

EXECUTIVE SUMMARY

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AIRPORT DIRECTOR

MILWAUKEE MITCHELL INTERNATIONAL AIRPORT'S Master Plan Update will ensure the Airport's success long into the future as we continue to support the local community while safely and efficiently accommodating increased aviation activity as demand grows at MKE. We are excited to share the results of this planning process and are encouraged to have formulated a cohesive and flexible plan that not only satisfies demand but also allows the Airport to adapt as the future of aviation changes. This plan allows us to rightsize and organize our facilities, balance our operational needs with the efficient allocation of resources, and leverage Airport assets to meet the goals of our long-term plan while remaining sensitive to our environment. We have been encouraged by your support and participation in this Master Plan Update, and we are excited to share the results of this plan with you. We look forward to bringing you along with us on the journey that is the future of MKE. Thank you for supporting our hometown airport. We encourage you to choose MKE every time you travel by air.

1. INTRODUCTION

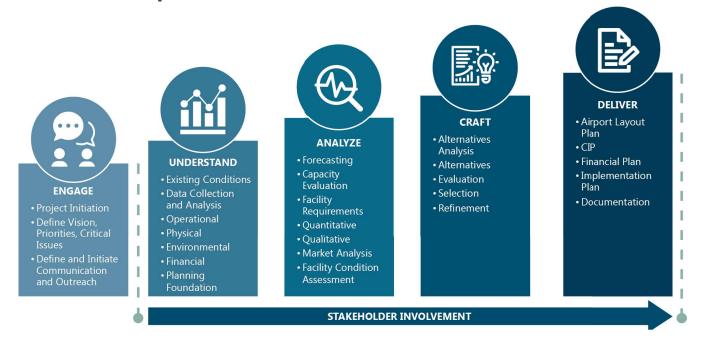
This Executive Summary is an overview of the findings and recommendations of the Master Plan Update prepared for Milwaukee Mitchell International Airport (MKE or the Airport). The master planning process produces an important planning document from an airport management and operations perspective, as it guides long-term airport development and changes within a strategic framework that reflects airport



leadership's priorities, airport operational characteristics, current industry standards, and other relevant factors. A master plan provides a roadmap for safely and efficiently accommodating aviation demand through a defined planning period, while preserving the flexibility necessary to respond to evolving industry conditions, regulatory environments, and airport activity characteristics.

The Master Plan Update framework supports strategic decision-making as the aviation demand profile changes at MKE. It also ensures that development aligns with regulatory and safety standards, while remaining sensitive to community concerns. Airport priorities and goals represent a strategic vision for the future of Milwaukee Mitchell International Airport and informed the planning process and resulting future development. The Federal Aviation Administration (FAA) defines the master planning process, shown below, focusing on providing a technically sound master plan and strategic recommendations.

Master Plan Update Process



The master plan is a technical document outlining the analyses and results, it forms the framework for development at the Airport. The Master Plan Update report should be consulted for more detailed information on the technical details making up the strategic framework.

2. MASTER PLAN UPDATE GOALS

Airport-specific goals were established to guide the Master Plan Update process, as well as identify key issues for exploration during the planning process. These goals were used in the development, screening, and evaluation of the alternatives that were explored. Through working sessions with Airport leadership, these goals were drafted and shared through the public engagement process to provide an opportunity for feedback.



Affirm a **future-focused Airport** that supports aviation growth in a safe, efficient, and cost-effective manner through an organized and synergistic long-range development plan.



Recognize opportunities to **enhance the sustainability, resiliency, and environmental sensitivity** with the continued growth of MKE.



Seek opportunities for an enhanced customer and passenger experience.



Optimize infrastructure and resources in an operationally, financially, and sustainable manner.



Adopt **scalable development plans** that flexibly accommodate variations in demand and technology over the planning horizon.



Protect long-range utility of the Airport (post 2040).



Recognize opportunities for enhanced **non-aeronautical revenue generation** in the utilization of MKE property and amplify the revenue-generating potential of Airport property.



Define a long-range development plan that **reflects MKE's role in the community** and recognizes diversity in community stakeholder priorities.

3. FUTURE ACTIVITY AT MKE

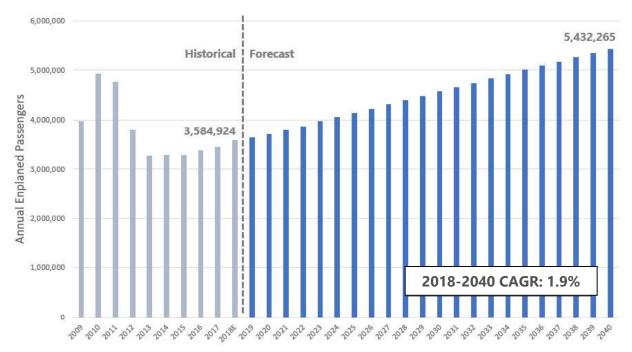
To provide the quantitative basis for determining the need for new or expanded facilities and for conducting the technical, environmental, financial, and other necessary analyses, aviation activity forecasts were prepared. These encompass enplaned passenger, aircraft operations, cargo volume, and general aviation aircraft operations forecasts. Projections of based aircraft were also prepared.

The FAA reviews the forecasts of aviation activity to ensure the Master Plan Update forecast is reasonable, technically sound, and within specified tolerances when compared to the FAA's *Terminal Area Forecast*, which is the agency's official forecast of aviation activity. The FAA approved the MKE Master Plan Update forecasts in the early stages of the study.

It is forecast that total annual enplaned passengers (defined as those passengers that board a departing flight from MKE) will grow at a compound annual growth rate (CAGR) of nearly 2 percent through 2040, reaching over 5.4 million enplaned passengers (approaching 11 million annual total passengers) by 2040. The following chart depicts the forecast growth in passenger activity. These passengers will utilize many of the facilities at MKE, including the terminal, parking facilities, rental cars, and on-airport roadways.

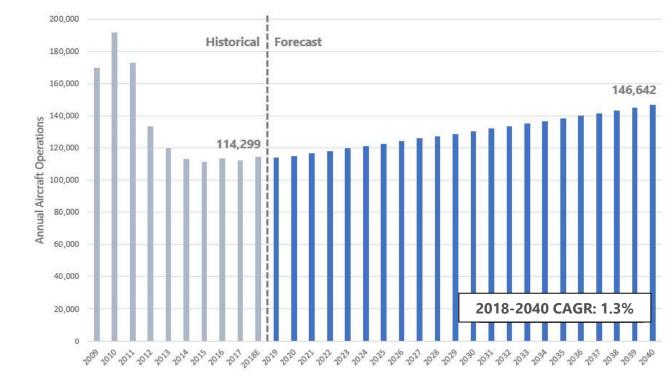
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BASELINE ENPLANED PASSENGER FORECAST



Total aircraft operations, including airline, cargo operator, military, and general aviation flights, are expected to increase at a CAGR of 1.3 percent, approaching 146,700 total annual aircraft operations by 2040. The following chart depicts the forecast growth in aircraft operations.

BASELINE AIRCRAFT OPERATIONS FORECAST

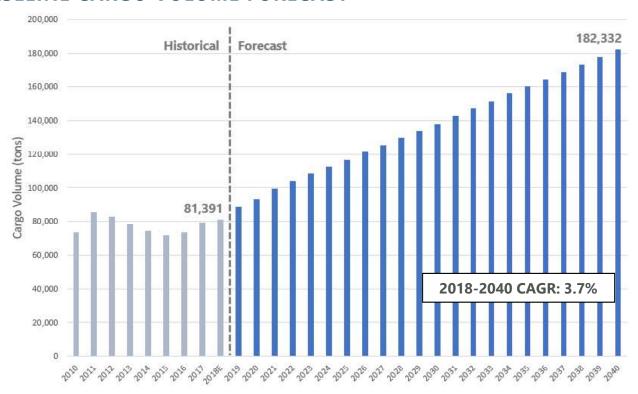


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These aircraft utilize the runways, taxiways, terminal gates, aircraft parking aprons and hangars, aircraft deice positions, and other airfield facilities.

Cargo activity, measured by cargo tonnage that is put on and taken off of aircraft, is forecast to grow at a CAGR of 3.7 percent and exceed 182,000 tons annually by 2040.

BASELINE CARGO VOLUME FORECAST



These collective forecasts, which consider historic activity, aircraft fleet changes (average aircraft size), airline market share and route networks, regional airport activity, and other factors that influence the demand for seats, operations, and cargo volumes, reflect MKE's important role in meeting the demand in southeastern Wisconsin, the Great Lakes area, and the national aviation system.

In addition to the aviation activity forecasts that received FAA approval, the Master Plan Update includes alternate forecasts that frame potential growth beyond the baseline condition. These forecasts are used in the planning process to ensure the Master Plan Update recommendations are sufficiently flexible to accommodate changes in the baseline forecast, either the magnitude of the forecast activity or the characteristics of that activity.

The forecasts of aviation activity are used in subsequent quantitative and qualitative analyses focused on determining the long-term facility development and operational needs of MKE.

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4. DEVELOPMENT NEEDS

The relationship between forecast aviation demand and facility/system capacity and its consequence on the planning of future facilities is complex. Numerous issues affect how efficiently a certain level of aviation-related activity (i.e., demand) can be accommodated within a specific system or facility (i.e., capacity), including regulatory changes, technological improvements, tenant and operator equipment and operational needs, and other influences.

The Master Plan Update explores the relationship between demand and capacity in the context of various MKE systems and translates the results into specific facility requirements for a series of future planning horizons extending to 2040. Specifically, the Master Plan Update describes the existing facilities at MKE and evaluates their ability to accommodate the forecast activity levels at an acceptable level of service. Identified capacity deficiencies generally represent the baseline development needs. Stakeholder and tenant input was also considered.

The opportunity to right size the airfield emerged, focusing on balancing runway capacity with forecast demand, protecting the flexibility to accommodate activity growth beyond 2040, and optimizing the capacity benefits in the context of future costs to operate and maintain these assets. The future decommissioning of two runways facilitates future development to meet identified needs without requiring the acquisition of additional property, while ensuring MKE resources are prudently deployed.

MILWAUKEE MITCHELL INTERNATIONAL AIRPORT LONG-RANGE DEVELOPMENT NEEDS

COMPONENT AREA	SUMMARY CONCLUSION	
Airfield	 Airfield capacity is adequate to efficiently accommodate demand through the 2040 planning horizon with a three-runway system. 	
	An enhanced taxiway network is needed to support the safe and efficient movement of forecast aircraft operations and to comply with current planning and design standards.	
Landside	Additional parking and rental car spaces are needed in locations that are convenient for passengers.	
	 Reallocation and optimization of the curbs in front of the departures and arrivals buildings will substantially defer the need to extend the face of the terminal building. 	
	Reconfiguration of the parking garage exit plaza will enhance safety by improving sight lines and vehicle weave distances.	
	Roadway and intersection configuration changes are necessitated by diminishing levels of service over the planning horizon, resulting from increased MKE and background traffic on South Howell Avenue.	
	Additional aircraft gates will be needed to accommodate growth in airline flights.	
Terminal	 Reallocation and reconfiguration of functional terminal spaces is warranted by changes in industry planning standards, an evolution in passenger and baggage screening technology, and a goal to balance the utilization of terminal facilities by allowing passengers and employees to flow among concourses without rescreening. 	
General Aviation	 A robust general aviation presence at the Airport, including corporate tenants, charter operators, and discretionary flyers, warrants the gradual increase in the number of hangars and supporting facilities. 	
	 Segregation (campus environment) of aircraft with dissimilar operating characteristics will enhance the safety and efficiency of the operational environment. 	
Cargo	Additional aircraft parking apron is required to accommodate forecast cargo flights.	
	 Enhanced cargo handling capacity is needed as the tonnage of cargo and freight transiting MKE increases and e-commerce contributes to the movement of goods through the Airport. 	
Airport and Airline Support	The responsibility for operating and maintaining MKE assets requires the optimization of Airport maintenance facilities, as well as the eventual expansion to accommodate the equipment, vehicles, and maintenance activities that support expanded facilities across the Airport.	
	 Increasing aircraft operations translates into a need for additional aircraft maintenance facilities, supporting airlines, cargo operators, charter operators, and general aviation flyers. 	

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5. FUTURE DEVELOPMENT PLAN

MKE developed a long-range plan, focused on crafting a sustainable future for the community's airport. That future includes a rightsizing of elements at MKE to secure its longevity, leveraging investments made in the airport while balancing the demands of maintaining and updating its facilities. The future development plan seeks to keep similar types of development together and create a campus-oriented approach to development, in which general aviation, cargo, and Airport maintenance facilities will be grouped together.

Rather than a specific plan of future facilities, the Master Plan Update defines a concept for future development to support demand as it materializes. This concept will guide future Airport development, ensuring it is organized, feasible, and aligned with FAA planning standards. Airport

The goal of the master plan is to provide the framework needed to guide future airport development that will cost effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts.

FAA Advisory Circular 150/5070-6B, Airport Master Plans

leadership will make specific development decisions in response to opportunity, changing regulations, evolving technology, growing demand, and other drivers for change at MKE.

The Airport continues to experience increases in passengers, aircraft takeoffs and landings, and cargo, and the MKE Master Plan Update provides the roadmap for incremental improvements to accommodate that growth. The following are significant elements of the MKE Master Plan Update.

Airfield

Forming the backbone of future development, the airfield is among the most crucial elements of the Master Plan Update. Three of the existing five runways will be preserved for landing and take-off operations to meet the projected need over the next two decades. The taxiway network will be modified to enhance aircraft circulation, increase efficiency as the runways are rightsized, meet updated FAA standards, and connect to future facilities. New taxilanes are expected to connect to aircraft maintenance facilities in the western and southern portions of the airfield. Similarly, extended and reconfigured taxiways in the northeast and northwest airfield quadrants



will support increasing general aviation aircraft activity and improve connectivity to runaways and to the terminal area. Overall, the airfield is planned for rightsizing to balance operational and long-term needs with financial considerations without compromising MKE's ability to handle future demand.

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Deice and RON Pads

The future development plan includes two future dedicated deice pads, allowing the efficient collection of fluids used to deice aircraft prior to departure when dictated by weather conditions. One future deice pad is planned in proximity to the terminal complex and a second is planned in proximity to Runway 1L. This is the runway that is used most frequently weather conditions during necessitate aircraft deicing. Additional Remain Overnight (RON) pads are provided to accommodate aircraft that park overnight at MKE or have long ground times at the Airport. These RON



pads can also handle the temporary parking of aircraft that are unexpectedly diverted to MKE. The RON and deice pads allow efficient use of existing terminal gates. These RON pads also reduce congestion in the terminal area by providing a location for aircraft to hold outside of the terminal area when they are not in active use. Aircraft overnight parking will be accommodated in proximity to Runway 1L, in the area of the former International Arrivals Building, and in the northwest quadrant of the Airport.

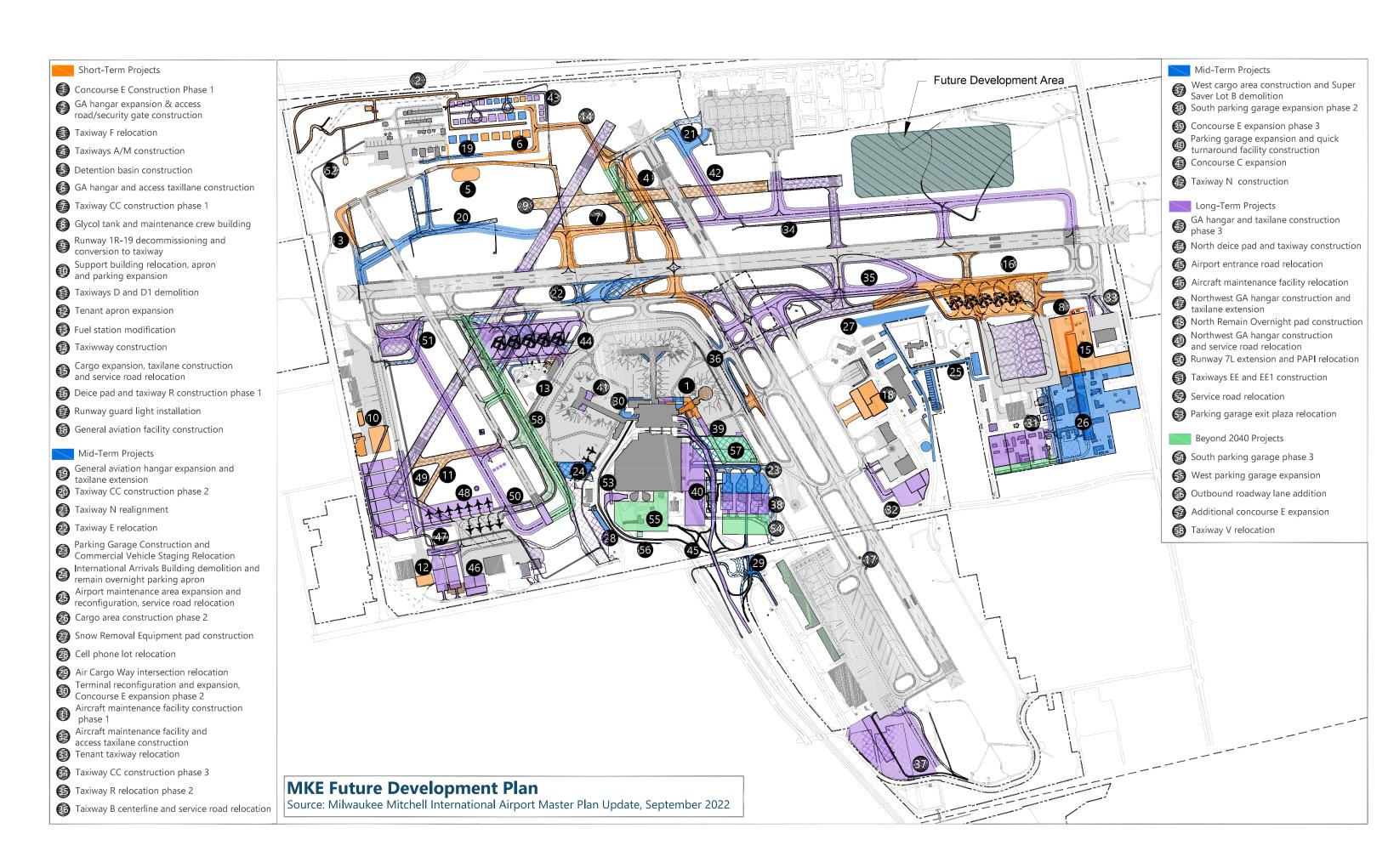


Terminal Development

Terminal modifications will accommodate growth on Concourse C and Concourse D as average aircraft sizes increase (more passengers on each flight and larger aircraft wingspans) and enhance the passenger experience through expanded concessions spaces, hold room modifications, passenger amenities, and additional circulation space. Additionally, provision is made to allow MKE's three passenger security screening checkpoints to be consolidated in the future, which will ultimately allow passengers to freely flow among the concourses. This consolidation will be designed to incorporate new passenger screening technologies and equipment, reducing wait times and enhancing the passenger experience. Concourse E will be redeveloped and expanded to accommodate growth in passenger demand and to allow the processing of arriving international passengers in the terminal building. The international arrival and departures currently conducted in the International Arrivals Building (IAB) will be relocated to Concourse E, providing a new and enhanced facility for international travelers.

The graphic on the following page illustrates the Future Development Plan for MKE to accommodate forecast growth in activity, incorporate a right-sizing of the airfield, and reorganize certain activities and facilities through the 2040 Master Plan Update horizon.

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Terminal Area Roadways

To prepare for future expansions of the public parking garage, which also houses rental car operations, the terminal roadways will be modified and relocated starting at the existing Howell Avenue bridge, extending to the existing terminal curbfront. This project will allow the existing parking garage to expand and a future parking garage to be constructed when triggered by demand. The pick-up and drop-off curbs along the front of the arrivals and departures buildings in the terminal area will be reallocated among vehicle types to optimize the use of these areas as passenger characteristics and preferred vehicle access modes change over time.



Roadway improvements will also improve vehicle circulation, simplify wayfinding, reduce congestion, and improve sight lines and weave distances, in the areas where Air Cargo Way intersects the Airport Spur ramp and Howell Avenue, and where Joseph M. Hutsteiner Drive intersects Howell Avenue.

Parking and Rental Car Facilities



Demand for passenger vehicle parking and rental cars is projected to increase through the 2040 planning horizon. Expansion of the existing parking garage will accommodate additional parking in the terminal area, allow expansion of the rental car operation housed in the parking garage, and bring previously remote rental car quick turnaround facilities (light maintenance, fueling, and wash bays), into the Airport core for more efficient access operations. Additionally, a future south parking garage is planned on the east side of the relocated Airport entrance road to help meet future public parking demand,

relocate employee parking, and replace the Super Saver Lot B parking that will be impacted by future cargo expansion while keeping convenient parking available within the terminal core area and allowing quick connectivity to the terminal building. The expanded public parking and rental car facilities help to enhance the passenger experience, which is a goal of the Airport.

Cargo Development

Robust demand for cargo processing and handling at MKE is forecast to continue through the 20-year Master Plan Update horizon. Future cargo development is planned for the area of the MKE Regional Business Park at the south end of the Airport, providing convenient access to MKE's longest runway. Redevelopment, renovation, and expansion of the existing West Cargo Campus along Air Cargo Way is also planned to accommodate changes in efficiencies in cargo handling processing. An additional candidate site located in the southeast quadrant of the Airport, east of Runway 1L-19R, will provide flexibility in development decisions.





General Aviation Development

General aviation activity, representing private and business aircraft, is forecast to remain strong, and the resulting demand for supporting apron and hangar facilities will increase through the planning horizon. Demand for aircraft hangars to house aircraft ranging from corporate jet aircraft to smaller personal aircraft will be accommodated in two general aviation campuses: the existing Northeast General Aviation Campus and the future Northwest General Aviation Campus. The existing Northeast Campus will expand to the south, while the Northwest Campus will emerge following the decommissioning of Runway 13-31. Future airfield changes in the northwest corner of the airport will allow redevelopment of existing facilities along the south side of Layton Avenue. Each general aviation campus encompasses aircraft parking aprons, hangar buildings, and passenger/owner vehicle parking areas.



Aircraft Maintenance Facilities

Aircraft maintenance is key to ensuring reliable and safe aircraft operation and conformance with required regular maintenance schedules. These facilities serve a mix of airline and general aviation aircraft and are projected to grow as the number of aircraft operations increase over time. The future development plan sites these facilities in the northwest and southwest areas of the Airport. Some of the existing aircraft maintenance facilities in the northwest corner of the Airport are planned for reorganization into a dedicated maintenance campus, allowing the relocation of on-Airport restricted and secure roads.

Airport Support Facilities

As airport facilities evolve (including new development, facility renovations, airfield right-sizing, and other physical modifications), the maintenance needs also change. Even with the right-sizing of the airfield, additional maintenance capability is predicted. The Airport maintenance complex, located south of Taxiway Y and north of the MKE Regional Business Park, will be reorganized to improve the efficiency of maintenance activities, provide additional



equipment and vehicle storage and maintenance areas, and accommodate efficient staging of snow removal equipment in advance of winter weather events. The reorganized maintenance complex will eventually expand southward into a portion of the MKE Regional Business Park.

All development identified to meet forecast demand for each facility type will be accommodated within the existing Airport property boundary, with no land acquisition required through the planning horizon. The reduction of runways from five to three will remove aviation-related restrictions from some MKE-owned areas and release some areas of existing Airport property for potential redevelopment to meet aeronautical needs and demand for aviation-related development.

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6. HOW WILL MKE DEVELOP?

Physical and operational changes at MKE will be phased in over the long-range planning horizon, in response to demand (activity) or other triggers. The Future Development Plan is intended to be flexible, protecting the ability to undertake defined projects in an organized and cohesive manner as the need for each is confirmed.

The Future Development Plan ensures that MKE leadership can continue to refine aspects of future development to reflect changing industry standards, evolving airline business and operational models, modified demand and peaking characteristics, and similar influences that cannot be foreseen at this time. The Future Development Plan has been defined with an intentional level of flexibility to accommodate changes or more pronounced increases in activity without compromising the utility and advantages of the overall concept.

Development is described in four horizons:

- Years 1 to 5 (near-term)
- Years 6 to 10 (mid-term)
- Years 11 to 22 (long-term, through 2040)
- Years 23+ (beyond the planning horizon analyzed in the Master Plan Update)

The implementation of new, expanded, renovated, and reorganized facilities will occur in a phased (measured) way, triggered by increasing aviation activity, airline or other operator needs, FAA or other jurisdictional drivers, or other relevant influences. This phased development is planned around facility changes necessary to accommodate the FAA-approved forecast of aviation activity. However, allowance is made for adjustments to accommodate activity growth that may differ in magnitude or characteristics if actual aviation activity varies from the baseline forecast.

The phased development also forms the basis for MKE's 10-year Capital Improvement Program, ensuring that MKE will undertake improvements in a financially measured way.

The near-, mid-, and long-term conceptual development plans are structured to define the incremental implementation of future facilities triggered by activity growth. Because demand may develop differently than forecast, the undertaking of identified future projects may eventually require adjustment in response to time-adjusted triggers.

Because development actions will be taken in response to specific triggers, facility changes may ultimately be needed in different time frames, either sooner or later than initially planned. They may also be influenced by policy decisions that allocate available capacity in a manner that optimizes and balances the use of existing facilities. User and tenant needs, as well as financial feasibility, will also influence the future timing of specific projects, as well as their scope and configuration.

Effectively managing, sequencing, and timing implementation decisions requires an understanding of the factors that may trigger facility development, ongoing data monitoring and analysis to identify when actions should be taken, and a recognition of the significance of enacted or anticipated regulatory changes or policy implications. It also requires an organizational structure and defined process to initiate project planning, financing, environmental review, design, and construction when demand dictates.

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In support of the future implementation of needed projects, a decision tree was created to support the decision-making process relative to various major MKE components or changes. The decision tree is a tool for Airport leadership to use in evaluating the timing and consequence of implementation decisions. It illustrates major decision milestones and depicts project dependencies and priorities.

MILWAUKEE MITCHELL INTERNATIONAL AIRPORT KEY PROJECTS

PLANNING HORIZON	KEY PROJECTS	
SHORT-TERM	 Initial phase of Concourse E redevelopment (3-gate expansion) Initial expansion of Northeast General Aviation (GA) campus, including landside access and connection to the airfield (southern development) Decommission of Runway 1R-19L and convert southern section to taxiway for military ingress/egress Construct south deice pad and initial phase of Taxiway R realignment Completion of Taxiway A and Taxiway M relocations Initial phase of south cargo development 	
	Initial phase of south cargo development Initial phase of east parallel taxiway to Runway 1L-19R	
MID-TERM	 Reconfigure taxiway network to comply with FAA standards and enable future development projects Expand south cargo development Construct Airport maintenance facilities Expansion of Northeast General Aviation campus Demolish International Arrivals Building (IAB) Second phase of future parallel taxiway, east of Runway 1L-19R Realign Air Cargo Way roadway intersection Construct initial phase of south parking structure and connector walkway Initial phase of terminal reconfiguration supporting the consolidated security screening checkpoint (SSCP) Relocate existing terminal area hangars Concourse D improvements 	
LONG-TERM	 Decommission Runway 13-31 Complete parallel taxiway, east of Runway 1L-19R West Cargo Area redevelopment Construct additional Northeast GA campus facilities Construct Northwest General Aviation campus Provide outboard parallel taxiway to Runway 7L-25R Complete realignment of Taxiway R Relocate Airport entrance roadway Expand existing parking garage, including a consolidated rental car (CONRAC) and supporting facilities Construct aircraft maintenance facilities Construct second phase of south parking structure expansion Construct north deice pad 	

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7. FINANCIAL PLAN

A sound financial plan for future development at the Airport is crucial to ensuring development is available at the time of need—and that projects can be funded throughout the planning, design, and construction phases. A funding plan was evaluated to demonstrate the ability of MKE to fund the future Master Plan Update—defined projects, as well as Airport-identified projects necessary to maintain and operate existing MKE assets.

The funding plan anticipates the use of multiple funding sources, including federal Airport Improvement Program (AIP) grants, airport noise discretionary grant, state grants, passenger facility charges (PFCs), rental car customer facility charges, Capital Improvement Reserve Account, private funding, monies from the MKE Airport Development Fund, and bonds. The financial analysis leverages the approved aviation forecasts as a basis for estimating operating revenues, operating expenses, and funding sources through 2040.

MILWAUKEE MITCHELL INTERNATIONAL AIRPORT PLANNED PROJECT EXPENDITURES

PLANNING HORIZON	PROJECT EXPENDITURE
Through 2023	\$439,961,000
2024–2028	\$799,232,000
2029–2040	\$1,268,156,000
Total	\$2,507,349,000

MASTER PLAN UPDATE SOURCES OF FUNDS



GARBs = General Airport Revenue Bonds | AIP = Airport Improvement Program | ADF = Airport Development Funds | CFC = Customer Facility Charge | CIRA = Capital Improvement Reserve Account | CARES = Coronavirus Aid, Relief, and Economic Security Act

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8. COMMUNITY ENGAGEMENT



The Master Plan Update included a robust Community and Stakeholder Involvement Program, encouraging collaboration among local agencies, tenants, Airport users, elected officials, business leaders, and the general public. The engagement of the stakeholder community is critical to the planning process and is geared to ensure a transparent and accessible effort.

The program established two committees for stakeholder participation, the Stakeholder Advisory Group and the Technical Advisory Group, which met multiple times over the course of the project. The public involvement program included public open houses and a project webpage (MKEupdate.com) to make project information available to the community and provide a continuously available mechanism for providing feedback.

Consideration was also given to the potential for diminished public participation at the final public open house, driven by pandemic-related concerns. A dedicated webpage presenting the recommended conclusions of the Master Plan Update (MKEplan.com) was established to allow participants access to the Master Plan Update materials in a self-directed manner.

The future of MKE reflects feedback and comments gathered throughout the stakeholder and community engagement effort.



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