. The MAC recruited MSP coffee shops to offer and promote discounts to passengers who bring their own cups or mugs. Digital communications and in-terminal signage promoted water bottle refill stations in the terminals and MSP reusable cup discounts.

Biennial Employee Sustainability Engagement survey

The MAC surveys employees every two years to assess and inform sustainability engagement activities. The overall engagement score increased from 52 to 53 points, which is 62% toward the 2030 goal of a score of 85. In addition to a slight increase in the overall score, 2023 survey results saw significant gains in three of the five dimensions — awareness of efforts, knowledge and perceived norm — when compared to the 2019 baseline results.

Other engagement highlights:

- Metropolitan Council Intern Day: The MAC's Water Working Group hosted the Metropolitan Council's environmental interns to learn about the MAC's water conservation and compliance programs.
- Adopt-a-Highway: The MAC has adopted a stretch of Highway 5 between Post Road and Highway 62. MAC staff participate twice a year to keep this stretch of road clean.
- MSP Long-Term Plan presentation: Delta Air Lines and the MAC presented their sustainability programs and collaborative efforts at Experience MSP, a community event held to promote awareness and engagement related to the MSP Long-Term Plan.

Waste at MSP

2023 Waste Characterization Study

The MAC engaged <u>Minnesota Waste Wise</u>, a program of the Minnesota Chamber of Commerce, to conduct a large-scale waste characterization study at MSP in May 2023. The objective was to quantify and categorize material in MSP's trash. The study established a roadmap to achieve the <u>MAC's goal of diverting 75% of</u> <u>waste at MSP by 2030</u>. The results will inform new programs, MSP employee training and compliance, passenger education, procurement guidelines and requirements, and further waste characterization studies.

Findings indicate that 30% of the trash stream is "true trash" and currently has no beneficial outlet. The remaining 70% of the materials could be addressed through composting (31%), recycling (19%), alternative management strategies (16%) and reuse or reduction (4%). Table 1 on page 5 depicts the composition of material found in trash, broken out by Terminal 1, Terminal 2 and all waste combined.

Food waste was the single-largest category of potentially divertible material found in the waste stream, with paper towels following close behind. A significant portion of the trash was recyclable material, including plastics, cardboard/ paperboard, mixed paper, aluminum, glass and cartons.

The standard study methodology used by Minnesota Waste Wise did not specifically separate single-use plastic water bottles from other recycled plastics. Following the legislative mandate, the MAC conducted a small-scale waste audit in November 2023 at one location to determine what percentage of recyclable plastics was specifically single-use plastic water bottles. In this smaller audit, single-use plastic water bottles made up 25% of the material by weight, and single-use plastic water bottles for soft drinks, tea, coffee, etc. made up the other 75%. If extrapolated to the waste characterization study numbers, plastic water bottles would total 1.6% of the waste stream.

Table 1: May 2023 Waste Characterization Study Results

WASTE CATEGORY	NOTES	T1 ONLY	T2 ONLY	ALL WASTE T1 & T2
Miscellaneous trash	Material without an outlet beyond trash, e.g. (wrappers, non-recyclable plastics, mixed-material products, small items)	25.03%	29.79%	27.46%
Food waste	Vegetative and meat waste	17.43%	14.45%	15.91%
Paper towels/ compostable paper	Low grade paper products like paper towels, napkins, tissues, paper egg cartons, food-soiled paper bags	14.65%	9.46%	12.00%
Bagged recyclables	Bags of recycling incorrectly thrown in the trash	19.74%	0.00%	9.64%
Liquids	Residual liquids, primarily from unfinished drinks	2.74%	10.43%	6.67%
Recyclable plastics	Rigid plastics #1, #2 or #5 (larger than a fist and smaller than a 5 gallon bucket), includes single-use plastic water bottles	4.77%	7.76%	6.30%
Cardboard/paperboard	Corrugated cardboard (mainly boxes and pizza boxes) and thicker paperboard products like product packaging boxes	0.00%	8.37%	4.28%
Mixed paper	Recyclable paper products, e.g. (office paper, newspaper, magazines, thinner paper packaging)	2.46%	4.57%	3.54%
Reusable/reduceable	Materials that could be donated or reused, e.g. (full toiletries, lighters, unused toilet paper and paper towels, water bottles)	1.70%	4.55%	3.16%
Single-use food service ware	Single-use service ware from restaurants that is not currently compostable, but could be purchased as a compostable	3.79%	1.91%	2.83%
Paper fiber cups	Plastic-lined single-use paper cups	2.10%	2.19%	2.15%
Aluminum cans/ misc. metal	Aluminum beverage cans and ferrous metal containers like food cans	0.45%	3.19%	1.85%
Single-use gloves	Single-use nitrile gloves or gloves made of other materials	1.36%	1.61%	1.49%
Mixed glass	Container glass for beverage bottles and food products	1.67%	0.76%	1.20%
Plastic straws and cutlery	Plastic straws, knives, forks, spoons, etc.	0.82%	0.32%	0.57%
Compostable service ware	All BPI-certified compostable products, e.g. (cups, plates, bowls, cutlery, portion cups)	0.75%	0.20%	0.47%
Plastic film	Plastic bags and wrapping that stretch when pulled	0.36%	0.23%	0.30%
Cartons	Tetrapak and other cartons, e.g. (juice boxes, milk boxes)	0.19%	0.20%	0.20%
TOTAL		100%	100%	100%

Minnesota Waste Wise made several recommendations that are included in the MAC's Waste Roadmap, including implementing organics collection, considering reusables and improving recycling education.

Waste Roadmap and Single-Use Plastic Reduction Plan

The MAC developed a waste roadmap and singleuse plastic reduction plan based on the results of the 2023 waste characterization study and guided by the MAC's goal to reduce, reuse, recycle or compost 75% of waste from MSP by 2030. Table 2 summarizes the roadmap's new initiatives and categories they will address. Figure 1 presents the path to 75% diversion by 2030, combining the existing initiatives, which will continue to be a focus for MAC, and new initiatives from Table 2.

To reach these goals, initiatives will require collaborative efforts between MAC staff, tenants and passengers. For example, the successful execution of composting food waste and service ware from passengers will depend on MAC coordination of tenant procurement guidelines, passenger participation, and proper sorting and disposal from janitorial and other third-party vendors.

Other initiatives will build upon existing efforts. For example, the initiative to address incorrect recycling by employees will target distinct new tenant groups, modeling the efforts on the successful training and audit program the MAC has created for food and beverage tenants.

Single-Use Plastics – Stakeholder Engagement

The MAC engaged with stakeholders through group discussions, individual interviews, surveys and polling to understand the potential impacts and opportunities associated with reducing single-use plastics, with an emphasis on a potential ban on single-use plastic water bottles. The goal of these conversations was to identify a single-use plastics reduction plan and timeline that acknowledges and honors the feedback from these key stakeholders. Key findings are as follows.

Airport Businesses

The MAC engaged airport stakeholders including food and beverage; news and retail; small businesses/Airport Concessionaire Disadvantaged Business Enterprises (ACDBE); vending machine tenants; and passenger service tenants (e.g., banks, lounges, spas) regarding the reduction of single-use plastics and the potential for a single-use plastic water bottle ban. A selection of airport businesses reported actions they have already put in place to reduce singleuse plastics, such as switching to alternative products and requesting vendors ship products with less plastic wrapping.

Regarding a potential ban on single-use plastic water bottles across the airport campus, the three most prominent points raised by airport businesses included:

- Supply chain: Many airport businesses use the same vendors, and they are concerned that demand for alternative water bottle packaging could lead to shortages. Additionally, the viable alternatives to single-use plastic water bottles are limited due to the unique nature of airport operations and passenger behavior; for example, a twist off cap rather than a pop top is preferred for travelers.
- Financials: Businesses reported concerns about the potential for higher costs for alternative containers, lower customer purchases and lower profit margins.
- Transition time: Airport businesses expressed needing adequate transition time if a singleuse plastic water bottle ban were enacted. Time is needed to sell existing inventory, order new supplies, obtain necessary brand approvals, change store coolers and displays, and update point-of-sale information. Lead time is also needed to educate passengers and food service staff about the reasoning for the changes and to promote replacement options.

Other Airports

The other U.S. airports that have enacted singleuse plastic water bottle bans are San Francisco

International Airport (SFO) and Los Angeles International Airport (LAX). SFO banned the sale of single-use plastic water bottles in 2019 and expanded the ban to all single-use plastic bottled drinks in 2021. LAX banned the sale of single-use plastic water bottles in June 2023. SFO's finance team indicated that its profit margins for bottled water remained high despite the type of packaging. In the guarter following the ban, one LAX business observed a short-term dip in the sales of plastic water bottles followed by an increase in the sale of other drinks like sports drinks. Both airports provided one to two years of lead time to allow businesses to make a smooth transition. SFO and LAX are owned and operated by the cities in which they reside, and their bans were preceded by local ordinances that broadly prohibited single-use plastic water bottles.

Local Beverage Bottling

The MAC also engaged with local bottling facilities and the Minnesota Beverage Association, which represents bottlers and distributors in the state. Some of the airport's bottled beverage products, including certain brands of water, are supplied by two local facilities (Reyes Coca-Cola and PepsiCo) within 20 miles of MSP. The Minnesota Beverage Association shared observations and thoughts about moving to alternative beverage containers and how this move may impact jobs. According to its report, the bottling industry provides jobs to more than 5,300 Minnesotans.

MAC Staff and Consultants

MAC staff and consultants conducted robust research and engagement on environmental and social consequences of a single-use plastic water bottle ban.

We continue to research answers to the following questions:

- How much would a ban impact the waste diversion rate? Will it encourage people to reduce, reuse and recycle?
- Which product(s) will minimize environmental and social consequences when considering the entire life cycle (including extraction, production, transportation and disposal)?

Figure 1 Roadmap to 75% Diversion Rate



Target diversion rates for new initiatives have included assumptions made by waste specialists for imperfections in human behavior and diversion systems. Table 2: Waste Roadmap and Single-Use Plastic Reduction Plan

DIVERSION RATES	NEW INITIATIVE	SINGLE-USE PLASTIC REDUCTION COMPONENT	PERCENT OF TRASH IN 2023	TIMELINE
Employee sorting error 10%	Expand and improve ongoing training, auditing; launch reward/recognition programs	Yes	15%	2024: Training/auditing program2025: Reward/recognition program
Food waste 10%	Implement public-facing organics collection	No	15%	2024: Pilot composting program 2025-2027: Phased rollout
Restroom paper towels 10%	Divert restroom paper towels to organics	Yes — eliminates plastic liners used for receptacles	12%	2024: Limited launch 2025-2027: Full rollout
Passenger sorting error 5%	Test new assistive techniques and educational campaigns	Yes	10% (an estimated 1.6% single-use plastic water bottles*, 4.7% other plastics, 3.7% other non-plastic material)	2024: Recycling education/outreach pilot2024: Further research on single-use plastic water bottle ban
Single-use food service ware 4%	Reduce non-recyclable single-use plastic service ware	Yes	5%	 2024: Invite tenants to pledge to eliminate plastic straws and bags 2025: Decision on single-use plastic water bottle ban 2025-2027: Increase recyclable or compostable products, synced with public-facing organics collection
Plastic film 3%	Reduce and recycle plastic film waste	Yes	3%	2024: Rollout to logistics and operations 2025: Launch with back of house areas

Source: May 2023 Waste Characterization Study; *November 2023 small-scale plastic water bottle audit.

- What alternative products are available in the supply chain? How far would they have to be shipped?
- Will a ban impact airport businesses? Will it disproportionately impact disadvantaged businesses? How will the lesser buying power of smaller businesses factor in?
- How will passengers respond to a ban? Will they switch to alternative drinks?
- Would a ban have any impact on the local economy and jobs?

These questions are complex and depend on many local and time-sensitive variables like supply chains. The research and stakeholder engagement were informative, but the answers are not yet clear due to existing information gaps related to environmental and social consequences.

Single-Use Plastic Water Bottle Ban Evaluation and Next Steps

By Jan. 31, 2025, the MAC will make a decision on a single-use plastic water bottle ban. In 2024, the MAC will conduct additional research and stakeholder engagement to explore the questions: "Which solution has the lowest environmental footprint?" and "What strategies would be needed to minimize social consequences for the solution?" This will include a more in-depth environmental analysis of a possible ban and alternatives, including local sourcing potential, and determining strategies to promote equity for ACDBE vendors and a smooth transition for vendors and passengers.

Throughout 2024, the MAC will execute a marketing campaign to promote water bottle refill stations and encourage customers to bring their own bottles to the airport.

Climate Adaptation and Resilience

As the owner and operator of seven airports, MAC monitors and adjusts to short-term weather patterns and longer-term climatic shifts.

The MAC undertook a process in 2022 to update and expand upon its 2016 Climate Resilience

Plan. The plan's purpose is to ensure the MAC is prepared for and responding to climate change.

The MAC Executive Sustainability Committee ranked consequences, risks to functional areas and vulnerabilities associated with climate impacts at MSP. The assessment determined that the MAC had a high level of ability to adapt to the changing climate and respond to potential consequences associated with climate impact. Opportunities were identified to further enhance organizational and operational resilience, including integrating climate change into planning mechanisms, design and construction, monitoring, training and staff capacity, funding opportunities, and public safety.

In 2023, the MAC undertook the following efforts to prepare for and respond to climate changes:

- Took steps to increase resilience for more mixed winter precipitation, including adding 40 new staff dedicated to supporting winter operations.
- Conducted a climate resilience planning process with the six reliever airports within the MAC system, which serve corporate aircraft and recreational fliers.
- Focused on the impact of climate change in Executive Sustainability Committee meetings, including information on the latest Intergovernmental Panel on Climate Change reports and local climate changes.
- Included climate resiliency in the position description for the MAC's Emergency Manager.

Conclusion

The MAC's purpose is to provide exceptional airport experiences so Minnesota thrives, and a commitment to a sustainable future is key to achieving this.

The MAC continues to prioritize ways to lessen its environmental impact both within its airports and as partners across the industry and region, from supporting the Sustainable Aviation Fuel Hub that launched in 2023 to participating in Airports Council International-North America's sustainability working groups as well as the Minnesota Sustainable Growth Coalition. The MAC is committed to working in partnership with staff, stakeholders and the community to meet its sustainability goals.

