

System Plan

EXECUTIVE SUMMARY





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OVERVIEW

Aviation in Illinois is multifaceted, supporting everything from freight and cargo shipping to tourism, agriculture, emergency response, military operations, and sustainability efforts. Proper long-range planning of the aviation system is essential for the success and viability of Illinois — whose public-use aviation system boasts 85 airports, including some of the busiest facilities on the globe. Illinois' aviation system also covers a wide geographic area encompassing world-renown metropolitan areas such as the greater Chicagoland region to the more rural southern regions of the state.

The Illinois Department of Transportation (IDOT) initiated the Illinois Aviation System Plan (IASP) to examine current and future aviation system needs and to provide justification for continued development of Illinois' aviation system. This Executive Summary highlights the findings from the IASP. It should be noted that a companion piece, the Illinois Aviation Economic Impact Analysis (EIA), was conducted in tandem and highlights of the findings are included in a standalone EIA Executive Summary.

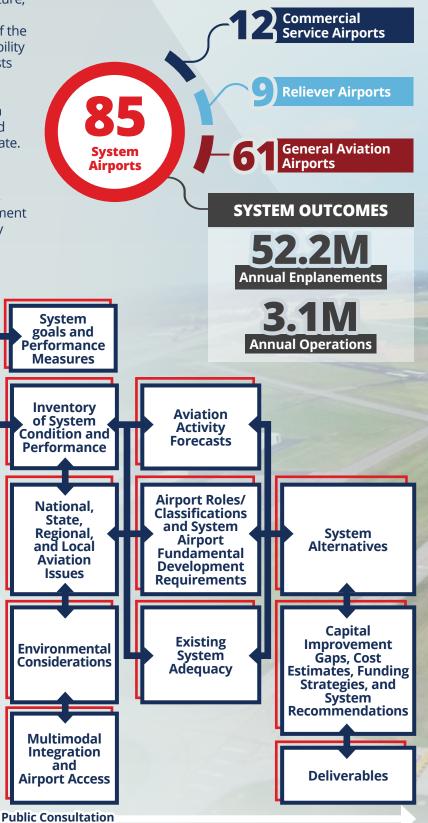
STUDY PURPOSE AND PROCESS

System plans are used to guide policy decisions and educate those involved in the aviation system at the local, state, and federal levels. The IASP provides IDOT with the necessary information to plan effectively and efficiently for the state's airport system. The IASP also provides a framework for achieving fiscally responsible development of the state's airport facilities over the next 20 years.

The IASP process is semi-linear and includes several interrelated tasks such as the development of system goals and performance measures, evaluation of existing condition and future system performance, identification of airport roles and classifications, assessment of aviation activity forecasts, among others.

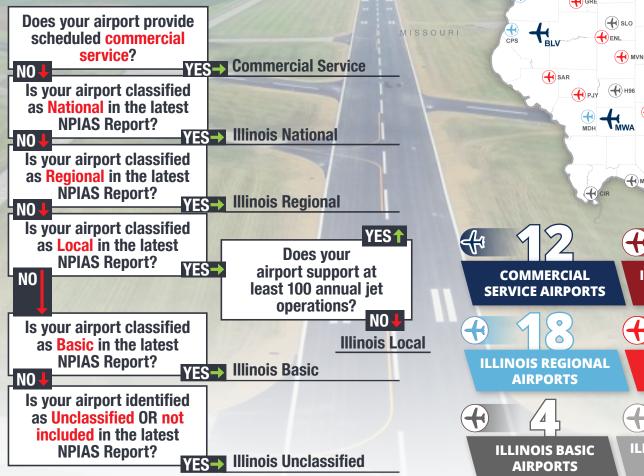
A Technical Advisory Committee (TAC) was formed to guide the development of the IASP. The selected members of the TAC represent unique and diverse organizations who collectively provide local, regional, statewide, and national insight on various issues affecting the Illinois aviation system. The graphic to the right details the overall study process.





AIRPORT **CLASSIFICATIONS**

Illinois' aviation system is made up of 85 public-use airports that range in size, type of facility, and categories of services offered to their users. All airports provide a benefit to their local communities, regions, and to the state of Illinois. It is beneficial to have airports of a variety of sizes that serve numerous functions. State aviation system plans typically define airport classifications that are tailored to the specific needs of the state, which may differ from federal classification systems. IDOT has classified all airports in the system according to the different functions and purposes they serve within the system. Airports that serve similar functions are grouped together into classifications for further analysis and, ultimately, policy decisions. IDOT considered several criteria for classifying airports, including current federal classification as well as the number of jet operations before determining the most appropriate criteria. Below is an overview of this IDOTspecific airport classification system.



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ILLINOIS UNCLASSIFIED

AIRPORTS

IASP GOALS AND PERFORMANCE MEASURES

The IASP goals are the foundation of the aviation system planning process as they provide direction for desired results, serve as a starting point for developing performance-related metrics, and provide a framework for IASP recommendations. The IASP goals were developed to align with the five goals of the Illinois Long Range Transportation Plan (LRTP) of Economy, Livability, Mobility, Resiliency, and Stewardship. Aligning the IASP goals with the LRTP goals promotes the FAA's desired emphasis on one larger, intermodal system and follows a goal structure that parallels IDOT Aeronautics' 20-year vision of the aviation system in a monitorable and measurable way.

Performance Measures (PMs) and Performance Indicators (PIs) were developed in conjunction with the IASP goals. PMs were established to directly measure the system's performance in meeting the five goals. PMs are quantitative assessments of goals that are actionable and can be implemented as focused funding efforts by IDOT. PIs are informational in nature and are not intended to be influenced by policy or funding decisions made by IDOT. The future system performance evaluation consists of a statewide examination and a breakdown of airports by airport classification by goal for PMs only. PIs are not accompanied by a future performance target. Identifying the future system adequacy by airport classification and on a statewide level supports informed decision-making about resource allocation to ensure state transportation goals are met in an efficient manner.

Goal 1: Economy

Goal	Performance Measures	Performance Indicators	
	Percent of airports that have completed master plan/ALP in the last 10 years (2010 or newer)	Percent of airports with current airside farm plots	
	Percent of airports with primary runway approaches negatively impacted by obstructions	Percent of airports with the potential for runway/extension projects – including land already purchased (500+ aircraft operations that exceed Runway Design Code [RDC]/Airport Reference Code [ARC], crosswind runway, and length/width)	
Economy - Improve Illinois' economy by providing transportation	Percent of airports meeting FAA taxiway geometry standards including direct access taxiways	Percent of airports providing flight training	
infrastructure that supports the efficient movement of people	Percent of airports that meet FAA Runway Safety Area (RSA) standards	Percent of airports with aging facilities (terminal buildings, hangars, etc.) as defined by the FAA	
and goods	Percent of population within a 30-minute drive of an airport with weather reporting capabilities	Percent of airports that have Americans with Disabilities Act (ADA)-compliant terminal buildings	
		Percent of airports that experience aerial agricultural application operations	
		Percent of airports that experience air ambulance operations	
		Percent of airports that experience governmer operations (wildlife, prisons, military, survey/fis hatchery/ etc.) or law enforcement operations	

Goal 2: Livability

Goal	Performance Measures	Performance Indicators		
Livability - Enhance the quality of life across the state by ensuring that	Percent of airports that have adopted appropriate height/land use controls	Percent of airports included in local/ regional comprehensive plans		
	Percent of airports that have fully controlled RPZs (fee simple or avigation easement)	Percent of airports properly developing solar and farming initiatives		
transportation investments advance local goals, provide multimodal options, and	Percent of airports with an adopted wildlife management plan			
preserve the environment	Percent of airports with up-to-date drainage analysis and stormwater pollution plans			

Goal 3: Mobility

Goal	Performance Measures	Performance Indicators			
	Percent of population within a 30-minute drive time of a system airport meeting business user needs (5,000' runway, Jet-A, Instrument Approach Procedure [IAP], ground transportation)	Percent of population within a 30-minute drive time of a system airport			
	Percent of system airports that have courtesy cars available	Percent of population within a 30-minute drive time of a NPIAS airport			
Mobility - Support all	Percent of airports with 24-hour fuel facilities	Percent of population within a 60-minute drive time of a commercial service airport			
modes of transportation to improve accessibility and safety by improving	Percent of airports with 10,000 or greater gallon fuel storage	Percent of system airports that have renta cars available			
connections		Percent of system airports that are served by public transit			
	Percent of airports that have steel, underground storage tanks	Percent of airports at or exceeding 60K lbs. primary runway pavement strength			
		Percent of airports with a grooved primary runway			
		Percent of airports with a formal process to manage UAS operations			

Goal 4: Resiliency

	Goal 4: Resilien	су	
	Goal	Performance Measures	Performance Indicators
	Resiliency - Proactively	Percent of airports that have adopted and maintain an emergency response plan	
	assess, plan, and invest in the state's transportation system to ensure that our infrastructure is prepared to sustain and recover from extreme events and other disruptions	Percent of airports with emergency response equipment or mutual aid agreement including in-kind with sponsor	Dercent of airports with certified
		Percent of airports with dedicated Snow Removal Equipment (SRE), a storage building for the SRE, or mutual aid agreement – including in-kind from sponsor for snow removal	Percent of airports with certified tornado shelters
		Percent of airports with up-to-date spill prevention plans	

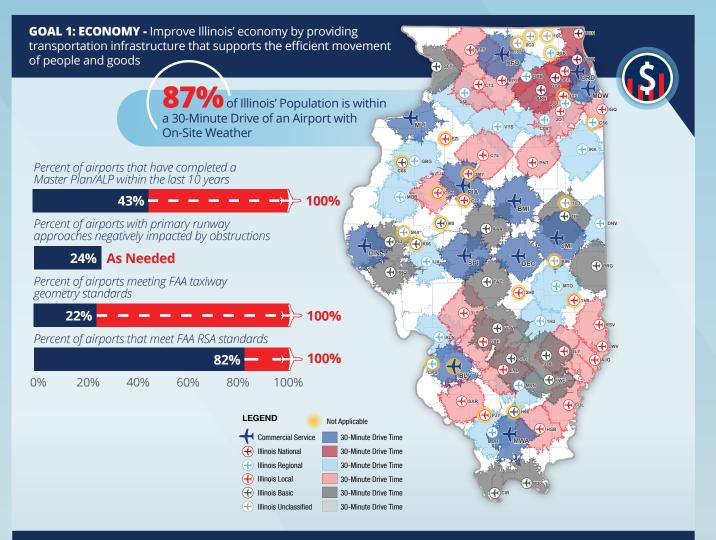
Goal 5: Stewardship

Goal		Performance Measures	Performance Indicators
Stewardship - Safeguard existing		Percent of airports with a primary runway PCI of 70 or greater	Percent of system airports with expansion/ development potential (land availability and utility connections)
funding and increase revenues to support	Percent of airports with a primary taxiway PCI of 70 or greater	Percent of airports with documentable hangar needs of defined styles (T-hangar vs. corporate/box)	
moc	em maintenance, dernization, and tegic growth of Illinois'	Percent of airports with strategic plans or business plans	Percent of airports meeting minimum facility and
transportation sy	sportation system	Percent of airports with current rules, regulations, and minimum standards	service objectives

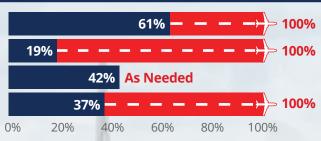
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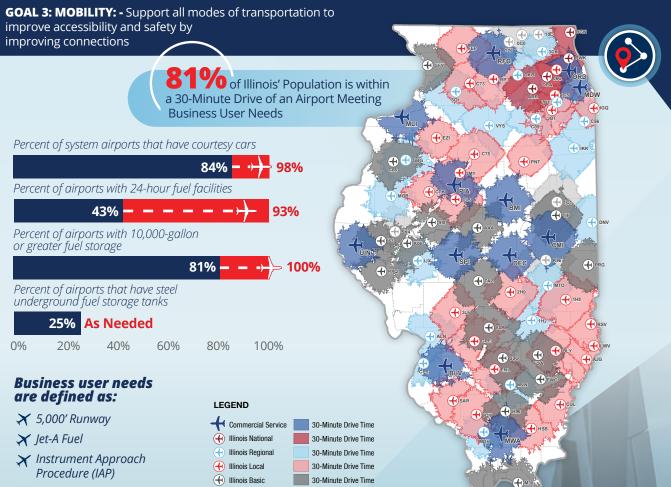
EXISTING SYSTEM PERFORMANCE AND FUTURE TARGETS



GOAL 2: LIVABILITY - Enhance the quality of life across the state by ensuring that transportation investments advance local goals, provide multimodal options, and preserve the environment



Percent of airports with land use controls Percent of airports that have fully controlled RPZs Percent of airports with an adopted wildlife management plan Percent of airports with up-to-date drainage analysis and stormwater pollution plans



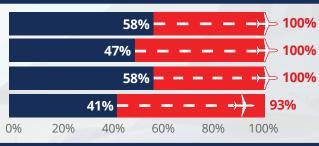
30-Minute Drive Time

X Ground Transportation

GOAL 4: RESILIENCY - Proactively assess, plan, and invest in the state's transportation system to ensure that our infrastructure is prepared to sustain and recover from extreme events and other disruptions

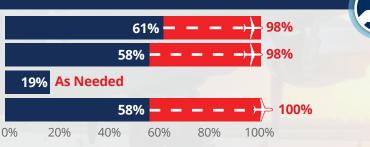
HIIInois Unclassified

Percent of airports that have adopted and maintain an emergency response plan Percent of airports with emergency response equipment or mutual aid agreement Percent of airports with dedicated SRE, a storage building for the SRE, or mutual aid agreement Percent of airports with up-to-date spill prevention plans



GOAL 5: STEWARDSHIP - Safeguard existing funding and increase revenues to support system maintenance, modernization, and strategic growth of Illinois' transportation system

Percent of airports with a primary runway PCI of 70 or greater Percent of airports with a primary taxiway PCI of 70 or greater Percent of airports with strategic or business plans Percent of airports with current rules, regulations, and minimum standards

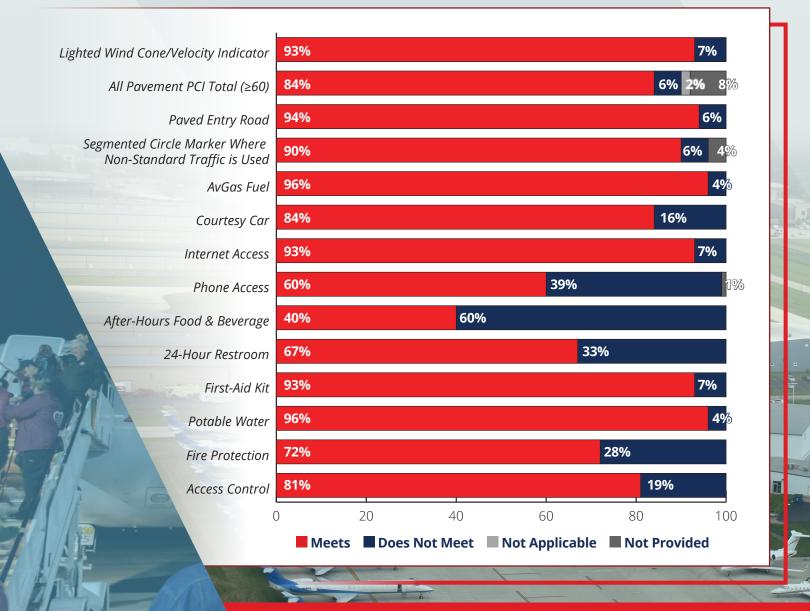


FACILITY AND SERVICE OBJECTIVES AND SYSTEMWIDE MINIMUMS

Facility and Service Objectives (FSOs) for airports were also developed as part of the IASP. Similar to PMs, FSOs provide quantitative measures for evaluating system adequacy and also result in IASP recommendations. FSOs identify the recommended facilities and services that each airport should offer to effectively perform its role in the Illinois system. A set of FSOs were developed for each airport classification and they offer specific guidance on how airports can improve their abilities to support users and enhance the statewide aviation system. The FSOs are not a requirement or guarantee of funding to achieve these goals, but rather a tool for each airport to focus on where there are potential deficiencies in their facilities or services.

In conjunction with FSOs, a set of systemwide recommended minimum objectives for all airports, regardless of state classification, was also developed. These objectives represent the recommended minimum level of airfield facilities, landside facilities, and airport services needed at **ALL** airports to maintain a safe and efficient aviation system that meets a variety of user needs.

Systemwide Minimum Objectives and Existing Performance



Facility and Service Objectives by Airport Classification

	Airport Classification						
	Objective Category	Commercial Service	Illinois National	Illinois Regional	Illinois Local	Illinois Basic	lllinois Unclassified
A	ARC	C-III	C-II	A/B-II	A/B-II Small Aircraft	A-I/B-I	A/B-I Small Aircraft
	Primary Runway ength	7,000 ft.	6,000 ft.	5,000 ft.	5,000 ft.	Maintain Existing	Maintain Existing
V	Primary Runway Vidth	150 ft.	100 ft.	75 ft.	75 ft.	60 ft.	60 ft.
	Primary Runway Surface	Paved	Paved	Paved	Paved	Paved	Maintain Existing
	ikid Treatment Groove/PFC)	Yes	Yes	Yes	Yes	No	No
Т	axiway	Full Parallel	Full Parallel	Full Parallel	Full Parallel	Partial Parallel	Maintain Existing
R	Runway Markings	Precision	Precision	Precision	Non-Precision	Basic	Maintain Existing
A	Approach	Precision	Precision	Precision	Non-Precision	Maintain Existing	Maintain Existing
	Approach Lighting System (ALS)	Yes	Yes	Yes	No	No	No
<mark>.</mark> ● R	Rotating Beacon	Yes	Yes	Yes	Yes	Yes	No
Airfield	/isual Glide Slope ndicator (VGSI)	Yes	Yes	Yes	Yes	Yes	No
lo	Runway End dentifier Lights REILs)	Yes	Yes	Yes	Yes	Yes	No
R	Runway Lighting	Yes	Yes	Yes	Yes	Yes	No
R	Veather Reporting (ASOS/ AWOS)	Yes	Yes	Yes	Yes	No	No
T	axiway Lighting	Yes	Yes	Yes	Yes	Yes	No
	Covered Aircraft Storage	Hangars for 80% of based aircraft fleet and at least 25% available capacity for transient aircraft	Hangars for 60% of based aircraft fleet and at least 50% available capacity for transient aircraft	Hangars for 60% of based aircraft fleet and at least 50% available capacity for transient aircraft	Hangars for 60% of based aircraft fleet and at least 50% available capacity for transient aircraft	Hangars for 40% of based aircraft fleet and at least 25% available capacity for transient aircraft	Maintain Existing
Facilities	Terminal (GA)	Per ALP	Acceptable ratio of GA terminal square footage to peak hour passengers	Acceptable ratio of GA terminal square footage to peak hour passengers	Acceptable ratio of GA terminal square footage to peak hour passengers	500 sq. ft.	Maintain Existing
de E	SRE	Yes	Yes	Yes	Through mutual aid agreement	Through mutual aid agreement	Through mutual aid agreement
	Dedicated Maintenance/SRE Storage Building	Yes	Yes	Yes	Yes - if SRE available No - if SRE unavailable	Yes - if SRE available No - if SRE unavailable	Yes - if SRE available No - if SRE unavailable
Ŭ.	24-Hour Fuel Service (AvGas or let-A)	Yes	Yes	Yes	Yes	Yes	No
No.	et-A Fuel	Yes	Yes	Yes	Yes	No	No
ort	Aircraft Deicing	Yes	Yes	No	No	No	No
Airp	Pilot Area/Flight Planning Area	Yes	Yes	Yes	Yes	Yes	No



FORECASTS

Forecast analyses are a crucial element of aviation system planning as they provide insight into future aviation demand and how this demand will impact the system. Forecasts are developed using indicators such as enplanements, operations, and based aircraft at commercial service and general aviation airports in the IASP. Forecast indicators are used to gauge future demand and to identify strengths and potential weaknesses within the Illinois aviation system that could come from this shift in future performance, capacity, and demand. For the IASP, forecasts were conducted for the next 20 years to 2039. Based on IDOT approved methodologies, the following projections are anticipated for Illinois' aviation system.



CASE STUDIES

Illinois airports contribute and support their local communities, regions, the state, and even the nation in a variety of meaningful ways. Illinois airports serve as gateways for out-of-state visitors and cargo travel to and throughout the state, support military and emergency response operations, and promote sustainability and environmental stewardship. The IASP identified the numerous ways Illinois airports play a key role in the state.

SUPPORTING THE GROWTH OF E-COMMERCE IN THE MIDWEST

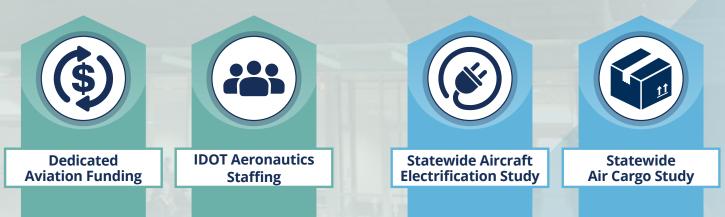
Online retail sales have grown steadily over the past decade, and the upward trend has been amplified in 2020 and 2021 by the COVID-19 pandemic. Illinois airports are well-positioned to support the growing online retail sales industry and play a significant role in the nationwide surge in online retail sales and e-commerce.

An example of one Illinois airport that currently supports the rapidly growing e-commerce industry is RFD. Located approximately 90 miles northwest of Chicago, Chicago-Rockford International Airport (RFD) has become major hub for e-commerce. Airport officials report a 300 percent increase in cargo volumes from 2015- 2020. Most recently, RFD experienced a 15 percent increase in air cargo volumes between 2019 and 2020, a change largely attributed to COVID-19 and the proliferation of e-commerce. RFD has two of the state's largest cargo and shipping tenants, United Parcel Service (UPS) and Prime Air, and handles 35 to 40 flights from air cargo tenants every 24 hours. RFD is UPS's second largest hub in North America and has been since 1994.



POLICY AND FOLLOW-ON STUDY CONSIDERATIONS

Various follow-on studies and policies were considered for future implementation to provide direction to IDOT Aeronautics for preserving and enhancing Illinois' aviation system. These considerations address identified system inadequacies, as well as provide support to the current aviation system, through funding and procedural mechanisms at the state and IDOT office level. The policy considerations identified as part of the IASP provide a framework for maintenance and future growth. These considerations are based on current IDOT policies, as well as on current peer state policies and procedures. These considerations are also in response to the aviation issues identified in the IASP that have high potentials to impact the state's aviation system over the 20-year planning horizon. To name a few, policy considerations included dedicated aviation funding and IDOT Aeronautics staffing. Additionally, some follow-on studies include statewide aircraft electrification and air cargo studies.



PROVIDING NATIONAL SUPPORT DURING NATURAL DISASTERS

Peoria International Airport (PIA) is a base for natural disaster relief efforts throughout the United States as the Army National Guard Second Battalion, 238th General Support Aviation is based at the airport. The Second Battalion is an aviation unit that stands at the ready to rapidly support a range of natural disaster relief efforts, from wildfires to post-hurricane relief. In August 2020, the Second Battalion traveled to Mather, California to support wildfire relief efforts and provide essential aid during one of California's largest wildfires in history. The Battalion's support consisted of rapidly transporting equipment and personnel to firefighting locations and deploying water on the fire from above.

ILLINOIS AIRPORTS LEADING THE WAY IN SUSTAINABILITY

Sustainability practices and initiatives are not uncommon undertakings at O'Hare (ORD) and Midway (MDW), Chicago's two busiest commercial airports managed by the City of Chicago Department of Aviation (CDA). Over the past two decades, CDA has been tremendously proactive in developing initiatives and goals to maintain a sustainable environment at both airports. These sustainability efforts include a green roof initiative and the use of green vehicles. There is approximately 529,000 square feet of vegetated green roofs currently installed at ORD. Vegetated green roofs prolong roofs' lifespans, reduce energy costs, reduce stormwater runoff, and improve air quality at airports. In addition to green roofs, the CDA has installed electric vehicle charging stations at ORD and MDW in support of Chicago's goal to reduce greenhouse gas emissions.

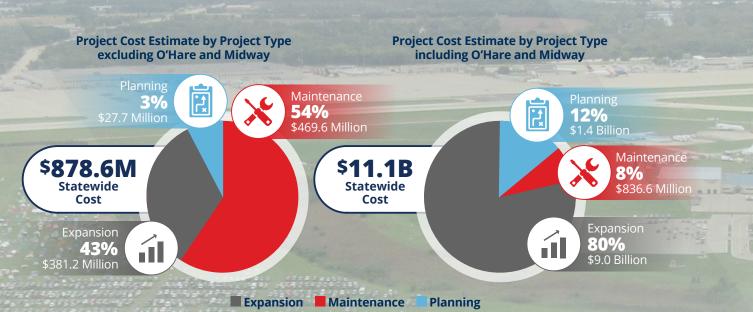






COST ESTIMATES

Systemwide cost estimates for Illinois are based on performance measures (PMs), facility and service objectives (FSO), and systemwide minimums. Projects were developed for airports with identified deficiencies needed to maintain or expand to continue to meet system performance goals and objectives and meet future performance targets. Systemwide, the cost of these projects is estimated to be \$11.1 billion in needed planning, maintenance, and expansion projects. Planning and environmental projects are those needed to develop planning documents and procedures at current system airports. Maintenance projects are those needed to maintain the existing aviation system. Expansion projects are those needed for new infrastructure at current system airports.



MULTIMODAL INTEGRATION AND AIRPORT ACCESS

Illinois' airports are vital components of the state's larger transportation system as they enable the safe and efficient movement of people and goods from one location to another. Most airport users, however, don't originate or terminate their movements at an airport. Airport users utilize additional transportation modes to reach their intended destination. Airports must provide the means for passengers and goods to be transported between the airport and final destinations to be effective for all users. An analysis of IASP airport's integration into the state's larger transportation system was conducted as part of the IASP. The following aspects of multimodal integration were evaluated: roadway connectivity, multimodal integration, and freight connectivity.

Roadways provide Illinois' residents, visitors, and truck freight operators connections to airports from surrounding points of interest. Illinois has a roadway network made up of 15,907 miles of U.S. highways, Illinois interstates, and state route roadways. Within the network there are a total of 18 different interstates that provide access (direct and indirect) to IASP airports.

Multimodal connections are also needed to support the safe and efficient movement of people and goods to and from Illinois' system airports. Multimodal transportation options at Illinois airports include rental cars, courtesy cars, taxi services, shared mobility (i.e., rideshare or transportation network companies), public transit, and shuttle services. The availability and connectivity of these multimodal options were evaluated at Illinois airports. Systemwide, 80 airports provide connections to multimodal options.



(Interstate, U.S. Highway,



LAND USE EVALUATION AND ENVIRONMENTAL CONSIDERATIONS

Airport operations and development are driven not only by aviation-related activities occurring on-

property, but also by the land uses and natural features within an airport's environs. These contextual elements can affect an airport's expansion potential, the flight procedures that govern how aircraft land at and take off from the facility, the type and extent of economic activity supported by the airport, and numerous other facets of ongoing airport operations and improvements. Land uses and environmental conditions adjacent to and near airports can have complex relationships with airport activities, and decisions that are made off-airport can have severe consequences for an airport and its users. It is important for airport managers and sponsors to understand local land use conditions and the potential impacts those conditions can have on aviation operations. State and Federal policies, regulations, and requirements.

APPROACH OBSTRUCTIONS

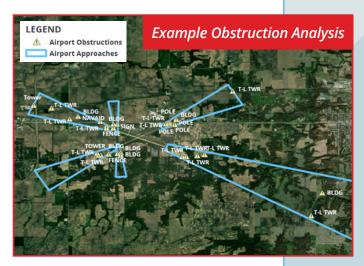
Obstructions are defined by the FAA as "all fixed (temporary or permanent) and mobile objects or parts thereof that are located on an area intended for the surface movement of aircraft or that extend above a defined surface intended to protect aircraft in flight". An obstruction analysis was conducted for IASP system airports using data collected from the obstacle assessment surfaces and existing geographic information system (GIS) information to identify the presence of man-made obstructions within each approach surface.

INCOMPATIBLE LAND USES

Runway Protection Zones (RPZs) are imaginary trapezoidal areas located at the end of each runway. RPZs are designed to protect people and property on the ground near runways. The IASP evaluated incompatible land uses within all of the RPZs of Illinois' system airports.

ENVIRONMENTAL CONSIDERATIONS

Airports are impacted not only by their on-property activities and actions but also by their surrounding environments. The IASP conducted a high-level evaluation of environmental features to better understand their potential impacts on Illinois airports. This evaluation focused on Illinois airports' Runway Safety Areas (RSAs) and a larger buffer area surrounding the RSAs. RSAs are rectangular areas surrounding the runway that are designed to protect the safety of aircraft that undershoot, overrun, or veer off the runway, as well as provide access to emergency crews in the case of such incidents.









EXECUTIVE SUMMARY

AVIATION ISSUES

The aviation industry is constantly evolving to keep pace with advances in technology; economic conditions; local, state, and federal regulatory requirements; traveler behavior trends; and other factors inherent to and external from the airport environment. Within this context, airports and sponsors are responsible for maintaining safe and secure aviation facilities that meet user demands. Fiscal resources are often constrained and can vary year-to-year based on how policymakers allocate and prioritize available dollars. Understanding the key issues facing Illinois' airport system—both today and expected in the years ahead—is a critical task when assessing the system's current and anticipated future demands.





ACKNOWLEDGMENTS

The Illinois Aviation System Plan (IASP) was made possible by the continued leadership, support, and participation from the Technical Advisory Committee (TAC) and various members of the Illinois Department of Transportation (IDOT).

Special Thanks To:

Technical Advisory Committee (TAC) Members who represented the following organizations:

- Federal Aviation Administration (FAA)
- Illinois Public Airports Association (IPAA)
- Southern Illinois Airport (MDH)
- Decatur Airport (DEC)
- Southern Illinois University (SIU) Carbondale
- Illinois Aviation Trades Association (IATA)
- Illinois Chamber of Commerce
- Illinois Agricultural Aviation Association (IAAA)
- Chicago Metropolitan Agency for Planning (CMAP)
- Chicago Area Business Aviation Association (CABAA)
- Illinois Association of Air and Critical Care Transport (IAACCT)

- United Airlines
- Chicago Department of Aviation (ORD MDW)
- Quad City International Airport (MLI)
- Illinois American Council of Engineering Companies (ACEC)
- Schuy-Rush Airport (5K4)
- Association for Unmanned Vehicle Systems International (AUVSI)
- DuPage Airport (DPA)
- Aircraft Owners and Pilots Association (AOPA)
- Region 1 Planning Council

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ILLINOIS AVIATION SYSTEM PLAN



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