UniversityParkAirport
STATE COLLEGE, PA

MasterPlan ExecutiveSummary

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vhb Mead &Hunt

What is an Airport Master Plan?

Airport master plans are comprehensive studies of an airport to identify cost-effective solutions necessary to meet anticipated aviation demands and FAA safety standards.

Airport Master Plan Elements.

PRE-PLANNING
A determination of needs is conducted during the pre-planning phase that leads to development of the master plan's study design after a consultant is selected.

PUBLIC INVOLVEMENT
An advisory committee is established and public involvement meetings are held to identify and document key issues with various airport stakeholders.

EXISTING CONDITIONS
During this phase, an inventory is conducted of existing airport facilities, services, and other infrastructure elements.

AVIATION FORECASTS
During this phase, forecasts of aviation demand are prepared and presented in short- (5 year), medium- (10 year), and long-term (20 year) periods.

DEMAND CAPACITY & FACILITY REQUIREMENTS
An assessment is made of the capacity of the airport to support the future aviation activity projections in an effort to identify improvements that may be needed to existing facilities.

ALTERNATIVE DEVELOPMENT & EVALUATION
Options to improve facilities so that future aviation demand can be met are prepared and evaluated with a recommended development plan selected for each identified facility need.

ENVIRONMENTAL CONSIDERATIONS
During this phase, a review of environmental categories found both on and off the airport are conducted and identified for consideration to implement the recommended alternatives.

AIRPORT LAYOUT PLAN
After the recommended development option for each facility need has been identified and evaluated for potential environmental considerations, a set of drawings called an Airport Layout Plan (ALP) is prepared to provide a graphic representation of the long-term development plan of an airport. Included in this drawing set are other elements such as aeronautical and non-aeronautical land uses of airport property as well as the location of airspace obstructions within the immediate proximity of the airport.

CAPITAL IMPROVEMENT PLAN
Finally, a financial planning schedule for the recommended infrastructure improvements is prepared to identify the timing and how the airport sponsor will finance the projects identified in the master plan.

Additional information about the sustainable airport master plan project is available at the University Park Airport website.

www.universityparkairport.com.

Is Airport Development Funded with Taxpayer's Money?

Use of the air transportation system (including for the shipment of packages, recreational aviation, commercial airline operations, and charter/air taxi operations) pay for the cost to develop the National Airspace System (NAS) and a portion of public use airports. Similar to the national highway system, much of airport infrastructure is paid for by taxes on aviation fuels.

Typically, federal funding for airport infrastructure projects is provided by the 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.

The FAA does not approve airport master plans, but rather "accepts" them, meaning the FAA does not verify 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.

Passenger Facility Charges (PFCs) collected from each passenger that boards a commercial airline flight at an airport is also used to finance eligible infrastructure improvement projects at an airport. PennDOT also offers funding support for non-AIP eligible projects.

Sustainable airport master plans fully integrate environmental and financial sustainability elements into the airport's long-term planning.

What is a Sustainable Airport Master Plan?

Similar to a traditional airport master plan, a sustainable airport master plan focuses on sustainability issues that are considered a core objective rather than a secondary consideration. Sustainable airport master plans promote planning, project implementation, and financial decisions that will help reduce energy consumption, enhance community involvement, and protect and conserve natural resources.

Sustainable Goals & Objectives of the University Park Airport:

ENERGY EFFICIENCY

- Manage energy use through lighting technologies, renewable energy & improving building efficiency.
- Improve vehicle efficiency through use of alternative fuels.
- Encourage use of low emission vehicles, equipment and supplies.

ECONOMIC VITALITY

- Educate community on how the airport generates revenue and benefits to the region.
- Provide facilities to promote growth in general aviation and commercial air service.

ENVIRONMENTAL STEWARDSHIP

- Continue water quality enhancement practices.
- Maximize water conservation efforts.
- Minimize unavoidable impacts to natural areas.

PARTNERSHIPS

- Collaborate with PSU Sustainability Institute during implementation of Master Plan.
- Develop aviation-related business/educational opportunities with PSU at the airport.

Projected Future Aviation Demand

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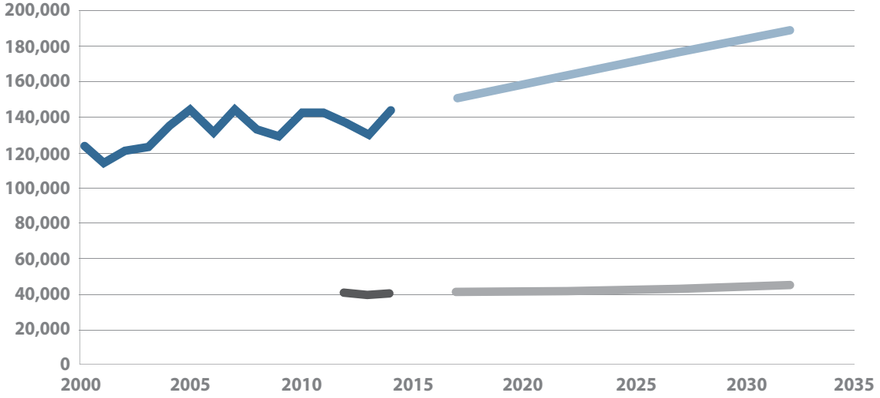
YEAR	ENPLANEMENTS	OPERATIONS: COMMERCIAL AIR CARRIER	OPERATIONS: GENERAL AVIATION	OPERATIONS: MILITARY	OPERATIONS: TOTAL	TOTAL INBOUND AIR CARGO	BASED AIRCRAFT
Historical							
2000	125,659						61
2001	116,113						57
2002	120,938						57
2003	123,871						57
2004	137,066						54
2005	143,800						54
2006	132,543						44
2007	144,160						49
2008	133,777						53
2009	130,527						53
2010	143,531						62
2011	144,054					1,514,771	66
2012	138,488	14,293	25,733	863	40,889	1,445,060	59
Projected							
2017	172,000	13,210	27,352	863	41,425	1,535,123	63
2022	186,137	12,698	29,071	863	42,632	1,575,865	67
2027	201,437	12,046	30,874	863	43,783	1,620,523	71
2032	217,994	12,276	32,776	863	45,914	1,662,695	75
CAGR ('12-'32)	2.29%	-0.76%	1.22%	0.00%	0.58%	0.70%	1.22%

NOTE: *Total Freight in pounds*



NOTE: *Operational counts began in late 2011 when the air traffic control tower opened.*

SOURCE: *Historical Enplanements - FAA ACAIS*
Historical Operations - Air Traffic Activity Data System (ATADS) and Mead & Hunt
Historical Freight - Airport Records
Historical Based Aircraft -2000-2011 FAA Terminal Area Forecast; 2012 FAA 5010 Form Prejections - Mead & Hunt, Inc.

Planning. Development. Approval.

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 the University Park Airport.

At the state level, organizations such as the Pennsylvania Department of Transportation (PennDOT) will prepare state aviation system plans that list airports meeting state air transportation goals and identify 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 state aviation system plans.

WHAT IS THE DEVELOPMENT PROCESS AT AN AIRPORT?

The development process at an airport begins with the airport master plan and the graphical depiction of future development on the ALP. With local, state, and federal approval of the ALP, an airport may begin development of the projects depicted on the ALP. 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 each fiscal year.

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

HOW IS AN AIRPORT MASTER PLAN APPROVED?

An 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. Additional guidance for sustainable airport master plans is provided in a FAA memorandum titled Airport Sustainable Master Plan Pilot Program dated May 27, 2010.

The FAA does not approve airport master plans, but rather "accepts" them, meaning the FAA does not verify 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.

Airport Development Funding Sources

Implementation of the proposed infrastructure improvements is guided by a Capital Improvement Plan (CIP) that establishes a timeline and cost estimate for each project.

CIPs assist with identifying the level of financial, staffing, and scheduling resources needed for each improvement while organizing the timing of the design plans, land acquisition (if needed), and environmental reviews for each project. CIPs also illustrate the capital needs of an airport and guide funding allocation decisions of federal, state, and local officials.

As shown in the table below, federal and state funding sources will primarily be used to finance the proposed infrastructure improvements with federal grant funding coming from the FAA's Airport Improvement Program (AIP). AIP is funded by users of the aviation system from taxes on aviation fuel and commercial airline passenger ticket taxes. The funds collected from these taxes are deposited in a federal aviation trust fund for the purpose of improving the nation's aviation infrastructure. Currently, AIP funds account for 90 percent of eligible projects at airports such as the University Park Airport. The remaining 10 percent of project costs are then divided between state and local funds, typically contributing 5 percent each. Passenger Facility Charges (PFCs), collected from each passenger that boards a commercial airline flight at an airport, are typically used to pay 5 percent of the local cost of AIP eligible projects. PennDOT also offers funding support for non-AIP eligible projects.

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	IMPROVEMENT TIME FRAMES			
FUNDING SOURCES	SHORT-TERM (2015-2019)	MID-TERM (2020-2024)	LONG-TERM (2025-2034)	TOTAL
FAA Entitlement	$10,390,281	$8,515,000	$10,481,000	$29,386,281
FAA Discretionary	$21,064,719	$18,495,000	$16,020,000	$55,579,719
State Funds	$1,747,500	$2,895,000	$4,234,500	$8,877,000
PFC Funds	$1,747,500	$1,445,000	$14,954,500	$18,147,000
Airport Authority	$3,500,000	$2,000,000	$31,200,000	$36,700,000
Other	$0	$1,450,000	$23,000,000	$24,450,000
Total	**$38,450,000**	**$34,800,000**	**$99,890,000**	**$173,140,000**

NOTES: *"Other" includes local funding sources and non-aviation state funding; all costs in 2014 dollars*
SOURCE: *University Park Airport, Mead & Hunt, GAI Consultants*

Facility Needs

RUNWAY 6/24
- Extend runway approximately 800 feet when demand is present.
- Protect for additional runway extension for potential long-range routes.
- Construct 25 foot wide paved shoulders and add blast pads.

TAXIWAYS
- Construct 20 foot wide paved shoulders for Taxiway A.
- Widen connector taxiways between Taxiway A and general aviation apron to meet FAA design standards.
- Improve intersection fillets and taxiway geometry to meet FAA design standards.
- Correct longitudinal grade of Taxiway D to meet FAA design standards.

APRONS
- Construct an additional 93,481 square feet of apron area to meet future aircraft parking demand.

COMMERCIAL AIRLINE TERMINAL
- Expand commercial airline terminal apron and reconfigure boarding gates to accommodate at least six aircraft parking positions for a variety of commercial airline aircraft types that could be used to provide airline service at the airport in the future.
- Install passenger boarding bridges.
- Protect for the future long-term construction of a new commercial airline terminal building.

TERMINAL VEHICLE PARKING
- Provide additional long-term, short-term, rental car, and employee vehicle parking.

LANDSIDE ACCESS
- Protect for future direct access to Interstate 99 / U.S. Route 322.

GENERAL AVIATION TERMINAL BUILDING
- Provide additional areas for administrative staff and support functions.

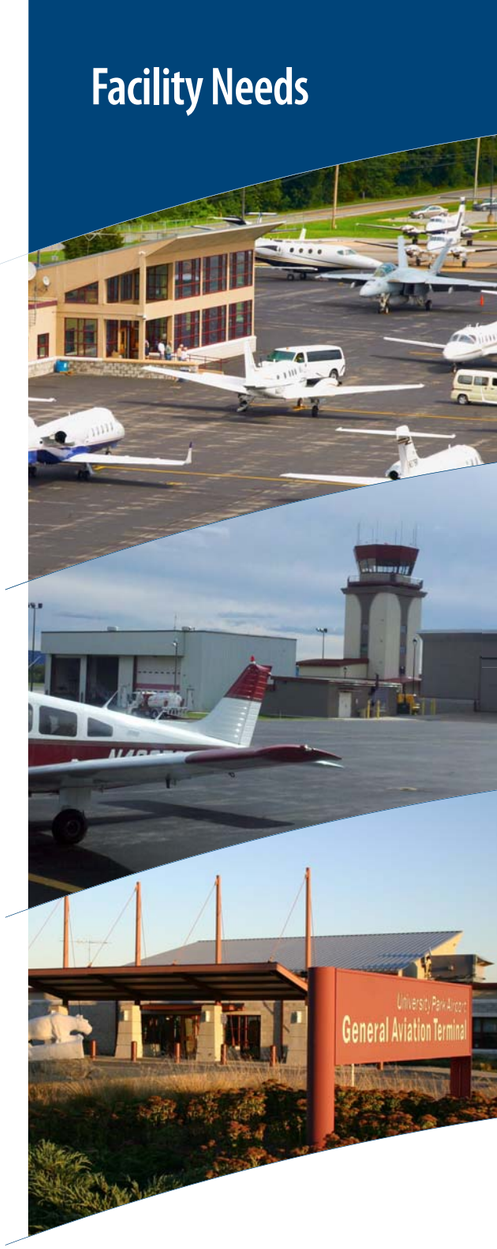
HANGARS
- Construct additional box-style and T-style hangars when needed.

AIRCRAFT RESCUE / FIREFIGHTING (ARFF) FACILITY
- A new ARFF facility is needed for larger, next generation fire trucks that will need to be purchased in the future.

SNOW REMOVAL EQUIPMENT (SRE) BUILDING
- Additional storage space and maintenance space is needed, including wider doors, for existing and next generation snow removal equipment that will need to be purchased in the future.

AIR CARGO FACILITY
- Additional apron space is needed at the air cargo apron to support air cargo activities at the airport.

AIRCRAFT FUEL STORAGE FACILITY
- Space should be protected for an expansion or relocation of the existing airport fuel storage facility to provide additional fuel storage capacity.



INSET "A"

Proposed Air Cargo Facilities

Public & Rental Car Ready Parking

Rental Car Storage Parking

Air Carrier Apron Expansion

New Concourse

Public & Employee Parking

New Terminal

Ultimate Commercial Airline Terminal Layout

Site for Consolidated ARFF/SRE Facility

T-Hangar Expansion Area

Relocated Fox Hill Road

Retain as Perimeter Road

Planned Apron Rehabilitation and Airside Improvements to Meet ARC Design Standards

Future Land Acquisition

Terminal Parking Expansion

Future Land Acquisition

INSET "A"

Expand Apron Area (27,000 sq. ft.)

Airport Boundary

Relocated MALSR

25' Runway & 20' Parallel Taxiway Shoulder

Future On-Airport Perimeter Road

1,500' Runway Extension

Relocated MALSR

Relocated Rock Road

Commercial Aeronautical Development

Airport Boundary

Future Land Acquisition

Future Runway Protection Zone

I-99 Connector

Runway Safety Area Expansion

Future Land Acquisition

Relocated Route of Minute Man Road

Future Runway Protection Zone

NORTH

Future Removal

Existing Stormwater Management

Future Stormwater Management (As Needed)

Conceptual Development Plan

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