



WILLOW RUN AIRPORT

MASTER PLAN EXECUTIVE SUMMARY

Overview of the Master Plan Process

Airport master plans are comprehensive studies of an airport, completed every 7-10 years, to identify a plan for infrastructure improvements that are needed to meet anticipated aviation demands and FAA safety standards. Elements of the Willow Run Airport master plan include:

- **Pre-planning** - Preliminary Airport needs were identified during the pre-planning phase of the project that lead to the design and development of the master plan process.
- **Public Involvement** - Key issues with various Airport stakeholders were identified and documented through a Technical Advisory Committee (TAC) and Community Advisory Committee (CAC). Public involvement meetings were also held throughout the study to present study findings and collect feedback from the community.
- **Existing Conditions** – An inventory effort was conducted of the condition of existing Airport facilities, services, and other infrastructure elements.
- **Projections of Future Aviation Demand** – Short- (5-year), medium-(10 year), and long-term (20 year) projections of future aviation demand were prepared for activity that can be expected at the Airport over the next 20 years.
- **Demand Capacity & Facility Requirements** – An assessment was made of the capacity of existing Airport infrastructure to meet the projections of aviation demand so that potential improvements could be identified.
- **Alternative Development & Evaluation** – Alternatives were developed and analyzed to document options that are available to improve facilities so that future aviation demand can be met. A recommended development plan was then established for each facility need.
- **Environmental Considerations** – A review of environmental consideration both on- and off-Airport was conducted for consideration to implement the recommended alternatives.
- **Airport Layout Plan** – A set of drawings called an Airport Layout Plan (ALP) was prepared to provide a graphic representation of the long-term development plan of the Airport. Included in this drawing set are other elements such as aeronautical and non-aeronautical land uses of Airport property and the location of airspace obstructions within the immediate proximity of the Airport.
- **Capital Improvement Plan** – The recommended infrastructure improvements are then included in the Airport’s Capital Improvement Plan (CIP) which is submitted annually to the FAA. Intended to be a fluid document based on changing needs, the CIP establishes a financial planning schedule to identify timing and sources of financing for the proposed infrastructure improvements.

EVOLVING ROLES OF THE WILLOW RUN AIRPORT

Willow Run Airport continues to evolve to serve the needs of Southeast Michigan.

■ Bomber Production for World War II (1940s)

- Almost 8,700 B-24 Liberators built
- Bomber plant employed 42,000 people



■ Commercial Airline Service Airport (1947-1958)

- Detroit's commercial airline service airport until 1958



■ Aeronautical Research Center (1947-1970s)

- Michigan Aeronautical Research Center (MARC), run by University of Michigan
- Rocket motor and propellant research for antiballistic missile defense systems



■ Air Cargo Facility (1980s-1990s)

- Became successful air cargo airport



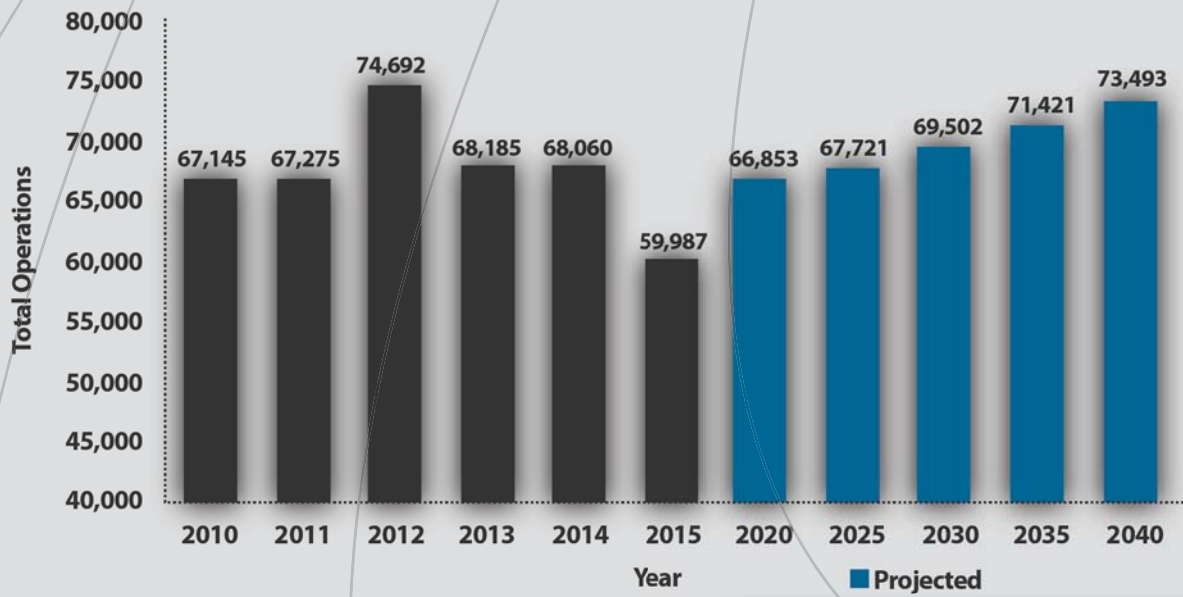
■ Today (2000s)

- On-Demand Air Cargo
- Eastern Michigan University flight training
- Reliever to Detroit Metropolitan Wayne County Airport

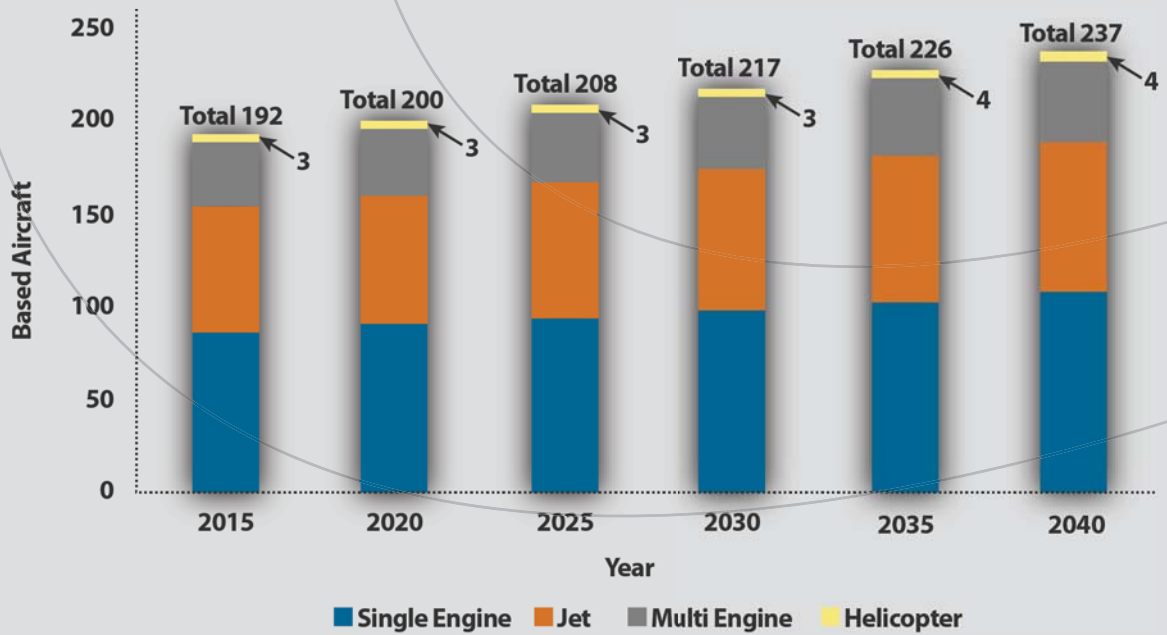


FORECASTS

Aircraft Operations (Total Takeoffs and Landings)



Based Aircraft



FACILITY NEEDS

Runway Configuration

- Runway 9/27 is needed for single- and twin-engine propeller driven aircraft as well as some small jets when crosswinds limit use of Runway 5R/23L and Runway 5L/23R
- Runway 5L/23R could be closed if operational and maintenance cost savings are desired since it is not needed to meet capacity demands
- Elimination of complex geometry at intersection of Runway 5R/23L and Runway 9/27 is needed to meet FAA design standards
- Planning and analysis was completed on runway length needs and alternatives, however, due to the priority of other infrastructure needs a runway extension is not included in the recommended development plan

Taxiways

- Construction of a parallel taxiway to Runway 5R/23L is recommended to improve the safety and capacity of Runway 5R/23L
- Rehabilitate deteriorating taxiway pavement
- Close and remove unnecessary taxiways
- Construct taxilane for expanded East Apron

Aprons

- Reconfigure West Apron
- Rehabilitate South Apron (in phases, as needed)
- Rehabilitate and expand East Apron (in phases, as needed)

Navigational Aids

- Continued coordination with the FAA to lower visibility and cloud height requirements for Instrument Landing System (ILS) operations to Runway 5R/23L
- Preserve and protect for future Global Positioning System (GPS) based approaches to all runway ends

Hangars/Aeronautical Development

- Due to its age and the cost necessary to improve deteriorating building features and systems, close and remove Hangar 1
- Provide development areas for the relocation of Hangar 1 tenants and additional hangar development
- Provides areas for future aeronautical-related development such as aircraft manufacturing, aircraft maintenance, repair, and overhaul (MRO), and air cargo operations.
- Aircraft Rescue and Firefighting (ARFF) Facility - an improved ARFF facility that provides larger vehicle bays, additional equipment and material storage areas, and expanded personnel areas

Snow Removal Equipment (SRE)/Maintenance Facility

- Additional area is needed for the storage of maintenance equipment and supplies
- A centralized area for maintenance personnel and equipment, including administrative and operations staff, with the proposed closure of Hangar 1

Utility Infrastructure

- Improvements are needed to utility infrastructure such as water mains, sewer lines, and underground electrical utility lines

Airport Access

- Improve condition of existing landside roadways
- Construct interior access road
- Construct southern access road to Airport between Tyler Road Extension and Interstate 94 Service Road



RECOMMENDED PLAN

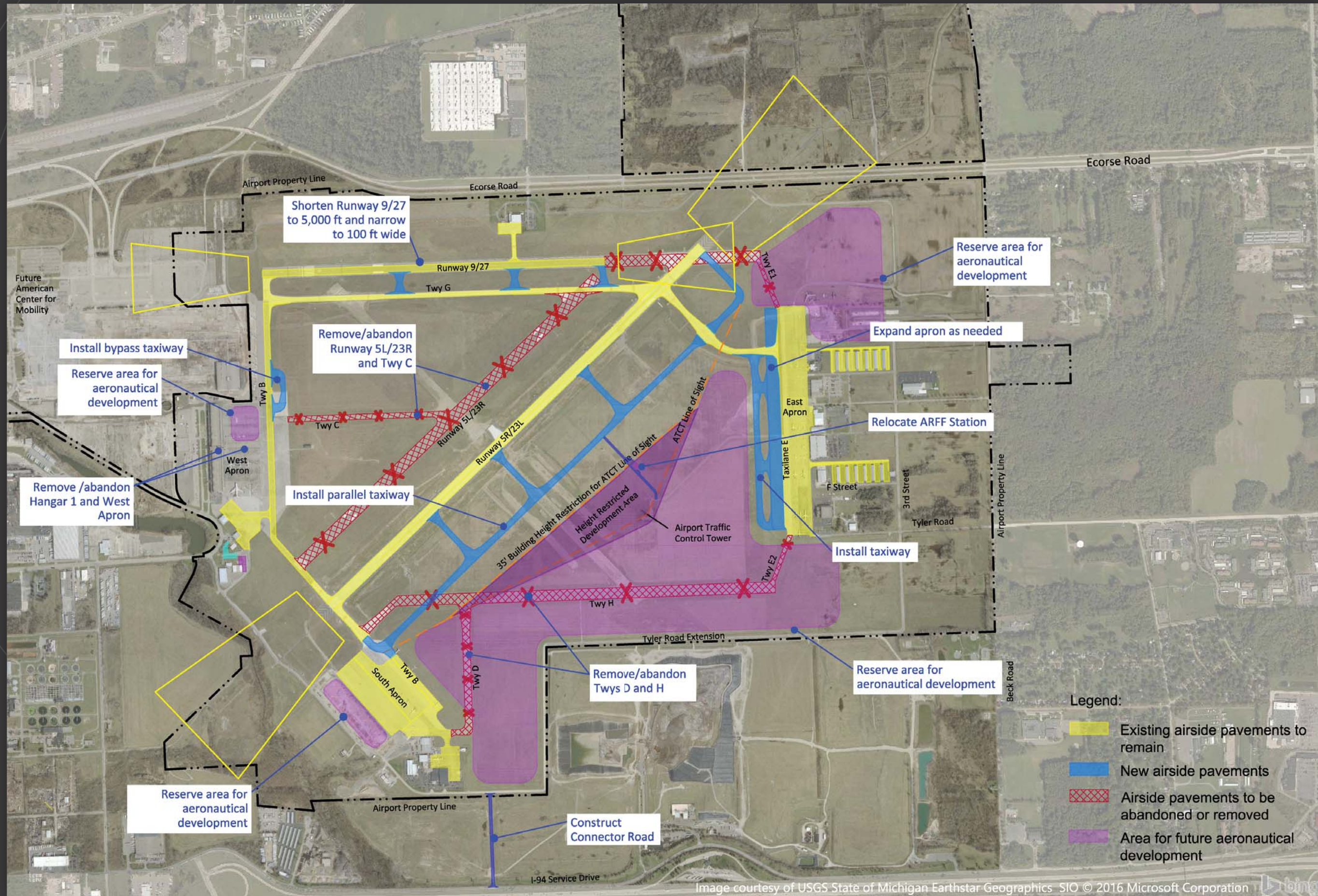


Image courtesy of USGS State of Michigan Earthstar Geographics SIO © 2016 Microsoft Corporation

ECONOMIC IMPACT & ROLES

Economic Impact of Willow Run

- Generates both aeronautical and non-aeronautical related jobs
- Economic impact throughout Michigan
- Businesses are attracted to air cargo capabilities of Airport
- Continued capital improvements at Airport is vital to area economy
- Supports the \$10.2 billion economic impact of Detroit-Wayne County Metropolitan Airport

Activity	Direct Spending	Economic Impact	Income Impact	Jobs Impact
Cargo Transportation	\$22.3 million	\$44.4 million	\$14.4 million	306
Visitors	\$1.1 million	\$2.1 million	\$0.6 million	21
General Aviation	\$9.4 million	\$18.7 million	\$6.1 million	129
Education	\$1.4 million	\$3.1 million	\$1.1 million	37
Airport Enhancement (2014)*	\$25.0 million	\$54.9 million	\$18.2 million	457
TOTAL ANNUAL IMPACTS	\$59.4 million	\$123.1 million	\$40.5 million	950

Notes: Due to rounding, stated numbers may not add to stated totals

* Airport Enhancement dollar amounts represent infrastructure investment made in 2014 and will vary by year

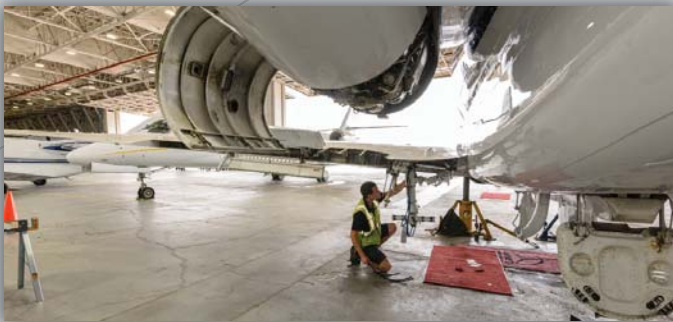
Source: The Economic Impact of Willow Run Airport 2014, The University of Michigan – Dearborn College of Business (2014)

Airport Roles

	Willow Run (YIP)	Detroit Metro (DTW)
Role	Reliever Airport	Commercial Airport
Users	 <ul style="list-style-type: none"> On-demand air cargo General aviation flight training Corporate and recreational general aviation Aircraft maintenance 	 <ul style="list-style-type: none"> Large hub passenger operations Integrated logistics carriers High-end corporate general aviation Aircraft maintenance
Actions	Preserve land areas for: <ol style="list-style-type: none"> (1) Maintenance, Repair, and Overhaul (MRO) operators (2) Commercial development (3) Alternative aviation-related markets not yet realized 	Seek opportunities to maximize revenue generation and allow DTW to serve as a catalyst for local and regional economic growth & development

SPENDING

Example of Economic Impact Spending



How does the airport planning process work?

The FAA is responsible for developing and publishing the National Plan of Integrated Airport Systems (NPIAS) that lists public-use airports considered to be in the national interest and thus are eligible to receive federal funding. This list includes Willow Run Airport.

At the state level, the Michigan Department of Transportation (MDOT) prepares a state aviation system plan that list airports meeting state air transportation goals and identifies any new airports that may be needed to meet future aviation demand. This information is used by the FAA to identify airports that should be included in the NPIAS.

Owners and operators of airports will develop master plans that focus on the planning at the local level which is typically in greater detail than provided by the state aviation system plan.

What is the development process at an airport?

The development process at an airport begins with the airport master plan and concludes with the graphical depiction of future development on the ALP which is approved by the FAA and MDOT. Projects that are eligible for state and/or federal funding are completed based on their inclusion in an approved Airport Capital Improvement Program (ACIP) which is updated and submitted each fiscal year by the Wayne County Airport Authority (WCAA).

Based on the scope of a project, an environmental review may also be needed that could range from a categorical exclusion (CatEx) checklist, an environmental assessment (EA), or an environmental impact statement (EIS). Approval of the appropriate environmental documentation is required before a project can begin.



APPROVAL & FUNDING



How is the airport master plan approved?

The airport master plan, which is prepared in conjunction with the ALP, is produced based on FAA guidelines in Advisory Circular (AC) 150/5070-6B, Airport Master Plans, and AC 150/5300-13A, Airport Design. The FAA does not approve airport master plans, but rather “accepts” them, meaning the FAA does not approve the narrative information or data contained in the overall plan. Two elements of the master plan, however, are approved by the FAA: The ALP drawing set and forecasts. The ALP drawing set is approved in accordance with planning and design guidelines by state aviation officials while the forecasts are approved for consistency with the FAA’s national aviation system forecasts.

Is Airport development funded with taxpayer’s money?

No local tax support is levied to fund developments at the Willow Run Airport. Most infrastructure projects are funded by the federal Airport Improvement Program (AIP) which is supported by airline ticket fees, fuel taxes, and other similar revenue sources deposited in a federal aviation trust fund. Currently, AIP funds account for 90 percent of the cost of eligible projects at Willow Run Airport. The remaining 10 percent of the cost of an eligible project is typically divided between state and local funds which, in most cases, is a 5 percent contribution from each source. MDOT also offers funding support through various airport improvement programs for non-AIP eligible projects.

