MARYLAND
AVIATION SYSTEM PLAN

Introduction

Maryland's diverse economy has historically benefited from access to an outstanding transportation network. The state is home to a diverse system of airports that range from Baltimore/Washington International Thurgood Marshall Airport, one of the country's busiest airports, to small, privately-owned public-use airports that primarily accommodate personal and recreational aircraft. Not only are Maryland's airports diverse, but they're spread throughout the state, from the hills of Garrett County in western Maryland to the beachside resorts of Ocean City on the Eastern Shore.

Maryland's system of airports fosters the vitality of aviation and promotes safe and efficient operations, economic viability and environmental stewardship. The coordination of their work helps to insure that air travel needs of Maryland residents, businesses and visitors are met with the highest quality and safety. Of the 36 public-use facilities, 18 are publicly-owned and 18 are privately-owned.

MARYLAND AVIATION SYSTEM FACTS	
System airports	35
Heliports	1
Airports in (NPIAS) National Plan of Integrated Airport Systems	20
System airports designated as relievers	8
System airports with runways 5,000 feet or longer	9
System airports with only turf or water landing areas	4
Airports with instrument approach	26
Airports with air traffic control towers	5

Maryland is home to a diverse range of airports that provides the state's businesses and citizens with outstanding air transportation access to the nation and abroad.
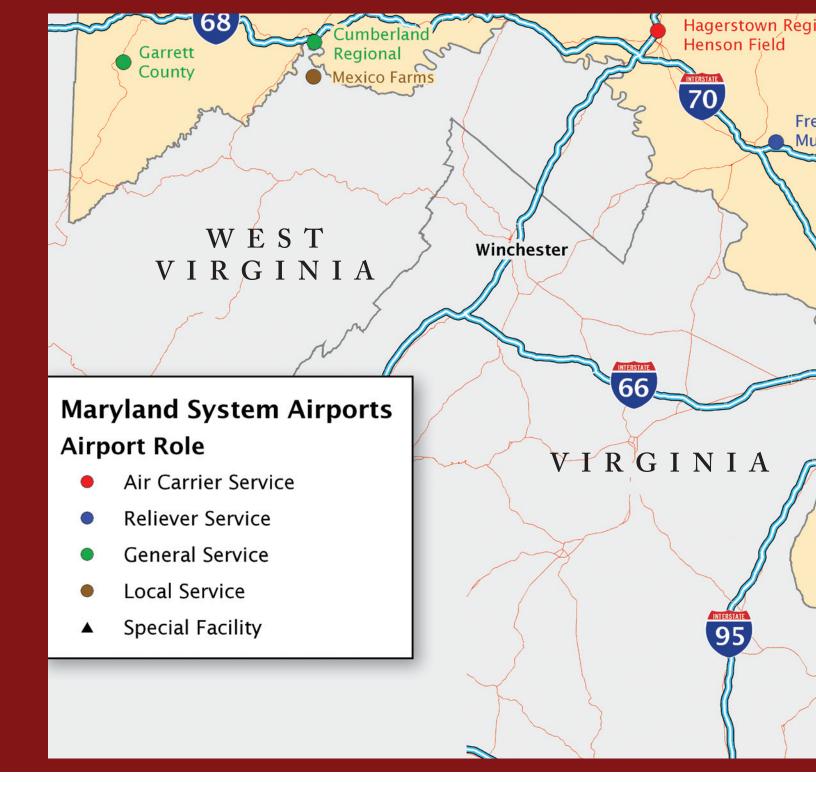
Study Process

The last comprehensive review of Maryland's airport system was completed in 1998. Since then, aviation nationally and in Maryland has changed. The Maryland Aviation System Plan (MASP) provides an analysis of each public use airport and an overview of Maryland's overall air transportation needs for the next 20 years. The MASP is a planning document designed to help the Maryland Aviation Administration (MAA) determine the type, extent, location timing and cost of airport development needed in Maryland to preserve and expand a safe and efficient system of airports.

The MASP examined all state aviation facilities that are licensed, operating and open for public use. The airports range in size from single, turf-runway facilities to large, multi-runway scheduled service hub facilities. Most of Maryland's airports strictly support the operation of general aviation aircraft. General aviation aircraft include all aircraft not flown by commercial airlines, air cargo carriers or the military. Both publicly and privately-owned airports are included in the system. However, to be included in the Maryland system, an airport must be open for public use.

The overall system planning process included detailed tasks that identified and/or evaluated the existing functional roles that airport facilities play in the system. Inadequacies and deficiencies of the existing system were also examined. Based on this analysis, a recommended development plan for the system of airports was prepared. The recommended development plan identifies the specific projects required to ensure that Maryland's system meets current Federal Aviation Administration (FAA) and/or MAA standards. In addition, the recommended development plan ensures that Maryland's airport system is not only preserved, but will adequately serve the current and anticipated future needs of the state's aviation users. The MASP builds on existing planning documents such as airport master plans.

Maryland System Airports
Airport Role
- 🔴 Air Carrier Service
- 🔵 Reliever Service
- 🟢 General Service
- 🟤 Local Service
- ▲ Special Facility

Maryland's Airport System

The Maryland Aviation System includes one heliport and 35 public use airports located throughout the state. While the airports vary in size large, each provides service to a particular market area and plays a role in meeting Maryland's diverse air transportation and economic needs. An important element of the study was to identify the role for system airports and recommend the type of facilities and services that should be in place at each. In addition to the system airports, there are more than 100 privately-owned airports in Maryland that are restricted from public use.

MARYLAND

Carroll County Regional

Harford Co.

Cecil Co.

Havre de Grace Seaplane Base

Fallston

Clearview

Martin State

Massey Aerodrome

Baltimore

Pier 7 Heliport

Essex Skypark

BWI Marshall

Davis

Montgomery County

Tipton

Suburban

Bay Bridge

Ridgely Airpark

College Park

Lee

Kentmorr

Washington

Freeway

Easton

Washington Exec. Hyde Field

Potomac Airfield

Maryland

Cambridge Dorchester

Bennett

Salisbury - Ocean City Wicomico Regional

Ocean City Municipal

St. Mary's Co. Regional

Crisfield - Somerset Co.

DELAWARE

For the MASP, Maryland airports were stratified into five categories based on the type of activity that they accommodate as well as their existing facilities. While the existing National Plan of Integrated Airport System (NPIAS) system of airports, as designated by the FAA, served as the foundation for this classification system, it was important that the privately-owned airports not in the NPIAS be included as well. The following classification system was developed:

Air Carrier Airport	3
Reliever Airports	6
General Airports	16
Local Airports	9
Special Facility	2
Total	36

Role Definitions

A brief description of each classification identified for the Maryland airport system is as follows:

Air Carrier Airports: Air Carrier Airports are intended to support commercial airline activities. Where capacity constraints do not impose limits, this airport classification can also support all types of general aviation activities. There are three Maryland airports in this classification.

Reliever Airports: Reliever Airports support corporate/executive and private use general aviation activities. In some cases, these airports function as relievers to larger, more congested, Air Carrier Airports. These airports should be able to accommodate corporate jet aircraft. This facility classification can also support recreational general aviation activities and flight training. There are six Reliever Airports in Maryland.

General Airports: This classification of airport serves light multi-engine and single engine aircraft flying for business, pleasure, and training. There are 16 facilities in the General Airports classification.

Local Airports: Local Airports include facilities that support small general aviation aircraft. Single-engine aircraft represent the primary aircraft type; however, some light twin-engine aircraft are also accommodated. This airport classification supports private pilots that may be flying for business or pleasure and require minimal support facilities. Airports in this category are not in the NPIAS, and have fewer than 20,000 operations and/or less than 40 based aircraft. There are nine Local Airports in Maryland.

Special Facilities: Special Facilities serve unique aviation roles in the system. Havre de Grace Seaplane Base and Pier 7 Heliport are included in this category.

Future Demand

To develop an airport system that is responsive to user demand, it was important to have a general understanding of where future growth in demand for the system could most likely be anticipated. Estimates of future demand were quantified so that impacts on future facilities could adequately be determined in the short, mid- and long-term ranges. Existing forecasts were utilized where appropriate.

The projections of aviation demand provided the baseline for evaluating the system as a whole. The growth rate of operations slightly exceeds the growth rate of based aircraft, reflecting the increased utilization expected from more complex and technically advanced aircraft. These projected rates of growth are consistent with FAA-accepted projections.

AVIATION ACTIVITY			
Year	Based Aircraft	General Aviation Operations	Commercial Service Operations
2006	2,900	1,203,100	278,700
2011	3,240	1,391,500	320,700
2016	3,460	1,507,000	350,300
2026	3,910	1,761,000	422,700

Maryland's system of 35 airports is anticipated to see an increase of more than 1,000 based aircraft and 500,000 general aviation operations by 2026. Commercial operations are anticipated to grow by more than 50 percent over the planning period.

Meeting System Facility Recommendations

As discussed, Maryland's airports serve many different roles. Therefore, the types of facilities and services necessary to serve the State vary accordingly. The MASP developed general facilities recommendations for each airport classification. It should be noted that no facility objectives were identified for Special Facilities because of their unique operating circumstances.

It is important to understand that the facility recommendations are not requirements. An airport's master plan, as well as unique circumstances, will dictate what type of facilities will be in place at an individual airport. From a system perspective; however, the objectives presented in following table provide a broad-brush evaluation of what may be needed at system airports.

FACILITY OBJECTIVES				
Objective	Local	General	Reliever	Air Carrier
Primary Runway Length	2,000 ft.	3,500 ft.	5,000 ft.	5,500 ft.
Airport Reference Code (ARC)	A-I Small	B-I	C-II	C-III
Taxiway System	Turnarounds	Partial Parallel	Full Parallel	Full Parallel
Approach Capability	Visual	Non-precision	Precision	Precision
Air Traffic Control Tower (ATCT)	--	--	Yes	Yes
Air Traffic Control (ATC) Communications	--	--	Yes	Yes
Runway Lighting	LIRL and Beacon	MIRL and Beacon	HIRL and Beacon	HIRL and Beacon
Wind Cone (lighted)	Yes	Yes	Yes	Yes
Runway End Identifier Lights (REILs)	Yes	Yes	Yes	Yes
Vertical Glide Slope Indicator (VGSI)	Yes	Yes	Yes	Yes
Weather Reporting	--	Yes	Yes	Yes
GA Terminal/Admin. Building	--	Yes	Yes	Yes
Fuel	100LL	100LL	Jet-A, 100LL	Jet-A, 100LL
Paved Aircraft Parking	--	Yes	Yes	Yes
Hangars	Yes	Yes	Yes	Yes
Covered Overnight Secure Storage	--	--	Yes	Yes
Property Enclosed by Fence	Yes	Yes	Yes	Yes
Snow Removal	--	Yes	Yes	Yes

After facility recommendations were developed, each airport was benchmarked to determine where improvements may be needed. While the current system of airports was found to be well developed with outstanding infrastructure and services, there were areas of improvement identified. Each of the three Air Carrier Airports met 100 percent of their system facility recommendations. Again, these recommendations are solely intended to identify system level needs and do not include the numerous local projects identified for these vital airports. Reliever Airports currently meet 72 percent of their facility recommendations, while General Airports meet 76 percent of their objectives. Local Airports also meet 75 percent of their facility objectives.

AIRPORT FACILITY OBJECTIVES - CURRENT PERFORMANCE

Air Carrier Recommendations — 100%

Reliever Airport Recommendations — 72%

General Airport Objectives — 76%

Local Airport Objectives — 75%

Maryland's system of airports currently has many of the facilities and services in place to meet most of the varied needs of the traveling public. Still, various improvements are needed to enhance the efficiency of this outstanding system.

Meeting System Coverage

While meeting facility objectives is an important element of overall system development, another essential aspect of airport system success is related to coverage or accessibility of airports and key facilities throughout Maryland. It is reasonable to assume that airports should be located in proximity to existing and potential users. Airport coverage was assessed for each of the roles (Air Carrier, Reliever, General and Local Service) as well as for key operational features.

Each evaluation criterion was evaluated for the percentage of the state's population that was covered by a reasonable drive time. In addition, geographic coverage was also evaluated. In addition to Maryland airports, there are airports located outside the state that also provide air access to Maryland residents.

MARYLAND GEOGRAPHIC AND POPULATION COVERAGE					
	Land Area Coverage		Population Coverage		
	MD Airports	MD & Out-of State Airports	MD Airports	MD & Out-of State Airports	Drive-Times
Air Carrier Airports	66.4%	76.3%	91.4%	94.6%	60-minute
Reliever Airports	49.6%	63.2%	86.2%	92.6%	30-minute
General Airports	80.0%	84.5%	94.6%	97.0%	30-minute
Local Airports	86.6%	90.2%	96.7%	97.8%	30-minute
> 5,000 ft. Runway	55.6%	63.6%	67.9%	87.8%	30-minute
Precision Approach	42.2%	49.6%	63.5%	83.2%	30-minute
Precision and Non-Precision Approach	87.1%	88.4%	98.1%	98.3%	30-minute

Maryland's airports are in excellent locations to provide service to the State's residents and businesses. Nearly 95 percent of the State's population is within 60 minutes of an Air Carrier Airport and nearly 98 percent of the population is within 30 minutes of a system airport. Even with the State's diverse geography, more than 90 percent of the State's land area is within a 30-minute drive of a system airport.

Nearly 95 percent of the State's population is within 60 minutes of an Air Carrier airport.
Nearly 98 percent of Maryland's population is within 30 minutes of a system airport.

Recommended Development Plan

The development plan resulting from the MASP planning process compared existing facilities and services at system airports to the facility and service objectives identified for each airport based on its recommended functional level/role in the system. Facility and service objectives represent facility and service goals based on recommended roles, and the types of users anticipated for each functional level of airport in the system. Through the comparison of existing facilities, recommended functional level, and facility and service objectives, specific development needs were identified for each system airport. Development needs include all infrastructure development projects and project costs associated with bringing each system airport into compliance with the facility and service objectives for its recommended role. Airport improvements associated with increased geographic coverage were also included.

The following table presents a summary of the project costs and phasing broken down by airport categories or roles presented throughout this study. Total estimated costs for all recommended system projects amount to more than $167 million. The split of overall development between the short, mid- and long-term periods is 27 percent, 41 percent, and 32 percent, respectively.

RECOMMENDED PROJECTS: COSTS AND PHASING SUMMARY			
Airport Category	Short Term (1-5 years)	Medium Term (6-10 years)	Long Term (11-20 years)
Commercial Airports	$0	$0	$0
Reliever Airports	$31,354,000	$39,491,000	$1,250,000
General Airports	$11,091,000	$25,950,000	$53,004,000
Local Airports	$3,082,000	$2,545,000	$0
SYSTEM TOTAL	$45,527,000	$67,986,000	$54,254,000

The recommended development plan provides a framework through which the MAA can improve the performance of the existing and future airport system. These costs represent estimates of the infrastructure necessary to allow system airports to adequately serve their current and future system role. Other costs associated with the preservation of the airport system and the routine maintenance of existing facilities may also be incurred.

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