

TASP Policy & Investigation

Recommendations

Introduction

To allow for the implementation of the Tennessee Aviation System Plan (TASP), this chapter provides direction and recommendations to the Tennessee Department of Transportation (TDOT) Aeronautics Division for preserving and enhancing Tennessee's aviation system. The TASP is the state's long-range plan and guidance document that is used as a tool to inform decision making related to the planning, development, and funding of Tennessee's aviation system. The aviation system is a critical component of the State's larger transportation and infrastructure system, and the continued enhancement and preservation of the system is essential. The policy recommendations developed as part of the TASP provide the TDOT Aeronautics Division with a framework for maintaining and enhancing the State's aviation system. It should be noted that the information provided in this chapter is based on publicly available information found on state Departments of Transportation (DOT) and state legislation websites. There may be additional policy, procedure, and program information pertaining to state DOTs that is not readily and publicly available.

Chapter 1: System Goals and Performance Measures provided an introduction and overview of the TASP, as well as established the study's Goals and Performance Measures (PMs), which guide the implementation of the study. Chapter 2: Inventory and Existing System Performance analyzed the performance of Tennessee's aviation system through an evaluation of the TASP's Goals, PMs, and System Indicators (SIs), as well as providing the results of the study's inventory effort. Chapter 3: Forecast of Activity and Identify System Needs provided a forecast for the future of Tennessee's based aircraft and operations and how the system's needs may be impacted by this forecast.

The next three Chapters provided supplemental information and added further context for Tennessee's aviation system: Chapter 4: Explore Aviation Issues, Chapter 5: Review of Environmental Considerations, and Chapter 6: Review of Intermodal Integration and Airport Access. Chapter 7: Airport Classifications and NPIAS Evaluation established the TASP's airport classifications, which are used for evaluating existing and future system performance, facility and service objectives, and cost estimates. Chapter 8: Future System Performance analyzed the performance of Tennessee's aviation system through the future performance targets of the TASP's PMs. Airports that do not meet future performance targets have recommended projects in order to achieve these targets. Chapter 9: Analysis of System Alternatives provided a series of alternative scenarios to theorize how Tennessee's aviation system may need to adapt in order to continue providing safe and efficient service. Chapter 10: System-Wide Cost Estimate and Implementation Plan assessed the recommended projects from Chapter 8 and the assessment of the airport report cards to determine cost estimates on an airport-by-airport basis.

This chapter begins with a review of existing aviation-related statutes, rules and regulations, and policies found in Tennessee's Administrative Code (formally *Tennessee Code Annotated*), Rules and Regulations, and TDOT Aeronautics Division Policies and Procedures, respectively. Additionally, this chapter provides an overview of aviation and aeronautics statutes, regulations,

policies, and programs in place in other states for the purpose of identifying opportunities for the TDOT Aeronautics Division to enhance programs based on best practices and state-specific needs. This chapter is presented in the following sections:

- ◆ Aviation in Tennessee’s Legal Landscape
- ◆ Peer State Review and Comparison
- ◆ Recommended Policies for Consideration

Aviation in Tennessee’s Legal Landscape

Aviation in Tennessee spans a wide range of activities and supports numerous industries within the state’s economy. Aviation activities include commercial passenger service, transporting cargo, agricultural aerial spraying, military operation, and recreational flying, among other activities. Tennessee’s airports and their broader aviation- and aeronautics-related industries are governed by laws, rules, policies, and procedures at the federal, state, and local levels. At the federal level, the U.S. Department of Transportation’s (DOT) Federal Aviation Administration (FAA) regulates the development of airports and aircraft ownership. At the state and local (airport) levels, items such as airport land use and zoning, environmental issues, and airport access are governed and regulated. In addition to providing general support for Tennessee’s airports, the TDOT Aeronautics Division guides airport development and planning in Tennessee through the development of long-range plans for aviation, such as the TASP. The TASP goals were developed to establish performance measures for the evaluation of the current and future conditions at Tennessee’s airports. The goals developed for the TASP include the following:

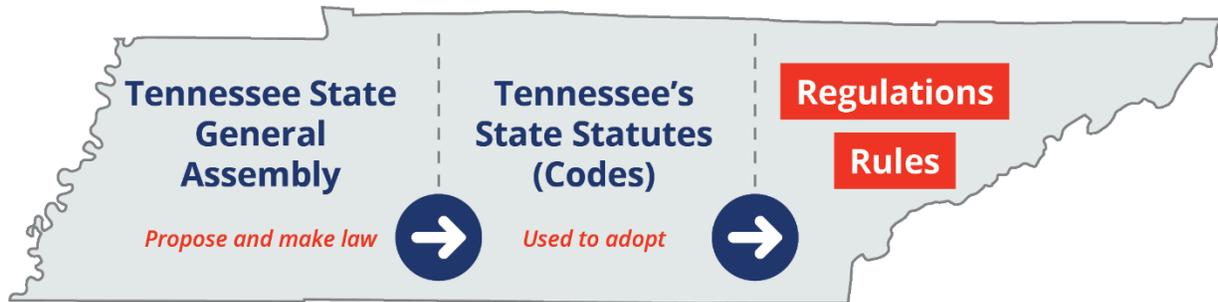
- ◆ **Goal 1:** Protect and preserve existing airport infrastructure by prioritizing airport system needs.
- ◆ **Goal 2:** Provide an airport system with available and cost-efficient transportation options for moving people and freight.
- ◆ **Goal 3:** Improve the safety and security of airport system users.
- ◆ **Goal 4:** Maximize federal, state, and local resources to meet the airport system needs and minimize environmental impacts.
- ◆ **Goal 5:** Invest in the airport system and the aviation workforce to support economic growth and competitiveness.

The recommended policies offered in this chapter provide considerations for changes, updates, and improvements to accomplish the TASP goals and continue the enhancement of Tennessee’s aviation system.

TENNESSEE ADMINISTRATIVE CODE / STATE STATUTES

Tennessee legislature steers the development of the state’s aviation system through adopted state statutes, rules, and regulations that dictate the TDOT Aeronautics Division’s departmental policies. Tennessee’s Code Annotated is a compilation of all of Tennessee’s state laws and statutes. Tennessee’s state statutes, known as Codes, are proposed and made law by the Tennessee State General Assembly, the legislative arm of Tennessee’s state government system. Once established as Code, statutes are used to adopt related Rules and Regulations. Both the established laws of the State Code and adopted Rules and Regulations carry the force of law and may be used in the regulation of a profession, such as aviation and aeronautics.

Figure 1: Development of Regulations and Rules



Source: Kimley-Horn, 2021

The Tennessee Code Annotated contains 71 Titles ranging from elections, civil procedures, guardianship, property, and transportation, among a wide range of other topics. Specific to aviation, *Title 42 Aeronautics* guides aviation development and operation in the state of Tennessee. Title 42 contains eight chapters, each with multiple parts and sections, that cover aspects of aviation development and operation related to aircraft operations, taxation, airport zoning, funding, and joint operations. It should be noted that for this analysis only Chapters 1 through 6 were reviewed and evaluated. **Table 1** lists all Chapters and subsections (or parts) relevant to aviation in Tennessee.

Table 1: Title 42 of the Tennessee Code Annotated

Title 42 Aeronautics	
Chapter 1 – General Provisions	
Part 1 – General Regulations	
42-1-101.	Part Definitions
42-1-102.	Sovereignty in space above lands and waters
42-1-103.	Ownership in space above land and waters is in surface owners beneath
42-1-104.	Air flights lawful – Exceptions – Forced landing – Liability for damages
42-1-105.	Liability of owner, pilot, or lessee of aircraft for damages — Prima facie ownership
42-1-106.	Rules of law of jurisdiction determining liability of owners.
42-1-107.	Laws of this state govern as to wrongs and damages.
42-1-108.	Contracts and other relations made while in flight.
42-1-109.	Dropping objects in flight — Penalty.
42-1-110.	Intentionally killing or attempting to kill birds or animals — Penalty.
42-1-111.	Damaging or extinguishing beacons — Penalty.
42-1-112.	Uniformity of state laws — Harmony with federal requirements.
42-1-113.	Aircraft sales and purchases — Reports.
Part 2 – Unlawful Operation of Aircraft	
42-2-201.	Operating or acting as crewmember of aircraft following alcohol or drug use — Penalty.
42-2-202.	Reckless operation of aircraft unlawful — Definitions.
42-2-203.	Testing of persons arrested for violating § 42-1-201.
42-2-204.	Penalty for violating other provisions.
42-2-205.	Clerk to send copy of conviction to department of transportation.
42-2-206.	Department to advise federal officials of conviction.
42-2-207.	Armed forces and air shows excepted.
42-2-208.	Reports of arrests under § 42-1-201 or § 42-1-203.

Title 42 Aeronautics	
Part 3 – Helicopter Touring	
42-3-301.	Part definitions.
42-3-302.	Commercial helicopter touring — Permissible locations.
42-3-303.	Penalty.
Chapter 2 – State Administration	
Part 1 – General Provisions	
42-2-101.	Chapter Definitions
42-2-102.	Purpose of chapter
42-2-103.	Public purpose of activities — Immunity.
42-2-104.	Federal airman and aircraft certificates.
42-2-105.	Violation of chapter, regulations, or orders — Penalty.
42-2-106.	Parachute jumps.
42-2-107.	License, tax, or payment for use of publicly owned public use airports by certain aircraft prohibited — Exception — Exemption.
Part 2 – Department of Transportation	
42-2-201.	Administration of chapter.
42-2-202.	Office and expenses of department.
42-2-203.	Municipal airports.
42-2-204.	State airports.
42-2-205.	Operation and use of state airports and facilities.
42-2-206.	State airways.
42-2-207.	Contracts by department of transportation.
42-2-208.	Exclusive rights not to be granted — Effect of section.
42-2-209.	Rules, regulations, and standards of department.
42-2-210.	Licensing of air schools and aeronautics instructors.
42-2-211.	Licensing of airports.
42-2-212.	Investigations — Hearings.
42-2-213.	Federal-state joint hearings — Reciprocal services — Accident reporting.
42-2-214.	Use of state and municipal facilities and services.
42-2-215.	Enforcement of aeronautics laws.
42-2-216.	Orders — Notice and opportunity for hearings — Judicial review.
42-2-217.	Exchange of violations information.
42-2-218.	Funds expendable for promotion of aeronautics.
42-2-219.	Certificates of public convenience and necessity — Granting — Fees.
42-2-220.	Cooperation with federal agencies.
42-2-221.	Air schools — Establishment and maintenance.
42-2-222.	Audits of municipalities receiving state aid — Withholding aid where funds improperly used.
42-2-223.	Department as agent for municipalities and airport authorities in receiving certain federal funds — Exceptions.
42-2-224.	Procedure, rules, and regulations governing department — Statutes governing procedure before Tennessee public utility commission applicable.
42-2-225.	Reporter — Official record — Transcripts.
42-2-226.	Proceedings before hearing examiners.
42-2-227.	Structures — Regulations governing — Permits — Authority of department.
Part 3 – Tennessee Aeronautics Commission	
42-2-301.	Creation.
Chapter 3 – Airport Authorities	
Part 1 – General Provisions	
42-3-101.	Short title.

Title 42 Aeronautics	
42-3-102.	Chapter definitions.
42-3-103.	Creation of municipal airport authority — Dissolution of municipal airport authority.
42-3-104.	Creation of regional airport authority — Changes as to municipalities served.
42-3-105.	Certificate of incorporation of regional airport authority.
42-3-106.	Proof of existence of authority.
42-3-107.	Commissioners.
42-3-108.	General powers — Motor vehicle traffic regulations.
42-3-109.	Eminent domain.
42-3-110.	Disposal of airport property.
42-3-111.	Bonds and other obligations.
42-3-112.	Operation and use privileges.
42-3-113.	Regulations — Scope — Conformity with state and federal law.
42-3-114.	Federal and state aid.
42-3-115.	Public purposes.
42-3-116.	Status of airport authorities — Property and revenues exempt from taxation.
42-3-117.	Authority of municipal corporations.
42-3-118.	Supplementary authority.
42-3-119.	Municipal zoning authority unaffected.
42-3-120.	Written agreement between peer-to-peer car sharing program and airport. [Effective on February 1, 2021.]
Part 2 – Joint Operations	
42-3-201.	Joint operations authorized.
42-3-202.	Agreement as to joint operation.
42-3-203.	Joint board.
42-3-204.	Limitations on joint board.
42-3-205.	Joint fund.
Chapter 4 – Metropolitan Airport Authorities	
42-4-101.	Short title.
42-4-102.	Declaration of purpose and necessity — Exemption from taxation.
42-4-103.	Chapter definitions.
42-4-104.	Creation of a metropolitan airport authority.
42-4-105.	Governing body.
42-4-106.	Officers.
42-4-107.	General powers.
42-4-108.	Eminent domain.
42-4-109.	Bonds.
42-4-110.	Civil service.
42-4-111.	Certain powers of municipal corporations.
42-4-112.	Municipal zoning authority unaffected.
42-4-113.	Dissolution — Disposition of property.
42-4-114.	Supplemental nature of chapter.
42-4-115.	Construction — Chapter controlling.
42-4-116.	Taxation.
42-4-117.	Noise compatibility program — Noise abatement study.
Chapter 5 – County and Municipal Airports	
Part 1 – General Provisions	
42-5-101.	Short title.
42-5-102.	Chapter definitions.
42-5-103.	Establishment of airports and air navigation facilities — Operation — Land acquisition.

Title 42 Aeronautics	
42-5-104.	Acquisition of existing airports.
42-5-105.	Establishment of airports on public waters and reclaimed lands.
42-5-106.	Limitation on design and operation of air navigation facilities.
42-5-107.	Public purpose of airports.
42-5-108.	Eminent domain.
42-5-109.	Disposal of airport property.
42-5-110.	Operation and use privileges.
42-5-111.	Liens.
42-5-112.	Delegation of authority to airport officer or board.
42-5-113.	Regulations and jurisdiction — Scope — Conformity to federal and state law.
42-5-114.	Appropriations and taxation.
42-5-115.	Bond issues — Notes — Financing acquisition costs and improvements.
42-5-116.	Validation of prior acquisitions, actions, and bond issues.
42-5-117.	Bond issues ratified and validated — Bonding power supplemental.
42-5-118.	Application of airport revenues and sale proceeds.
42-5-119.	Federal and state aid.
42-5-120.	Contracts.
42-5-121.	Mutual aid.
42-5-122.	Public purpose — County and municipal purpose.
42-5-123.	Airport property and income exempt from taxation.
42-5-124.	Supplementary authority.
42-5-125.	Airport zoning authority unaffected.
42-5-126.	Interpretation and construction.
Part 2 – Joint Operations	
42-5-201.	Joint operations authorized.
42-5-202.	Agreement as to joint operation.
42-5-203.	Joint board.
42-5-204.	Limitations on joint board.
42-5-205.	Joint fund.
Chapter 6 – Airport Zoning	
42-6-101.	Chapter definitions.
42-6-102.	Control of airport hazards is a public purpose.
42-6-103.	Airport zoning regulations for airport hazard area — Adoption — Enforcement.
42-6-104.	Relation to other zoning ordinances — Resolution of conflicts.
42-6-105.	Certification of zoning plan.
42-6-106.	Hearing on zoning ordinance — Notice — Approval or disapproval.
42-6-107.	Amendments to ordinance — Procedure.
42-6-108.	Board of appeals — Creation — Members — Term — Duties and jurisdiction.
42-6-109.	Parties to appeals — Powers of appeal board.
42-6-110.	Enforcement of ordinance — Remedies.
42-6-111.	Airport zoning regulations to be reasonable.
42-6-112.	Restriction on zoning regulations.
42-6-113.	Acquisition of air rights.
42-6-114.	Regulations and standards controlling over other laws.
42-6-115.	Zoning under special acts.
42-6-116.	Incompatible use prohibited — Airport noise compatibility plan not required.

Source: Tennessee Code Annotated

Under Title 42 there are specific chapters and sections most relevant to the TDOT Aeronautics Division and the TASP. For example, Chapter 2, State Administration, outlines the powers and

duties imposed on the state agency (TDOT and TDOT Aeronautics Division, specifically) for the purpose of providing the protection and promotion of safety in aeronautics, assist in the development of a statewide airport system, assist municipalities and others engaged in aeronautics, and to encourage and develop aeronautics in Tennessee. Chapter 6, Airport Zoning, governs airport zoning regulations and regulations related to airport hazard areas.

RULES AND REGULATIONS

In Tennessee, Rules and Regulations are placed into effect based upon adopted Codes. There are currently 121 sections of Rules in place in Tennessee, each with various sections and subsections. Rules under *Section - 1680 Transportation* are the Rules of the Tennessee Department of Transportation. Of specific relevance to the TDOT Aeronautics Division is *Chapter 1680-01 Aeronautics Division*. The rules under *1680-01 Aeronautics Division* cover the supervision and control of common air carriers, as well as the licensing and registration of airports. **Table 2** lists the specific rules found under *1680-01 Aeronautics Division*.

Table 2: Rules of the Tennessee Department of Transportation Aeronautics Division

1680 - Rules of the Tennessee Department of Transportation	
1680-01 Aeronautics Division	
1680-01-01 Supervision and Control of Common Carriers by Air	
1680-01-01-01	Certificate of Convenience and Necessity
1680-01-01-02	Tariffs
1680-01-01-03	Passenger Time Schedules
1680-01-01-04	Insurance
1680-01-01-05	Equipment and Safety Requirements
1680-01-01-06	Reporting Accidents
1680-01-01-07	Accounts and Reports
1680-01-01-08	General Provisions
1680-01-01-09	Bodily Injury and Property Damage Liability-Certificate of Insurance
1680-01-01-10	Bodily Injury and Property Damage Liability Surety Bond
1680-01-01-11	Air Carrier-Cargo Certificate of Insurance
1680-01-01-12	Air Carrier Cargo Surety Bond
1680-01-01-13	Notice of Cancellation of Air Carrier Insurance Policies
1680-01-01-14	Notice of Application for Air Carrier Certificate of Convenience and Necessity
1680-01-01-15	Application to Tennessee Bureau of Aeronautics for Air Carrier Certificate of Convenience and Necessity
1680-01-02 Licensing and Registration of Airports	
1680-01-02-01	Purpose
1680-01-02-02	Definitions
1680-01-02-03	Airport Site Approval
1680-01-02-04	Public Airport Licenses
1680-01-02-05	Minimum Airport Standards
1680-01-02-06	Repealed
1680-01-02-07	Airport Markings
1680-01-02-08	Exemptions
1680-01-02-09	Exhibits

Source: Tennessee Secretary of State, Effective Rules and Regulations

1680-01 Aeronautics Division contains multiple subchapters and subsections that further detail the conduct identified by the rules within *Section - 1680 Transportation*. For example, *Chapter 1680-01-02 Licensing and Registration of Airports* governs the licensing and registration of

airports, which in Tennessee is conducted through the TDOT Aeronautics Division. Additionally, *Chapter 1680-01-02-.05 Minimum Airport Standards* governs the minimum airport standards in Tennessee. Minimum airport standards covered by *Chapter 1680-01-02-.05 Minimum Airport Standards* include dimensions for Runway Safety Areas (RSA), runways, slopes, and gradients at various types of airports and aviation facilities.

TENNESSEE AERONAUTICS DIVISION POLICIES, PROCEDURES, AND PROGRAMS

The TDOT Aeronautics Division’s mission is to “provide Tennessee with a quality, integrated aviation system that is safe, efficient, economical and sensitive to environmental concerns, serves the needs of local communities; and, provides state government with safe, professional, courteous flight services in an efficient, comfortable manner.” The TDOT Aeronautics Division has specific departmental policies, procedures, and programs in place in order to support, promote, and deliver services that encourage and enhance a sustainable, efficient, and safe air transportation system in Tennessee in accordance with State Codes, State Rules and Regulations, and Federal policy.

Table 3 provides a summary of the specific TDOT Aeronautics Division policies, procedures, and programs reviewed as applicable to this Chapter. The policies, procedures, and programs reviewed were selected in coordination with the TDOT Aeronautics Division and based on readily available information.

Table 3: TDOT Aeronautics Division Policies, Procedures, and Programs Reviewed for this Analysis

TDOT Aeronautics Division Policy and Procedure	Summary Description	Legal Authority
TDOT Aeronautics Division – Policies Reviewed		
Policy 170-02: Direction of the Tennessee Aeronautics Commission	Establishes guidelines for rendering financial assistance to Tennessee airports under State and Federal funding programs	Tennessee Code - Title 4, Chapter 3, Part 23 Tennessee Code – Title 42, Chapter 2, Part 2
Policy 170-03: Small Unmanned Aerial Systems (small UAS)	Establishes standards to govern the operation of small UAS on behalf of the TDOT in accordance with FAA standards	Tennessee Code - Title 4, Chapter 3, Part 23 Tennessee Code – Title 39, Chapter 13, Part 9 Tennessee Code – Title 42, Chapter 2, Part 2
TDOT Aeronautics Division – Procedures Reviewed		
Environmental Standard Operating Procedure	Provides guidance to ensure the completion and approval of the proper level of environmental documentation for all State and Federally-funded projects	FAA Order 1050.1 FAA Order 5050.4 FAA Order 5100.38 National Environmental Policy Act (NEPA) State Block Grant Program MOA

TDOT Aeronautics Division Policy and Procedure	Summary Description	Legal Authority
TDOT Aeronautics Division – Programs Reviewed		
Pavement Maintenance / Preservation Program	Program for the annual review and funding of pavement maintenance/preservation at general aviation airports	Tennessee Code – Title 42, Chapter 2, Part 2
Airport Maintenance Program	Program for the annual review and funding of annual maintenance at general aviation airports	Tennessee Code – Title 42, Chapter 2, Part 2
Education and Outreach Program	Program for the purpose of increasing public awareness and knowledge of aviation-related fields throughout Tennessee	Tennessee Code – Title 42, Chapter 2, Part 2
Automated Weather Observation System (AWOS) Program	Program that utilizes a computerized system to collect aviation-specific weather parameters every 20 minutes. The systems are designed to promote pilot safety and provide on-site weather information at general aviation airports.	Tennessee Code – Title 42, Chapter 2, Part 2
TDOT Aeronautics Division – Other Documentation Reviewed		
Alternate Aviation Fuel Tax Bill	Tennessee Code Annotated amendment for Section 67-6-217 with new language on aviation fuel taxes	Tennessee Code – Title 67, Chapter 6, Part 2

Source: Tennessee Department of Transportation – Aeronautics Division

Note: This table is not an exhaustive list of every TDOT Aeronautics Division internal program, policy, and procedure.

Following the review of the TDOT Aeronautics Division policies, procedures, and programs, focus areas were established to frame the comparison of peer states’ aviation legislation and aeronautics/aviation-specific programs. Focus areas were developed concurrently with the peer state review and were developed based on readily-available information on policies and procedures of the peer states’ departments or divisions responsible for aviation and airport administrations (hereafter referred to as peer state DOTs). The focus areas are discussed, along with the peer state analysis, in the following section.

Peer State Review and Comparison

This section documents the comparison of peer state aviation legislation and aviation-specific programs with those from Tennessee. Several factors were considered when determining “peer states” for comparison on a legislative and departmental level. These factors included

geographic location, similarities in aviation systems (number of total airports and NPIAS classifications), and similarities in funding structures, including an assessment of other FAA State Block Grant Program (SBGP) states. Initial review of state legislation and aviation programs were used to narrow down to a list of ten states which had the potential to provide insight into how Tennessee and the TDOT Aeronautics Division could make improvements to their aviation-related laws, processes, and procedures. States ultimately selected for the peer state comparison include:

- ◆ Arizona
- ◆ Arkansas
- ◆ Colorado
- ◆ Georgia
- ◆ Indiana
- ◆ Kentucky
- ◆ Montana
- ◆ Nebraska
- ◆ North Carolina
- ◆ Pennsylvania

It should be noted that of the peer states reviewed, there is a mix of states that participate and do not participate in the SBGP. As shown in **Table 4**, three of the ten peer states reviewed participate in the SBGP. Since only nine other states besides Tennessee participate in the SBGP, this represents 33 percent of the total participating states, a considerable comparison for the purposes of this Chapter. Per the FAA, states that participate in the SBGP assume responsibility for administering Airport Improvement Program (AIP) grants at Nonprimary commercial service and general aviation airports. Participation in the SBGP affects the funding structure in Tennessee in a way that is not comparable to the funding structures of non-SBGP states. This may affect applicable policies throughout the focus areas, most notably as it relates to state and federal funding.

Table 4: State Block Grant Program Participation

State	State Block Funding Program
Tennessee	Yes
Arizona	No
Arkansas	No
Colorado	No
Georgia	Yes
Indiana	No
Kentucky	No
Montana	No
Nebraska	No
North Carolina	Yes
Pennsylvania	Yes

Source: Federal Aviation Administration (FAA)

As noted previously, the peer states were compared based on policy, procedure, and program focus areas. Preliminary focus areas were developed concurrently to the review of the ten peer states' legislation and aviation specific-programs and were finalized after a comprehensive review of the peer states. The focus areas include:

- ◆ Funding Programs
- ◆ Land Use and Zoning
- ◆ Minimum Airport Standards
- ◆ Project Priority Process
- ◆ Safety Through Airport Inspections
- ◆ State Aviation Programs
- ◆ Unmanned Aerial Systems (UAS)

A high-level summary of the peer state comparison is documented in **Table 5**. A checkmark in the table indicates that, based on readily available data and information, a peer state DOT has a policy or program related to a focus area. Detailed peer state comparisons by focus area, including recommendations based on this comparison, are presented in the following subsections.

Table 5: Peer State Comparison Summary by Focus Area

Focus Area	TN	AZ	AR	CO	GA	IN	KY	MT	NE	NC	PA
Funding Programs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Land Use and Zoning	✓	✓					✓	✓	✓	✓	✓
Minimum Airport Standards	✓				✓	✓	✓		✓		✓
Project Priority Process	✓	✓	✓	✓	✓	✓		✓		✓	✓
Safety Through Airport Inspections	✓		✓		✓	✓	✓	✓			✓
State Aviation Programs	✓			✓		✓				✓	
UAS	✓	✓			✓		✓		✓	✓	✓

Source: Kimley-Horn, 2021

A summary of the recommendations based on the peer state review, organized by focus area, follows. It should be noted that no specific recommendations are made for the Land Use and Zoning and Minimum Airport Standards focus areas due to governance by state legislature.

Funding Programs (4)

- ◆ Implement an interest-bearing loan program for airport-related construction projects at publicly-owned airports.
- ◆ Implement a Fuel Storage Loan Program for the development of fuel storage to support the growth of Tennessee’s aviation system and the implementation of the TASP facility and service objectives.
- ◆ Implement a Hangar Loan Program for the development of hangars to support the growth of Tennessee’s aviation system and the implementation of the TASP facility and service objectives.

- ◆ Explore the feasibility of modeling economic and fiscal impacts for the Aeronautics Economic Development Fund.

Project Priority Process (2)

- ◆ Evaluate the feasibility of implementing a point ranking system for project prioritization based on existing state priorities or a reevaluation of priorities based on system needs.
- ◆ Evaluate the inclusion of features from the TASP, including impact on an airport's performance in a PM or Facility and Service Objective, to the prioritization process or a potential point ranking system.

Safety Through Airport Inspections (1)

- ◆ Implement a pilot's eye-view inspection in addition to the current ground-level inspection components.

State Aviation Programs (6)

- ◆ Implement a TDOT Aeronautics Division-managed Sustainability Program for enhanced sustainability at TASP airports.
- ◆ Implement an aircraft counting program to forecast and support future TASP facilities and projects.
- ◆ Explore the need for and the feasibility of implementing a Turf Runway Marking Program to support safety at both public- and private-use airports.
- ◆ Implement a drone program similar to that of North Carolina's UAS Integration Pilot Program for expanding the use of UAS in support of TDOT Aeronautics Division goals and airport operations within the state.
- ◆ Implement a Wildlife Hazard Management Program to assist airports with meeting their federal grant assurances relating to the safe operating conditions.
- ◆ Explore the need for and the feasibility of implementing a Windsock Program to support safety at both public-use airports.

UAS (1)

- ◆ Establish UAS policy on age and testing requirements for commercial UAS operators in Tennessee.

FUNDING PROGRAMS

Funding programs for airport development can be administered through loans, both interest-bearing and non-interest bearing, and through grants. Typically, funding programs are developed for the maintenance and improvement of airports in states' publicly-owned airport systems. The eligibility of projects and criteria for the selection and receipt of funds for airport development projects varies across the peer states.

The number and types of funding programs vary across peer states. Funding programs are used as mechanisms for funding the development of airports through projects that enhance operations, safety, and capacity. In some states, funding is limited to non-revenue-generating projects, while in other states, such as Nebraska, there are specific funding programs for revenue-generating projects (i.e. fuel storage and hangar development). Most of the peer state funding programs are utilized to match state and federal contributions on state- and federally-funded aviation projects. A high-level summary of the various funding programs found in the peer states is presented in [Table 6](#).

Based on the peer state review of funding programs, it is recommended that the TDOT Aeronautics Division considers the following:

- ◆ Implement an interest-bearing loan program for airport-related construction projects at publicly-owned airports.
- ◆ Implement a Fuel Storage Loan Program for the development of fuel storage to support the growth of Tennessee's aviation system and the implementation of the TASP facility and service objectives.
- ◆ Implement a Hangar Loan Program for the development of hangars to support the growth of Tennessee's aviation system and the implementation of the TASP facility and service objectives.
- ◆ Explore the feasibility of modeling economic and fiscal impacts for the Aeronautics Economic Development Fund.

Table 6: Funding Programs Comparison Summary

State	Funding Programs	Suggestions for TDOT Aeronautics Division
Tennessee	<p>Airport Grounds Maintenance Equipment Grant Program: A state-funded program designed to assist public-use airport operators for the upkeep and preservation of airport grounds, roads and other physical airport infrastructure. The program is intended to assist airports with offsetting the high cost of grounds maintenance equipment acquisitions required to maintain the airport facility in a condition adequate to support safe and efficient airport operations. The equipment eligible for funding under the program includes grounds maintenance equipment required by the airport for planned, preventative, and routine grounds maintenance necessary to provide a safe, well-ordered, and secure airport environment. Additionally, the state and TDOT stipulates that grounds maintenance equipment acquired through the program be primarily garaged and solely utilized on the airport.</p> <p>Aeronautics Economic Development Fund: A reimbursable grant program. To be eligible for the grant, applicants must be: local government or its funded economic development organization; airport authority or comparable entity/commission; a subdivision of state government; or a partnership/collaboration of these entities. Two project categories are considered: Capital Improvement Programs and Non-Capital Improvement Program(s)/Activity Projects. Additionally, the program requires a minimum 10 percent local participation of total requested funds. Eligible projects undergo a review of the following criteria: Aerospace and related programs and activities, employment and capital investment, and community need and support.</p> <p>Airport Improvement Program Grant: Participation for General Aviation Airports: Participation rates for Federal Airport Improvement Program (AIP) grants will be a maximum of 90 percent federal funding. The Tennessee Aeronautics Commission may recommend a split in the remaining ten percent of funding at five percent by the State and five percent by local funding sources. The Tennessee Aeronautics Commission may recommend that the State participate up to 95 percent on eligible projects.</p> <p>Participation for Commercial Service Airports: Participation rates for Federal grants will be at a maximum of 90 percent federal funding. The Tennessee Aeronautics Commission may recommend a split in the remaining ten percent of funding at five percent by the State and five percent by local funding sources. The Tennessee Aeronautics Commission may recommend that the State participate up to 95 percent on eligible projects.</p>	N/A
	<p>Airport Development Grants (State and Local): To achieve State system goals and provide funding for projects of local, regional, or State significance, including projects that may not otherwise be funded or eligible under the FAA, the State Transportation Board may fund an eligible project's costs up to a</p>	<p>Airport Development Grant (State and Local): N/A - TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p>

State	Funding Programs	Suggestions for TDOT Aeronautics Division
<p>Arizona</p>	<p>maximum of 90 percent of eligible costs at Commercial Service, Reliever, General Aviation (GA) - Community and GA - Rural airports and 95 percent at GA - Basic airports.</p> <p>Airport Development Loan Program: An interest-bearing loan available for publicly-owned airports for airport-related construction projects. The program is designed to be a flexible funding mechanism to assist eligible airport sponsors in improving the economic status of their respective airports. Typical airport-related construction projects include runways, taxiways, aircraft parking ramps, aircraft storage facilities, (hangars), fueling facilities, general aviation terminal buildings or pilot lounges, utility services (power, water, sewer, etc.) to the airport runway or taxiway lighting, approach aids (electronic or visual), ramp lighting, airport fencing, airport drainage, land acquisition, planning studies, and under certain conditions, the preparation of plans and specifications for airport construction projects. In addition, projects not eligible for funding under other programs and which are designed to improve the airport self-sufficiency will also be considered.</p> <p><i>(ADOT – Airport Development Grants [1], Airport Development Loan Program [2])</i></p>	<p>Airport Development Loan Program: Consider the implementation of an interest-bearing loan program for airport-related construction projects at publicly-owned airports.</p>
<p>Arkansas</p>	<p>State Airport Aid: Utilizes funds from a special revenue account derived from the sales tax paid on aircraft, aviation fuel, aviation-related products, parts, and labor. All 90 publicly-owned/public-use airports are eligible for funding on a reimbursable, matching basis. The funding matches vary as follows:</p> <ul style="list-style-type: none"> • Federal Airport Improvement Plan 90/10 percent match - available to airports approved for Federal funding by FAA (Federal Grant Number Required). Limit of ten percent of total project cost not to exceed \$250,000. Limit of one grant made per FAA grant, cash match required as per Federal guidelines. • State Airport Aid Grant (SAAG) 50/50 percent match for State Funds - available to all qualified general aviation or commercial service airports. State share not to exceed \$200,000, and a cash or in-kind match is required. • SAAG 80/20 percent match for State Funds - available to all qualified general aviation or commercial service airports, State share not to exceed \$250,000, and a cash or in-kind match is required. • SAAG 90/10 percent match for State Funds - available to all qualified general aviation or commercial service airports. State share not to exceed \$150,000, and a cash or in-kind match is required. <p><i>(Arkansas Department of Aeronautics - State Airport Aid)</i></p>	<p>State Airport Aid: N/A - TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p>

State	Funding Programs	Suggestions for TDOT Aeronautics Division
<p>Colorado</p>	<p>Colorado Discretionary Aviation Grant Program (CDAG): Matching funds are allocated for airports around the state that receive federal funding for their capital improvement projects.</p> <ul style="list-style-type: none"> • This is typically up to a ten percent match of the total project cost • CDAG funding typically results in a federally funded project with allocations of 90 percent Federal, five percent State, and five percent Local. <p>The Division can assist airport sponsors with their local match requirement by providing the airport grant funding as follows:</p> <ul style="list-style-type: none"> • 50 percent of the local match requirement up to a cap of \$250,000 per fiscal year per airport. • \$250,000 cap does not apply to federal entitlement dollars that airports might save for several years and then receive in a single year. <p>State and local funding is also allocated for projects, or a portion of projects, that are not funded through a federal grant.</p> <ul style="list-style-type: none"> • Funding requires a local match component to support the state funding requested. • State and local projects have a typical split of 90 percent state/ten percent local funding • The aeronautical board has the discretion to approve funding with a lessor local contribution, if extenuating circumstances exist <p>Aviation Education Grants: Aimed at supporting Science, Technology, Engineering, Aviation/Aerospace, and Math (STEAM) education opportunities and geared specifically towards education efforts related to aviation and aerospace. Subject to annual Division revenue forecasts and other statewide projects and priorities, the aeronautical board may allocate up to ten percent of each year's available Colorado Discretionary Aviation Grant Program funding to the Education Grant Program, not to exceed \$500,000 annually, unless modified by the aeronautical board. (CDOT Aeronautics – Discretionary Aviation Grant Program [1], Aviation Education Grants [2])</p>	<p>Colorado Discretionary Aviation Grant Program (CDAG): N/A – TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p> <p>Aviation Education Grants: N/A - TDOT has a grant for the <i>Aviation Outreach and Education Program</i></p>
<p>Georgia</p>	<p>Airport Operational Improvement Program: Provides up to 75 percent of State funding assistance for the construction of maintenance and operational safety airport projects. Eligible airports are owners of open-to-the-public airports. Projects are selected on a first-come-first served basis unless demand exceeds available funding. In such cases, projects are prioritized by the state for selection.</p>	<p>Airport Operational Improvement Program: N/A - TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p>

State	Funding Programs	Suggestions for TDOT Aeronautics Division
<p>Indiana</p>	<p>Airport Development Fund Grant Program: An Indiana airport, except Indianapolis International Airport, that receives an FAA airport grant is eligible for a Federal Matching Grant equal to five percent of eligible costs or at the applicable rate in effect at time of grant issuance.</p> <p>Public-use airports that are in the state Aviation System Plan are eligible for a State/Local grant up to a maximum of 50 percent of a project’s eligible costs. This program shall make available a method for enhancing a local community’s economic development by helping provide the desired corporate services for modern business aircraft necessary to attract new local commerce opportunities. (INDOT - Airport Development Fund Grant Programs)</p>	<p>Airport Development Fund Grant Program: N/A – TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p>
<p>Kentucky</p>	<p>Aviation Economic Development Fund: Funded from the Aviation Fuel Tax and is used for airport, terminal, and runway improvements. This fund supports a portion of local shares of federal grants. (Kentucky Department of Aviation - Aviation Economic Development Fund)</p>	<p>Aviation Economic Development Fund: N/A – TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p>
<p>Montana</p>	<p>Airport Loan and Grant Program: Grants can be used to cover up to 100 percent of an airport’s share of federally-funded (NPIAS) airport project costs of non-federally funded projects. Loans can be used to fund up to 100 percent of an airport’s share of any airport project. Grants are primarily funded by a 4.5 cent gallon tax on general aviation fuel. (MDT Aeronautics Division - Airport Loan and Grant Program)</p>	<p>Airport Loan and Grant Program: Consider the implementation of an interest-bearing loan program for airport projects at publicly-owned, public-use airports.</p>
<p>Nebraska</p>	<p>State Aid Program: State grants typically reimburse eligible project expenses at the following percentages:</p> <ul style="list-style-type: none"> • Up to 90 percent for a state/non-federal project • 50 percent for a state project acquiring land or terminal buildings • Two percent state funds on federally funded projects with total cost greater than \$500,000 <p>Fuel Storage Loan Program: Helps municipalities install, improve or increase their fuel storage. Assistance is available through a revolving fund which provides no-interest loans. While various lease agreements, even long term, are made with private individuals or firms, the ownership of fueling facilities must remain in the hands of the public, to manage as a public asset for the community. The Division of Aeronautics will loan 70 percent of eligible costs. The maximum loan amount an airport can receive is \$50,000 and is inclusive of all outstanding loans at an airport under the Fuel Storage Loan Program. The</p>	<p>State Aid Program: N/A – TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p> <p>Fuel Storage Loan Program: Consider the implementation of Fuel Storage Loan Program for the development of fuel storage to support the growth of Tennessee’s</p>

State	Funding Programs	Suggestions for TDOT Aeronautics Division
	<p>repayment period will be 10 years except that the period may be shortened to satisfy the minimum monthly payment.</p> <p>Hangar Loan Program: Offers a zero-interest loan to assist municipalities who wish to increase or improve the available hangar space at their public-use airports. Assistance is provided through a no interest loan. This program is intended to aid and foster aviation interests and activities throughout the state. For the benefit of the community, hangars should be owned by the public body that owns and operates the airport.</p> <ul style="list-style-type: none"> • State Share: Aeronautics will loan 70 percent of the eligible costs for new construction and 50 percent of the eligible costs for existing hangar rehabilitation and/or door replacement, up to the amount approved by the Commission. Maximum: \$600,000 per airport. The balance of previous agreements plus the new amount can't exceed \$600,000. • Repayment Period: The repayment is based on the total of all loans outstanding under the program. This includes the new program loan amount requested plus the balance on any previous program loans at the time of request. <p><i>(NDOT Aeronautics - State and Federal Programs)</i></p>	<p>aviation system and the implementation of the TASP facility and service objectives.</p> <p>Hangar Loan Program: Consider the implementation of a Hangar Loan Program for the development of hangars to support the growth of Tennessee's aviation system and the implementation of the TASP facility and service objectives.</p>
North Carolina	<p>N.C. Airport Economic Development Funding Program: A performance-based economic development grant program that considers both economic and fiscal impacts. Economic impact modeling techniques are applied to data collected from affected business(es) to model the estimated income, employment and net effect on revenue to the state's General Fund that will result from projects that apply for funding. That analysis helps identify and support projects that benefit the community and state. Publicly owned and operated airports identified as general aviation at the date of application may apply for grant funding. Eligible projects must result in business expansion, relocation or other improvements that result in net job growth for the state. Grant funds must be used in a timely manner to help businesses expand their operations or relocate to North Carolina. Project can include any combination of landside and airside projects.</p> <p>State Airport Aid Program: Funds both Safety/Regulatory/Operations projects and capital development projects. Regulatory projects include projects such as improving the condition of various pavements and the replacement of equipment, such as lights or navigational aids. Capital development projects expand the airport for the purpose of increasing capacity and/or alleviating congestion.</p>	<p>N.C. Airport Economic Development Funding Program: Explore the feasibility of modeling economic and fiscal impacts for the <i>Aeronautics Economic Development Fund</i></p> <p>State Airport Aid Program: N/A – TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p>

State	Funding Programs	Suggestions for TDOT Aeronautics Division
<p>Pennsylvania</p>	<p>State Aviation Development Program: Established to fund the preservation, upgrading, and development of new airport facilities. The program is funded through the collection of state taxes on jet fuel and reserved for aviation purposes. Usually, the funds pay for up to 75 percent of the total eligible project costs and 50 percent of the non-federal share of federally funded projects.</p>	<p>State Aviation Development Program: N/A – TDOT has a similar program (<i>Airport Improvement Program Grant</i>)</p>

Source: Kimley-Horn, 2021

Funding for NPIAS and Non-NPIAS Airports

In addition to the review and comparison of peer states' funding programs, a review was conducted to determine state policy surrounding funding for non-NPIAS airports. Some states choose to fund both NPIAS and non-NPIAS airports, while other states only fund NPIAS airports; non-NPIAS airports must thus secure funding through local sources only. State policy regarding the funding for non-NPIAS airports impacts the funding available to all airports in the system. States that choose to fund only NPIAS airports are prioritizing often limited funding for their most impactful airports. In Tennessee, funding is provided for NPIAS and non-NPIAS airports. NPIAS airports qualify for federal funding while non-NPIAS airports rely on state funds to support projects and development. For publicly-owned airports, projects that are included in their Airport Capital Improvement Plan (ACIP) are eligible for State funding. State funding for privately-owned airports is only provided for safety projects. To be eligible for State funding, a privately-owned airport must be open to the public. A summary of the peer states' policies, project eligibility requirements, and match requirements for State funding is provided in [Table 7](#).

Table 7: State Funding Policy and Requirements Comparison

State	Overview	Eligible Airports	Matching Requirement	State Funding Source
Tennessee	<p>To receive state funding for projects, publicly owned airports must have projects identified in their ACIPs. To be eligible for State funding, a privately-owned airport must be open to the public and funding is limited to safety related projects. Airports must meet the following criteria to qualify for State funding.</p> <ol style="list-style-type: none"> 1. The airport must hold a valid license from the Tennessee Aeronautics Division. 2. An Airport Capital Improvement Plan (ACIP) containing a list of potential airport projects must be on file with the Tennessee Aeronautics Division and must be updated annually by the specified date (General Aviation Airports only). 3. The airport fuel tax report for the previous quarter must have been properly submitted to the Tennessee Department of Revenue. 4. Project requests must be made by the responsible elected official or representative of the Airport during the approved Tennessee Aeronautics Commission meeting. 5. Projects must be identified on the Airport Capital Improvement Plan (ACIP) and the Airport Layout Plan (ALP) for review and approval by the Tennessee Aeronautics Commission. Projects not listed at the time of the request will be reviewed by the Tennessee Aeronautics Division for eligibility and need on a case by case basis. 6. For privately owned airports, State funds will only be granted to those projects that add to airport safety. The privately owned airport must be open to the public to be eligible for State funds. 	Must be publicly owned, or privately owned and open to the public	Matching requirements vary and include 90/10 and 95/5 percent.	Transportation Equity Fund (TEF)

State	Overview	Eligible Airports	Matching Requirement	State Funding Source
	<i>(TDOT Aeronautics Division - 2019 Policy 170-02 Direction of the Tennessee Aeronautics Commission)</i>			
Arizona	To receive state funding for projects, airports must be publicly owned, open to the public, and owned by a political subdivision of Arizona. The state may fund up to 90 percent of a Commercial Service, Reliever, or GA-Community, GA-Rural airport project and up to 95 percent of a GA-Basic airport project with no federal participation <i>(ADOT – Five-Year Program Guidelines)</i>	Must be publicly owned and open to the public <i>NPIAS eligibility criteria are not readily available.</i>	Matching requirements vary by airport and project type	Flight property tax, aircraft lieu taxes, and aviation fuel taxes
Arkansas	To receive state funding for projects, airports must be publicly owned and open to the public. The matching percent varies depending on project funding sources. NPIAS airports can receive matches of 95 percent/ five percent or 90 percent/ten percent. <i>(Arkansas Department of Aeronautics - State Airport Aid)</i>	Must be publicly owned and open to the public	Matching requirements vary and include 50/50, 80/20, 90/10, and 100 percent.	Division of Aeronautics Fund
Colorado	State funding is limited to airports owned by public agencies or political subdivisions, as well as privately owned airports that are included in the FAA's NPIAS. A typical fund matching split is 90/10 state and local. <i>(CDOT Division of Aeronautics – Programs and Procedures Manual)</i>	Must be publicly owned, or privately owned and included in NPIAS	Match requirements are typically 90/10	Colorado Aviation Fund
Georgia	In order to be eligible for state funding: airports must be included in the Georgia Statewide Aviation System Plan (GSASP); the airport must be publicly owned and opened to the public; all project work must be available for public use; the airport must submit a state application requesting	Must be publicly owned, open to the public, and included in the GSASP	Matching requirements are typically 75/25	Georgia Airport Aid Program funds (appropriated by the Georgia General Assembly)

State	Overview	Eligible Airports	Matching Requirement	State Funding Source
	<p>funding assistance; the requested project must be shown on the approved Airport Layout Plan (ALP); the requested project must be included in the airport's Five-Year Capital Improvement Program (CIP); the airport sponsor must own or, in some cases, lease the land upon which the project will be accomplished, and; the airport must be in compliance with Georgia Airport Licensing Standards or present an acceptable statement to GDOT that licensing violations are currently being corrected. Development, maintenance, approach aid, and planning projects with no federal funds involved are funded at 75 percent state assistance. (<i>GDOT – Aviation Programs, Policies and Standards Guide</i>)</p>	<p><i>NPIAS eligibility criteria are not readily available</i></p>		
<p>Indiana</p>	<p>To receive state funding for projects, airports must be public use and included in the Indiana State Aviation System Plan (ISASP). Matches are up to 50 percent of eligible project costs. (<i>INDOT – Airport Development Fund Grant Programs</i>)</p>	<p>Must be public use and included in the ISASP <i>NPIAS eligibility criteria are not readily available</i></p>	<p>Match requirements vary</p>	<p>Airport Development Fund</p>
<p>Kentucky</p>	<p>State funding is used for the development, rehabilitation, and maintenance of publicly owned or operated aviation facilities and for other aviation programs within the state that will benefit publicly owned or operated aviation facilities. (<i>Kentucky State Statutes - 183.764 State aid for public airports</i>)</p>	<p>Publicly owned and/or publicly operated airports <i>NPIAS eligibility criteria are not readily available</i></p>	<p>Match requirements vary</p>	<p>State Aid for Development of Public Airports</p>
<p>Montana</p>	<p>To be eligible to apply for state loans and grants, an airport or facility must be publicly owned and for public use. For non-NPIAS airports, loan and grant funds can be used to cover up to 100 percent of a project cost.</p>	<p>Must be publicly owned and open to the public; NPIAS and non-NPIAS</p>	<p>Match requirements vary</p>	<p>General Aviation Fuel Tax</p>

State	Overview	Eligible Airports	Matching Requirement	State Funding Source
	<i>(MDT Aeronautics Division - Airport Loan and Grant Program Summary)</i>	airports are both eligible		
Nebraska	To be eligible for state funding, airports must be public-use aviation facilities in the Nebraska Aviation System Plan. Airports can be publicly or privately owned. State funding typically reimburses up to 90 percent of project expenses. <i>(NDOT Aeronautics – NDOT Aeronautics - State and Federal Programs)</i>	Must be public-use and included in the Nebraska Aviation System Plan <i>NPIAS eligibility criteria are not readily available</i>	Match requirement can be up to 90 percent	Nebraska Aeronautics Commission funds
North Carolina	Publicly owned airports in North Carolina are eligible for several state funding sources. Only NPIAS airports in North Carolina are eligible for State funding assistance. <i>(NCDOT - North Carolina Airports Program Guidance Handbook)</i>	Must be included in the NPIAS	Match requirements vary	State Airport Aid
Pennsylvania	Owners of public airports are eligible for state funding through the local real estate tax reimbursement portion of the Aviation Restricted Account. The total grant funding in any one year shall not exceed a sum equal to the moneys collected on the sale of fuels sold for use in propeller-driven piston aircraft or aircraft engines for the previous year, plus any income earned on the fund. <i>(PennDOT - Aviation Grant Programs)</i>	Must be public-use <i>NPIAS eligibility criteria are not readily available</i>	Match requirements vary	The Aviation Restricted Account

Source: Kimley-Horn, 2021

Alternate Aviation Fuel Tax Bill

The Alternate Aviation Fuel Tax Bill and a subsequent amendment were recently approved through Tennessee's legislation process. The Alternate Aviation Fuel Tax Bill effectively reduces tax revenue by decreasing the aviation fuel tax rate and capping the maximum amount of sales and use tax due on the purchase of aviation fuel to \$8,500,000 in Fiscal Year (FY) 2021-2022 and to \$5,000,000 from FY 2022-2023 onward. The reduction in aviation fuel tax revenue impacts funding for Tennessee airport development, as the state's aviation grant program is funded through the aviation fuel tax.

The status of recently adopted and currently proposed legislation related to aviation fuel taxes in the peer states was researched and reviewed in order to determine if peer states were also seeing a reduction in grant funding revenue sources, as well as to determine the general state of aviation legislation. In Pennsylvania, the tax rates on aviation gasoline and jet fuel were both recently decreased to 5.5 cents per gallon and 1.5 cents per gallon, respectively. Pennsylvania state code allows for the review and adjustment of aviation gasoline and jet fuel taxes annually. Annual rate adjustments on jet fuel taxes are determined as increases or decreases of 0.1 cents per gallon for each ten percent increase or decrease in the producer price index for jet fuel. In Georgia, sales and use tax on jet fuel is currently suspended, affecting the revenue available for aviation projects in the state.

A summary of recently adopted and currently proposed legislation is provided in [Table 8](#). In most of the peer states there is an imposed tax on aviation fuel. The tax amount and use of collected tax funds varies by state.

Table 8: Aviation Fuel Tax Legislation Comparison

State	Aviation Fuel Tax Legislation	Does State Aeronautics/Aviation Division Receive all Revenue from Fuel Taxes Levied?
Tennessee	<p>A 4.5 percent tax is imposed on the sale, use, consumption, distribution, and storage of aviation fuel. The tax imposed on a person's purchase, use, consumption, or storage of aviation fuel shall not exceed:</p> <p>(A) Twenty-one million three hundred seventy-five thousand dollars (\$21,375,000) for the period of July 1, 2015 through June 30, 2016;</p> <p>(B) Seventeen million seven hundred fifty thousand dollars (\$17,750,000) for the period of July 1, 2016 through June 30, 2017;</p> <p>(C) Fourteen million one hundred twenty-five thousand dollars (\$14,125,000) for the period of July 1, 2017 through June 30, 2018; and</p> <p>(D) Ten million five hundred thousand dollars (\$10,500,000) for any tax year occurring on or after July 1, 2018.</p> <p><i>(Tennessee State Statutes – 67-6-217 Aviation Fuel – Tax Imposed)</i></p> <p><i>Note: tax and tax caps were reduced in 2021 by the State Legislature</i></p>	No; only receive sales tax portion
Arizona	<p>Each supplier shall pay a 5-cent tax for each gallon of aviation gas purchased, with no cap. Aviation fuel taxes are distributed as follows: 50 percent in the state general fund; 35 percent in the state aviation fund for use in the construction, development, and improvement of airports; 9.5 percent to Counties in the proportion that the population of each county bears to the total population of this state; and 5.5 percent to incorporated cities and towns in the proportion that the population of each city or town bears to the total population of this state.</p> <p><i>(Arizona State Statutes – 28-8344 [1] and 28-8345 [2])</i></p>	No; 35 percent
Colorado	<p>Each supplier shall pay a 6-cent tax for each gallon of aviation gas purchased and a 4-cent tax for each gallon of jet fuel purchased, with no cap. However, commercial airlines are exempt from paying aviation fuel taxes. The 2.9 percent state sales tax is collected on the retail cost of jet fuel. Fuel taxes are reimbursed to airports monthly as follows: to revenue from the first 4-cent tax for each gallon collected on aviation gas and jet fuel, and 65 percent of the amount collected from the 2.9 percent jet fuel sales tax. Remaining revenue after reimbursement is used to fund the Division of Aeronautics and grant programs administered by the Colorado Aeronautical Board.</p> <p><i>(Colorado General Assembly - Aviation Fuel Tax)</i></p>	Yes; reimbursed to airports, and then to Division of Aeronautics and Colorado Aeronautical Board

State	Aviation Fuel Tax Legislation	Does State Aeronautics/Aviation Division Receive all Revenue from Fuel Taxes Levied?
Georgia	<p>State sales and use tax on jet fuel is currently suspended. However, normally the amount of State sales tax collected on aviation gas and jet fuel is invested entirely in the State's Aviation program or for airport purposes. (Georgia Department of Revenue - Sales Tax Rates Jet Fuel)</p>	N/A; state sales and use tax on jet fuel is currently suspended
Indiana	<p>Barring some exceptions, a 20-cent tax for each gallon of aviation gas purchased is imposed on the gross retail income received by a retailer in Indiana, with no cap. Collected tax revenues are distributed as follows: 50 percent in the state general fund; 50 percent in the airport development grant fund. (Indiana Code – 6-6-13-12 [1] and 6-6-13-15 [2])</p>	No; 50 percent
Montana	<p>Each supplier shall pay a 5-cent tax for each gallon of aviation gas purchased. Collected tax revenues are deposited into the aeronautics operations account and the airport grant account. (Montana Code - 15-70-403. Gasoline, Special Fuel, and Aviation Fuel Tax)</p>	Yes
Nebraska	<p>Each supplier shall pay a 5-cent tax for each gallon of aviation gas purchased and a 3-cent tax for each gallon of jet fuel purchased for and used in aircraft within the state, with no cap. Aircraft fuel taxes are used to fund the Aircraft Fuel Tax Fund. (Nebraska Statute - 3-148)</p>	Yes
North Carolina	<p>Each supplier shall pay a 7-cent tax for each gallon of aviation gas or jet fuel purchased, with no cap. This is the state combined general rate of sales and use tax. However, commercial airlines are exempt from paying aviation fuel taxes. Fuel tax revenue is dispersed into the state general fund. Funds from the general fund are transferred to the Highway Fund. Annually funds from the Highway Fund are appropriated to the Division of Aviation of the Department of Transportation. Funds are distributed based on need. (North Carolina Department of Revenue - Aviation Gasoline and Jet Fuel)</p>	No; total percentage varies

State	Aviation Fuel Tax Legislation	Does State Aeronautics/Aviation Division Receive all Revenue from Fuel Taxes Levied?
<p>Pennsylvania</p>	<p>Each supplier shall pay a 5.5.-cent tax for each gallon of aviation gasoline purchased or any other liquid fuels purchased and used or sold and delivered by distributors within the state for use as fuel in propeller-driven piston engine aircraft or aircraft engines. Each supplier shall pay a 1.5-cent tax for each gallon of jet fuel purchased. <i>These rates are adjusted annually; the rate of each tax increases or decreases 0.1 cent per gallon for each ten percent increase or decrease in the consumer price index for jet fuel.</i> All jet fuel tax revenue is deposited into Pennsylvania’s Aviation Restricted Account for the State Aviation Development Program and aviation gasoline revenue is deposited into the General Fund, which funds the state’s Transportation Assistance Program. Certain airport projects are eligible for assistance under the Transportation Assistance Program. The Transportation Assistance Program (aka Capital Budget) is used to fund other modes of transportation in the state. <i>(Pennsylvania Department of Revenue - Rates of Tax on Aviation Gasoline and Jet Fuel)</i></p>	<p>No; all jet fuel tax revenue is used to fund aviation projects but only a small portion of aviation gasoline tax revenue is used to fund aviation projects</p>

LAND USE AND ZONING

Land use and zoning regulations aid in the assurance of airport compatible uses and enhance safety for the areas surrounding airports. Generally, the objective of airport land use and zoning regulations is to limit uses that are incompatible with airports. Various factors contribute to the incompatibility of land uses near airports such as the safety of people and property, noise, and future potential for airport expansion. Land uses considered incompatible with airports include any land uses that encourage large congregations of people, such as residential or commercial development, land uses that attract wildlife, and land uses that produce potential obstructions, among others.

Land use and zoning requirements and regulations related to airports vary across all the peer states. In most peer states, local municipalities (or political subdivisions) are required by state law to adopt, administer, and enforce airport zoning regulations. In the case of Montana and Pennsylvania, the requirement to adopt, administer, and enforce airport zoning regulations is limited to municipalities that have an airport hazard or airport affected area within their limits. Airport hazard areas are areas where an airport hazard (natural or manmade obstructions) has the potential to be established. In other states, such as Arizona and Nebraska, municipalities can adopt airport zoning and land use regulations at their own discretion. A high-level summary of the land use and zoning regulations and mechanisms that enforce such regulations found in the peer states is presented in [Table 9](#).

No recommendations are made based on the peer state review of land use and zoning. Since land use and zoning regulations are typically stipulated solely by state statute, the TDOT Aeronautics Division would be unable to implement policies to substantially change the state's land use and zoning laws.

Table 9: Land Use and Zoning Comparison Summary

State	Land Use and Zoning	Regulation Comparison with Tennessee
Tennessee	<p>Airport zoning regulations are required to be adopted, administered, and enforced by every municipality or county that has an airport hazard area within its territorial limits.</p> <p>Certification of a zoning plan is needed by the agency of the state government charged with fostering civil aeronautics and by a municipal or regional planning commission. <i>(Tennessee Code - Title 42, Chapter 6 Airport Zoning)</i></p>	N/A
Arizona	<p>If a political subdivision has adopted or adopts a comprehensive zoning ordinance regulating the height of buildings, an airport zoning regulation applicable to the same area or portion of the same area may be incorporated in and made a part of the comprehensive zoning regulation and administered and enforced in connection with the comprehensive zoning regulation. <i>(Arizona State Statutes - Title 28, Chapter 25, Article 7 Airport Zoning and Regulation)</i></p>	Tennessee has more strict land use zoning regulations. Airport zoning regulations are required to be adopted, administered, and enforced by municipalities with an airport hazard area in Tennessee.
Kentucky	<p>The state Airport Zoning Commission can issue orders, rules, and regulations pertaining to the use of land within and around all military airports, all public-use air facilities, and all private-use airports with a paved runway in excess of 2,900 feet. <i>(Kentucky State Statutes - 183.122)</i></p>	Tennessee has less strict land use zoning regulations. The Airport Zoning Commission in Kentucky can issue orders, rules, and regulations pertaining to the use of land within all public-use air facilities.
Montana	<p>The Department of Transportation has the authority to designate and regulate Airport Affected Areas. Airport Affected Areas are defined as the land and space above the ground surface of an airport in the proximity of the airport, the use of which may be affected by the airport's existence, including the areas described in 14 CFR, Part 77. <i>(Montana Code - Title 67, Chapter 7 Airport Affected Areas)</i></p>	Tennessee has less strict land use zoning regulations. The MDT has authority to designate and regulate Airport Affected Areas, whereas TDOT has no regulatory authority.
Nebraska	<p>In the event that a political subdivision has adopted or hereafter adopts a comprehensive zoning ordinance regulating, among other things, the height of buildings, any airport zoning regulations applicable to the same area or portion thereof may be incorporated in and made a part of such comprehensive zoning regulations and be administered and enforced in connection therewith.</p>	Tennessee has more strict zoning regulations. Tennessee requires airport zoning regulations by municipalities with airport hazard areas; Nebraska states that airport zoning regulations may be adopted in coordination with such areas.

State	Land Use and Zoning	Regulation Comparison with Tennessee
	<i>(Nebraska State Statutes - 3-305 Zoning regulations; comprehensive zoning ordinance)</i>	
North Carolina	<p>Every political subdivision may adopt, administer, and enforce, under the police power or as a land development regulation under Chapter 160D of the General Statutes, airport zoning regulations, which regulations shall divide the area surrounding any airport within the jurisdiction of said political subdivision into zones, and, within such zones, specify the land uses permitted, and regulate and restrict the height to which structures and trees may be erected or allowed to grow.</p> <p><i>(North Carolina Statutes - 63-30 Adoption of Airport Zoning Regulations)</i></p>	<p>Tennessee has more strict land use zoning regulations. In North Carolina, municipalities can adopt, administer, and enforce airport zoning regulations but are not required to.</p>
Pennsylvania	<p>In order to prevent the creation or establishment of airport hazards, every municipality having an airport hazard area within its territorial limits shall adopt, administer and enforce, under the police power and in the manner and upon the conditions prescribed in this subchapter and in applicable zoning law unless clearly inconsistent with this subchapter, airport zoning regulations for such airport hazard area.</p> <p><i>(Pennsylvania Statutes - Title 74 Chapter 59 Airport Operation and Zoning)</i></p>	<p>Tennessee has comparable land use zoning regulations. Like Pennsylvania, Tennessee municipalities with airport hazard areas are required to adopt regulations related to such areas.</p>

Source: Kimley-Horn, 2021

MINIMUM AIRPORT STANDARDS

Minimum airport standards govern the licensing and development of airports. Minimum airport standards are established to ensure safe environments for aviation operations and to establish consistent development of public- and private-use airports. Minimum airport standards are established by DOTs where state legislation allows and requires DOTs to govern the licensing of airports within a state.

The implementation of minimum airport standards and their governance varies across the peer states. In most of the peer states, minimum airport standards are implemented by state DOTs and are established by state legislative Rules and Regulations or Code. In general, the minimum airport standards of the peer states pertain to requirements for runway length, runway safety area (RSA) width, lighting, and marking, among other items. In Kentucky, the minimum airport standards are limited and do not specify requirements for airside facilities. In Pennsylvania, minimum airport standards are detailed, and the specifics vary by different airport classification. A summary of the minimum airport standards found in the peer states is presented in **Table 10**.

No recommendations are made based on the peer state review of minimum airport standards. Since minimum airport standards are typically stipulated solely by state statute, the TDOT Aeronautics Division would be unable to implement policies to substantially change the state's minimum airport standards.

Table 10: Minimum Airport Standards Comparison Review

State	Minimum Airport Standards	Regulation Comparison with Tennessee
Tennessee	<p>Minimum Airport Standards are defined for airports, heliports, and seaplane bases. The minimum airport standards are documented below.</p> <p>Airport Dimensions:</p> <ul style="list-style-type: none"> • Effective Length of Runway Safety Area = 2,000 feet (Minimum length increased ten percent for each one percent of effective gradient.) • Width of runway safety area = 150 ft • Width of runway = 40 ft • Maximum effective gradient = two percent • Slope of Approach Surface = 20:1 <p>STOLport Dimensions:</p> <ul style="list-style-type: none"> • Effective Length of Runway Safety Area = 1,500 ft* (*Minimum length increased ten percent for each 1 percent of effective gradient.) • Width of runway safety area = 150 ft • Width of runway = 40 ft • Maximum effective gradient = two percent • Slope approach/departure surface = 15:1 <p>Facilities:</p> <ul style="list-style-type: none"> • Office of Aeronautics approved markers shall be installed on unpaved landing areas at 200-foot intervals along the useable width and at 150-foot intervals at the ends of the landing area • Office of Aeronautics approved wind indicator must be installed • A fire extinguisher which is capable of extinguishing all classes of fire must be available for immediate use • An Office of Aeronautics approved runway lighting system must be installed prior to approval for nighttime operations <p>Miscellaneous:</p> <ul style="list-style-type: none"> • Airport hazards as determined by the Office of Aeronautics must be marked and must also be lighted if the airport is approved for nighttime operation • The licensee shall notify the Office of Aeronautics in writing whenever alternations, improvements, or major repairs are to be accomplished on the airport 	N/A

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> The landing area, taxiways, and ramp area must be maintained in such a manner as to assure the safe operation of aircraft The owner of a closed or abandoned airport shall remove all airport identifying markers and wind indicators and shall place upon the runway an approved "Closed" marker. This marker shall be maintained until the runway is no longer identifiable <p><i>(Rules of the Tennessee Department of Transportation Aeronautics Division Chapter - 1680-1-2 Licensing and Registration of Airports)</i></p>	
Georgia	<p>Minimum Airport Standards are defined for open-to-the-public airports. The minimum airport standards are documented below.</p> <p>Unobstructed Approach and Departure Paths <i>For runways less than 4,000 feet</i></p> <ul style="list-style-type: none"> Begin at the runway end (marked threshold) Slope upward at a minimum of 15:1 ratio Be centered along the extended runway centerline beginning at a width of 120 feet and extend for 500 feet to a width of 300 feet and continue at a width of 300 feet for an additional 2500 feet <p><i>For runways 4,000 feet but less than 5,000 feet</i></p> <ul style="list-style-type: none"> Begin at the runway end (marked threshold) Slope upward at a minimum of 20:1 ratio Be centered along the extended runway centerline beginning at a width of 250 feet and extend for 2,250 feet to a width of 700 feet and continue at a width of 700 feet for an additional 2,750 feet <p><i>For runways 5,000 feet or more</i></p> <ul style="list-style-type: none"> Begin at the runway end (marked threshold) Slope upward at a minimum of 20:1 ratio Be centered along the extended runway centerline beginning at a width of 400 feet and extend for 1,800 feet to a width of 1,000 feet and continue at a width of 1,000 feet for an additional 8,500 feet <p><i>For all runways</i></p> <ul style="list-style-type: none"> All penetrations of the approach and departure paths, whether natural or manmade, constitute an obstruction to navigation and a violation to licensing standards If the obstruction is not removed, the runway threshold must be displaced or relocated to a point on the runway that will provide a clear and unobstructed flight path. 	<p>Georgia minimum airport standards are stricter than that of Tennessee. Georgia minimum airport standards govern unobstructed approaches based on airport runway length rather than only facility type, as is the case in Tennessee. Additionally, there are established standards for runway surface conditions as part of Georgia's minimum airport standards.</p>

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<p>Unobstructed Primary Surface</p> <ul style="list-style-type: none"> • Be centered along runway centerline to the end of turf runways and extend 200 feet beyond the end of hard surfaced runways • Runways less than 4,000 feet shall have a primary surface width of 120 feet • Runways 4,000 feet but less than 5,000 feet shall have a primary surface width of 250 feet • Runways 5,000 feet or more shall have a primary surface width of 400 feet • The primary surface shall be free of all obstructions including natural growth and manmade objects • The only allowable obstructions are frangible runway lights, guidance signs, or navigation equipment that, by function, are required to be within the primary surface boundaries • The area not hard surfaced must be compacted and graded smooth with no ruts, humps, depressions or other potentially hazardous surface variations <p>Unobstructed Runway Safety Area</p> <ul style="list-style-type: none"> • Be centered along runway centerline and extend 240 feet beyond the end of the runway for all runways less than 5,000 feet in length and 300 feet beyond the end of the runway for runways 5,000 feet or greater in length • The width of the runway safety area shall be 120 feet for all runways less than 5,000 feet in length and 150 feet for runways 5,000 feet or greater in length • The runway safety area shall be free of all obstructions including natural growth and manmade objects • The only allowable obstructions are frangible runway lights, guidance signs, or navigation equipment that, by function, are required to be within the runway safety area boundaries • The area not hard surfaced must be compacted and graded smooth with no ruts, humps, depressions or other potentially hazardous surface variations <p>Airport Marking All runways shall be marked in a manner that clearly identifies the boundaries of the landing area.</p> <p>Minimum Marking for Hard Surface Runways and Taxiways</p> <ul style="list-style-type: none"> • All markings on hard surfaced runways and taxiways shall be painted and the painted markings must be maintained in legible condition • Runway markings shall be white and taxiway markings shall be yellow • The size, shape, location and color of the marking shall be in compliance with the current FAA AC 150/5340-1, Standards for Airport Markings, as amended or superseded 	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<p>Minimum Marking for Turf or Sod Runways</p> <ul style="list-style-type: none"> • All runway markings shall be colored white, securely attached to the surface, clearly visible from the airport traffic pattern and identify the boundaries of the landing area • Threshold markings shall be L-shaped on each corner of each threshold • Runway side line markers shall be spaced at minimum intervals of 500 ft. • Displaced thresholds shall be identified by placing markers on each runway side at the displacement point • The markers shall be perpendicular to the runway with the inner edge aligned with the runway sideline markers <p>Wind Direction Indicators</p> <ul style="list-style-type: none"> • All airports are required to have an operational wind direction indicator • The wind direction indicator must be installed in a highly visible area easily observed from the air and the ground • The wind direction indicator must be located in an open area free from obstructions to ensure accurate wind direction and approximate wind velocity • Night operations require that the wind indicator be lighted. <p>Airport Lighting</p> <ul style="list-style-type: none"> • Runway lights are required for all airports that conduct night operations • The location, spacing, light intensity and lens color of runway, threshold and taxiway lights shall conform to the standards specified in the current FAA AC 150/5340-30, Design and Installation Details for Airport Visual Aids, as amended or superseded • All runway, threshold and taxiway lighting shall be maintained in an operational condition and shall not be obscured by natural growth such as grass or weeds <p>Airport Beacon</p> <ul style="list-style-type: none"> • All airports with runway lights for night operations shall have an operational airport location beacon • The beacon shall have appropriately colored lenses to identify the type of airport • The beacon shall be located at a site on or near the airport at an elevation that will ensure that it is not obstructed by natural growth or manmade structures and is clearly visible from the air <p>Runway, Taxiway and Apron Minimum Conditions</p> <ul style="list-style-type: none"> • The runway and taxiway surface must be maintained smooth and free of any defect or obstruction that could damage aircraft during operations • This requirement includes any pavement pot holes, depressions or humps 	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> • The lip of paved runways or taxiways must not exceed 1.5 inches in elevation from the top of the pavement to the runway shoulder. The drop should be only enough to allow adequate drainage from the runway and not pose a control problem for aircraft • Turf runways must be graded, smooth, and grassed. The grass must be maintained, mowed to a height of less than 12 inches above the graded surface on the marked portions of the runway • The runway and taxiway length and width requirements shall conform to the current FAA AC 150/5300-13, Airport Design, as amended or superseded <p>Geometric Layout The most recent version of the Federal Aviation Administration's Advisory Circular 150/5300-13 Airport Design, as may be amended or superseded, is adopted in its entirety as it pertains to airport construction design standards for the licensing of airports within the State of Georgia (Georgia Administrative Code - Airports: Licensing Minimum Standards)</p>	
Indiana	<p>Physical Standards for Public Use Airports</p> <ul style="list-style-type: none"> • Minimum usable runway length is 2,000 feet. If there is more than one runway at the airport, only one runway must meet the 2,000 feet minimum usable length requirement; however, all other runways must have at least 1,500 feet minimum usable length • Minimum width for <ul style="list-style-type: none"> ○ Runway safety area is 150 feet ○ Paved runway is 40 feet ○ Turf runway is 100 feet ○ Although the minimum standard width for a runway safety area is 150 feet, low crops, such as soybeans, alfalfa, and wheat, may be grown within the runway safety area beginning no closer than fifty (50) feet from the runway centerline ○ High crops, such as corn and sorghum, must not be grown in the 150 feet runway safety area. • Minimum distance between runway centerline and <ul style="list-style-type: none"> ○ Building restriction line is 150 feet ○ Edge of tie-down area is 125 feet ○ Taxiway centerline is 100 feet • Approach and departure surface width at <ul style="list-style-type: none"> ○ Threshold of runway is 150 feet ○ 4,000 feet from threshold is 350 feet ○ All crops are considered a ten-foot obstruction because of transient farm machinery used in farming the crops 	<p>Tennessee has similar minimum airport standards as Indiana. However, Indiana's minimum airport standards are more detailed, which may help prevent confusion about legal standards. Indiana also includes separate sections for markings, lighting, and aircraft operational areas, whereas these are only addressed under "Facilities" and "Miscellaneous" in Tennessee's minimum airport standards.</p>

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> • A public-use airport which has two or more intersecting runways where aircraft must operate out of the sight of each other must have warning signs posted at the departure end of each runway or at the taxiway entrance to the runway • The warning signs must be clearly visible and distinguishable from at least 100 feet away and shall include language which clearly indicates the inherent danger. The language recommended by the department is "Warning: Aircraft Using Runway 4/22 Cannot Be Seen" <p>Airport and Runway Markings</p> <ul style="list-style-type: none"> • All paved runways must be marked in accordance with a marking diagram provided by the department, which will include, at a minimum, runway numbers and centerline • Boundary markers for turf runways will be required if the usable landing area is not clearly defined as observed from an altitude of 1,500 feet above ground level • Markers must consist of orange traffic cones or such other material approved by the department • Turf runway thresholds must be marked with orange traffic cones or such other material approved by the department and must consist of three cones placed perpendicular to the runway centerline on both sides of the runway, located no further than ten feet from the longitudinal edges of the runway • Threshold markers for all runways, whether paved or turf, must be located such that they will provide, at a minimum, the following <ul style="list-style-type: none"> ○ 15 feet vertical clearance over all public-use roads at a 20 to one glide angle taken from such thresholds ○ 23 feet vertical clearance over all railroads at a 20 to one glide angle taken from such thresholds ○ At a 20 to one glide angle commencing at such thresholds, clearance over all objects within the approach and departure surface symmetrical about the extended centerline of the runway for a distance of 4,000 feet from such thresholds <p>Airport and Runway Lighting</p> <ul style="list-style-type: none"> • A public-use airport which is open for nighttime operations must have an operating lighting system which complies with this subdivision and a lighted wind indicator • The lighting system may be operated <ul style="list-style-type: none"> ○ On a photo cell ○ By radio control, or ○ Manually based on a prior request • Operating information must be submitted for publication in the airport facility directory • Runway lights must meet or exceed the following minimum airport standards <ul style="list-style-type: none"> ○ Have clear lenses ○ Be located no more than ten feet off of the edge of a paved runway ○ Be located on the edge of a turf runway 	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> ○ Be uniformly placed and not exceed 200 feet between lights except where a taxiway intersects the runway ○ Not exceed 30 inches above ground level in height ● Taxiway lights must meet or exceed the following minimum airport standards <ul style="list-style-type: none"> ○ Be blue in color ○ Be located no more than ten feet off of the edge of a paved taxiway ○ Be located on the edge of a turf taxiway ○ Be uniformly placed and not exceed 200 feet between lights except where the taxiway intersects another taxiway ○ Not exceed 30 inches above ground level in height ● Threshold lights must meet or exceed the following minimum airport standards <ul style="list-style-type: none"> ○ Be green in color ○ Be located to provide minimum obstruction clearance ○ Consist of a minimum of three lights on each side of the runway perpendicular to the runway centerline ● Lights between the end of a runway and relocated or displaced runway threshold must meet or exceed the following minimum airport standards <ul style="list-style-type: none"> ○ Be red in color ○ Be located no more than ten feet off of the edge of a paved runway ○ Be located on the edge of a turf runway ○ Not exceed 30 inches above ground level in height <p>Aircraft Operational Areas</p> <ul style="list-style-type: none"> ● In addition to complying with the minimum safety standards all public-use airport owners and operators shall continuously maintain aircraft operational areas on the airport ● All aircraft operational areas on the airport should be inspected at least once a day ● In addition, it is the responsibility of the airport owner or operator to identify, assess, and disseminate information by notices to airmen through the appropriate Federal Aviation Administration Flight Service Station concerning conditions on or in the vicinity of the airport that affect, or may affect, the safe operation of aircraft <p>Miscellaneous</p> <ul style="list-style-type: none"> ● All public-use airports must have and maintain the following <ul style="list-style-type: none"> ○ At least one wind direction indicator, so located to show a true indication of the wind on the landing area and readily visible to aircraft ○ A wind indicator must be lighted if the airport is open for night operations ○ A telephone available continuously for emergency use and flight plan closing 	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> ○ An approved segmented circle with runway turn indicators when a nonstandard traffic pattern is used ○ A suitable area for parking automobiles, adequately marked off or fenced to prevent dangerous overrunning on to the landing area and aircraft parking area ○ A copy of current airport safety rules and regulations posted conspicuously at the airport and filed with the department. The airport rules and regulations should address the following <ul style="list-style-type: none"> ▪ Air traffic patterns ▪ Taxi instructions ▪ Calm wind runway usage ▪ Any emergency readiness programs. <p><i>(INDOT – Regulations for Establishing an Airport [1]; Indiana Administrative Code 105-3-3 [2])</i></p>	
Kentucky	<p>All airports including heliports regardless of classification shall provide the following basic facilities.</p> <ul style="list-style-type: none"> • A wind indicator of sufficient size to be plainly discernible from an altitude of 1,000 feet • The wind indicator shall not be required at an airport with a Federal Aviation Administration control tower which operates 24 hours a day • A number of markers sufficient to make plainly discernible the turf runway or landing area usable or in use; or a paved runway or landing area shall have painted markings. • Fire extinguishers in sufficient number and sizes to control probable fires • Telephone maintained in proper operating condition • The owner of an airport not including heliports shall have control of the primary surface and in addition no fences or other obstructions shall be located within 200 feet of the ends of a runway unless a displaced threshold on the runway is approved by the Transportation Cabinet <p><i>(Kentucky Administrative Regulations - Title 602 Chapter 20-030 Standards Applicable to all airports)</i></p>	<p>Tennessee minimum airport standards are stricter than that of Kentucky. Kentucky has fewer minimum airport standards. For example, Kentucky does not have any rules or regulations regarding approach surfaces and some airport design standards, such as RSA.</p>
Nebraska	<p>Minimum Airport Standards are defined for public-use airports. The minimum airport standards are documented below.</p> <p>Runway Length and Width</p> <ul style="list-style-type: none"> • The effective runway length of a paved primary runway shall be at least 1,400 feet plus 25 percent of the MSL (Mean Sea Level) elevation of the site • The effective runway length of an unpaved primary runway shall be at least 1,800 feet plus 25 percent of the MSL elevation of the site • A paved runway shall be at least 50 feet wide 	<p>Tennessee has similar minimum airport standards as Nebraska. However, Nebraska’s minimum airport standards are more detailed, which may help prevent confusion about legal standards.</p>

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> • An unpaved runway shall be at least 100 feet wide <p>Obstructions</p> <ul style="list-style-type: none"> • No object shall penetrate above the primary surfaces, approach surfaces, and transitional surfaces • Objects shall include anything fixed or mobile except aeronautical facilities whose location is fixed and necessary because of their function • Except as otherwise noted in 003.02G, all crops except hay shall be considered objects and their height shall be measured as the height of the crops when fully grown, despite the actual crop height at any specific time • Roads and railroads are considered to be objects and the following heights shall be added to the height of the road or railroad to accommodate the height of vehicles <ul style="list-style-type: none"> ○ Interstate Highway – 17 feet ○ Public highway or road – 15 feet ○ Private road – 10 feet ○ Railroad – 23 feet • Parked aircraft and vehicles are considered objects. Parking areas shall be placed so that the tallest aircraft or vehicle does not penetrate the approach, primary, and transitional surfaces <p>Imaginary Surfaces</p> <ul style="list-style-type: none"> • The <i>primary surface</i> shall be the same elevation as the nearest point on the runway centerline and is 250 feet wide centered on the runway centerline. The primary surface includes the full length of the runway and extends 200 feet beyond each runway threshold for paved runways • The <i>approach surface</i> extends outward from the primary surface and upward along a 20 to one slope (20 feet horizontal to one foot vertical) for a horizontal distance of 1,000 feet. The width of the approach slope is 250 feet at the beginning and widens out to 450 feet at the farthest point. The approach surface begins at the end of the primary surface and is longitudinally centered on the runway centerline • Except in the case of terrain, the transitional surface extends upwards from all approach and primary surfaces at a slope of seven to one (seven feet horizontal to one foot vertical) perpendicular to the runway centerline. In the case of terrain, the transitional surface extends upward from all approach and primary surfaces at a slope of four to one (four feet horizontal to one foot vertical) perpendicular to the runway centerline. The transitional surface includes all areas that are not in the approach or primary surface. The transitional surface ends at a height of 50 feet above the elevation of the nearest runway centerline. Crops are not considered objects in the transitional surface <p>The Department may waive the minimum airport standards, pursuant to 17 NAC 1- 003.02A-G, when such waiver, in the opinion of the Department, does not endanger public health, safety or welfare. The airport/heliport license shall state the conditions of the waiver by reference or in full.</p>	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
Pennsylvania	<p><i>(Nebraska Administrative Code - Title 17 Chapter 1 – Rules and Regulations Concerning Public Use Airport/Heliport Licensing)</i></p> <p>Minimum Airport Standards are defined for public and private airports, heliports, and seaplane bases. The public minimum airport standards are documented below by airport category</p> <p>Public Airport – Scheduled Service / General Aviation</p> <p><i>Runway Length and Width</i></p> <ul style="list-style-type: none"> • The minimum runway length is 2,200 feet plus a seven percent additional length factor for each 1,000 feet of elevation that the runway is above mean sea level, rounded up to the nearest five-foot increment. • The minimum runway primary surface width is 250 feet or 125 feet either side of the runway centerline. The landing surface shall be centered within the primary surface • The minimum width of a turf runway is 100 feet • The minimum width of a paved runway surface is 50 feet <p><i>Obstructions</i></p> <ul style="list-style-type: none"> • A paved runway shall have an obstacle free zone, extending 200 feet beyond the end of each visual utility runway, the same width as the primary surface • A runway end shall have an obstruction free approach surface with a slope of 20 feet horizontal to one foot vertical. The following are approach surface dimensions: <ul style="list-style-type: none"> ○ The centerline of this surface shall extend outward and upward 5,000 feet along the runway extended centerline ○ The surface shall extend laterally 125 feet on each side of the centerline of the runway approach threshold and shall increase uniformly in width to 625 feet on each side of the centerline at a point 5,000 feet from the end of the primary surface • The approach surface shall begin at the runway end for a turf runway and 200 feet beyond the end of a paved runway • A runway other than visual shall conform to applicable FAR Part 77 Civil Airport Runway Approach Surfaces. The Bureau will acknowledge and consider mitigation factors as determined by the FAA when determining compliance with this criterion • A runway shall have an obstruction free transitional surface with a slope of seven feet horizontal to one foot vertical extending from the side of the runway primary surface and the sides of the approach surface to an elevation 150 feet above the airport elevation. • Runway thresholds shall be a minimum of 200 feet from airport property line as measured along the runway extended centerline. <p><i>Runway Markings</i></p> <ul style="list-style-type: none"> • Turf runway 	<p>Pennsylvania minimum airport standards are stricter than Tennessee minimum airport standards. Pennsylvania standards have specific minimum standard requirements for each airport classification.</p>

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> ○ Turf runway ends and displaced thresholds shall be marked ○ Edge markers shall be placed at intervals not exceeding 200 feet along each side of the runway for its entire length ● Paved runway <ul style="list-style-type: none"> ○ A paved runway shall be marked ○ For the dimensions and spacing of the markings see the current edition of the FAA Advisory Circular relating to runway markings <p><i>Runway Alignment</i></p> <ul style="list-style-type: none"> ● For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing winds ● Runway alignment other than into the prevailing winds, may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft <p><i>Other Requirements</i></p> <ul style="list-style-type: none"> ● A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity ● The wind indicator shall be lighted where night operations are to be conducted ● The runway surface longitudinal and transverse grade may not exceed two percent. It is desirable that a line-of-sight standard exist along the entire length of the runway. Runway grade changes should be such that any two points five feet above the runway centerline will be mutually visible for the entire length of the runway ● If night operations are to be conducted at the airport, runway edge lighting shall be installed to define the lateral and longitudinal limits of the useable landing area. Lights shall be installed in accordance with the current edition of the FAA Advisory Circular related to runway lighting ● A rotating beacon shall be installed for night operations at public airports ● Telephone service shall be available during hours of operation. Emergency contact information shall be posted near the telephone ● A first aid kit shall be available ● A traffic pattern diagram with altitudes shall be posted and visible to the aviation public ● A favorable airspace determination by the FAA shall be required prior to final licensing ● The airport license must be posted and visible to the aviation public ● Fire extinguishing equipment shall be available for emergency fire protection. See NFPA Codes and local fire codes for appropriate guidelines ● Where public fueling services are provided use NFPA Codes for guidelines for storage and distribution of fuels 	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> • Issuance of a license does not preempt other State, federal or local zoning or permitting requirements <p>Public Airport—Basic Utility</p> <p><i>Runway Length and Width</i></p> <ul style="list-style-type: none"> • The minimum runway length is 1,600 feet • The minimum required runway length will be increased where required to accommodate a family of airplanes having similar performance characteristics or a specific airplane needing the longest runway and will be based on the performance data obtained from the aircraft flight manuals • Runway length will be that length needed for take-off ground run or landing ground run, whichever is greater, factored for density altitude (85°F day; runway elevation above sea level); plus a factor for grass • The grass factor may be that required by the manufacturer. If the manufacturer requires no grass factor, a factor of ten percent for conventional landing gear or 15 percent for tricycle landing gear will be used • An additional safety factor of 20 percent shall also be applied • If the aircraft performance data is not available from the aircraft flight manual, due to its vintage or modifications, the Bureau may accept a written statement by the applicant-aircraft owner-as to aircraft performance and runway length needed. Performance data may be considered, using less than maximum certificated takeoff weight-down loaded condition, if requested in writing by the applicant, to meet minimum runway length requirements • Displacement of runway thresholds may be used to reduce or eliminate approach slope obstructions as long as sufficient effective runway length remains • The minimum runway primary surface width is 180 feet or 90 feet either side of the runway centerline. The landing surface shall be centered within the primary surface • The minimum width of a paved runway is 50 feet • The minimum width of a turf runway is 100 feet • The runway primary surface shall extend 200 feet beyond the end of a paved runway and to the end of a turf runway <p><i>Obstructions</i></p> <ul style="list-style-type: none"> • A runway end shall have an obstruction free approach surface with a slope of 20 feet horizontal to one foot vertical. The following are approach surface dimensions for a visual runway <ul style="list-style-type: none"> ○ The centerline of this surface shall extend outward and upward 5,000 feet along the runway extended centerline ○ The surface shall extend laterally from each edge of the primary surface at the runway approach threshold and increase uniformly in width to 625 feet on each side of the centerline at a point 5,000 feet from the end of the primary surface ○ The approach surface shall begin at the runway end for an unpaved runway and at a point 200 feet beyond the end of a paved runway 	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> • A runway shall have an obstruction free transitional surface with a slope of 7 feet horizontal to one foot vertical extending from the side of the runway primary surface and the sides of the approach surface to an elevation 150 feet above the airport elevation • Runway landing thresholds shall be a minimum of 200 feet from the airport property line along the runway extended centerline. <p><i>Runway Markings</i></p> <ul style="list-style-type: none"> • Turf runways <ul style="list-style-type: none"> ○ Runway ends shall be marked ○ Edge markers shall be placed at intervals not exceeding 200 feet along each side of the runway for its entire length • Paved runway <ul style="list-style-type: none"> ○ Runway numbers shall be marked at each end • Runway threshold displacements shall be marked <p><i>Runway Alignment</i></p> <ul style="list-style-type: none"> • For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing wind • Runway alignment, other than into the prevailing wind, may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft <p><i>Other Requirements</i></p> <ul style="list-style-type: none"> • Operations are intended for day, visual meteorological conditions (VMC) • A wind indicator shall be installed at a location that adequately indicates surface wind direction and velocity. The wind indicator shall be lighted if night operations are to be conducted • The runway longitudinal and transverse gradient should not exceed four percent • Telephone service should be available during hours of operation. Emergency contact information should be posted near the telephone • Fire extinguishing equipment should be available for emergency fire protection. See NFPA Codes and local fire codes for appropriate guidelines • A traffic pattern diagram with altitudes shall be posted and visible to the aviation public • A favorable airspace determination from the FAA shall be required prior to license • Issuance of a license does not preempt other state, federal or local zoning or permitting requirements 	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<p>Public Airport—Sport/Ultralight</p> <p><i>Runway Length and Width</i></p> <ul style="list-style-type: none"> The minimum runway length shall be 1,000 feet. The runway should be aligned within 40° of the prevailing wind. Longitudinal and transverse gradients should not exceed four percent The minimum runway width shall be 100 feet <p><i>Obstructions</i></p> <ul style="list-style-type: none"> A runway end shall have an obstruction free approach surface with a slope of 15 feet horizontal to one foot vertical. The following are approach surface dimensions <ul style="list-style-type: none"> The centerline of this surface shall extend outward and upward 1,000 feet along the extended runway centerline The surface shall extend laterally 50 feet on each side of the centerline of the runway approach threshold and increase uniformly in width to 100 feet on each side of the centerline at a point 1,000 feet from the runway end The approach surface shall begin at the runway end A runway shall have an obstruction free transitional surface with a slope of three feet horizontal to one foot vertical extending from the side of the runway surface and the sides of the approach surface Runway landing thresholds shall be a minimum of 200 feet from the airport property line as measured along the extended runway centerline <p><i>Runway Markings</i></p> <ul style="list-style-type: none"> Runway ends shall be marked Edge markers shall be placed at intervals not exceeding 200 feet along each side of the runway for its entire length <p><i>Runway Alignment</i></p> <ul style="list-style-type: none"> For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing wind Runway alignment, other than into the prevailing winds may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft <p><i>Other Requirements</i></p> <ul style="list-style-type: none"> A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity Night operations are not authorized Telephone service should be available during hours of operation. Emergency contact information should be posted near the telephone 	

State	Minimum Airport Standards	Regulation Comparison with Tennessee
	<ul style="list-style-type: none"> • A traffic pattern diagram with altitudes shall be posted and visible to the aviation public • The airport license shall be posted and visible to the aviation public • The airport operator should provide fire extinguishing equipment for emergency fire protection • A favorable airspace determination from the FAA shall be required prior to final licensing • Issuance of a license does not preempt other State, federal or local zoning or permitting requirements <p><i>(Pennsylvania Code - Chapter 471 - Airport Rating and Licensing)</i></p>	

Source: Kimley-Horn, 2021

PROJECT PRIORITY PROCESSES

Prioritization processes are generally used to make funding decisions for airport projects that receive state funding, grants, or loans. The project priority process varies among state DOTs as well as among individual aviation/aeronautics divisions and departments.

Among the peer states, the project prioritization processes can generally be grouped into three approaches, including:

- ◆ Project purpose and objectives
- ◆ A point ranking system
- ◆ Discretion of the aviation/aeronautics department

States like Tennessee, Arizona, Arkansas, and Indiana prioritize projects for funding based on project purpose and objectives such as safety, security, and maintenance. Other states, like Georgia, North Carolina, and Pennsylvania projects are prioritized according to an established prioritization point ranking system. The point rankings and specific categories vary among these states. In Colorado and Montana, the project priority process is less rigid than a point system and up to the discretion of the division or department. A high-level summary of the Project Priority Processes comparison of the peer states is presented in [Table 11](#).

Based on the peer state review of funding programs, it is recommended that the TDOT Aeronautics Division considers the following:

- ◆ Evaluate the feasibility of implementing a point ranking system for project prioritization based on existing state priorities or a reevaluation of priorities based on system needs.
- ◆ Evaluate the inclusion of features from the TASP, including impact on an airport's performance in a PM or Facility and Service Objective, to the prioritization process or a potential point ranking system.

Table 11: Project Priority Process Comparison Summary

State	Project Priority Processes	Suggestions for TDOT Aeronautics Division
<p>Tennessee</p>	<p>Airport Improvement Program: All State funding decisions will be prioritized and preference given to projects based on state priorities as follows:</p> <ol style="list-style-type: none"> 1. Safety 2. Security 3. Pavement preservation/maintenance 4. Preservation of infrastructure 5. Compliance with current FAA standards 6. Planning 7. Increase capacity and modernization 8. Equipment 9. Landside improvements 10. Revenue producing <p>Projects associated with economic development, increase capacity, or modernization will be considered on a case by case basis. Grant issuance adheres to Federal and State guidelines. <i>(TDOT Aeronautics Division - 2019 Policy 170-02 Direction of the Tennessee Aeronautics Commission)</i></p>	<p>N/A</p>
<p>Arizona</p>	<p>The State Loan grant program uses two levels of ranking to determine the importance of a project. The first level is comprised of Project Components. The second is comprised of Airport Measures. When setting the priority points for the Project Components, DOT considers the projects in their most likely project purpose and benefit to the State Airports System overall.</p> <p>Six general grant categories are used as a framework for ordering the Project Components. Priority points are based on the following, in descending order of highest to lowest importance</p> <ol style="list-style-type: none"> 1. Safety 2. Security 3. Capacity 4. Environmental 5. Planning 6. Sustainability <p>Project components are assigned a priority value from a predetermined list. The priority values range from 17 to 255 (depending on the project component). A higher priority value for project</p>	<p>Evaluate the feasibility of implementing a point ranking system for project prioritization based on existing state priorities or a reevaluation of priorities based on system needs. Consider dual levels of ranking to ensure fairness across project types.</p>

State	Project Priority Processes	Suggestions for TDOT Aeronautics Division
	<p>component equates to a high prioritization. Airport Measures include: registered aircraft, scheduled air carrier enplaned passengers, and percentage of aircraft operations compared to airport service volume. A high number in each of the Airport Measures categories equate to a higher score, ranging between zero and six, depending on the Airport Measure. (ADOT - Airport Development Guidelines)</p>	
<p>Arkansas</p>	<p>Grant and project requests are prioritized by Division of Aeronautics staff and commission. Safety projects are noted as the top priority but no other priorities are documented. (Arkansas Department of Aeronautics – State Airport Air Grant Classifications)</p>	<p>N/A – TDOT Aeronautics Division project priority process is more detailed with top priority on safety and security</p>
<p>Colorado</p>	<p>The DOT prioritizes projects based on several tiers of prioritization. The priority for state funding goes as follows, in order:</p> <ol style="list-style-type: none"> 1. Federal match projects 2. Pavement maintenance of existing primary movement areas, beginning with primary runways, followed by taxiways, and then aprons <p>There are many variables that may affect the prioritization of funding year to year, including but not limited to FAA national priorities, federal and Division funding levels, project costs and viability, ability of a project to meet system goals and demand, and the number of higher priority projects requested in a given year. (CDOT Division of Aeronautics – Programs and Procedures Manual)</p>	<p>N/A – TDOT Aeronautics Division project priority process is more detailed with top priority on safety and security</p>
<p>Georgia</p>	<p>Project priority ranking for projects is designed to give first priority to the following, in order:</p> <ol style="list-style-type: none"> 1. Safety-related projects 2. Airports with less than 20 based aircraft – because they do not typically compete for federal state apportionment or discretionary funds 3. Pavement maintenance or extension of the primary runway 4. Projects with an economic development component or support local or regional development initiatives, as up to 10 additional priority points can be added if sufficient documentation is provided by the airport owner. <p>Secondary priority is given to the following, in order:</p> <ol style="list-style-type: none"> 1. Airports with more than 20 based aircraft 2. Taxiway and taxiway projects 3. Apron projects 	<p>Evaluate the feasibility of implementing a point ranking system for project prioritization based on existing state priorities or a reevaluation of priorities based on system needs.</p>

State	Project Priority Processes	Suggestions for TDOT Aeronautics Division
	<p>4. Navigational Aids</p> <p>Lowest priority is given to commercial service airports, and GDOT does not financially participate in projects at Hartsfield Jackson Atlanta International Airport (ATL).</p> <p>The Priority system is a point-based system based on airport category and runway type. Projects with more points are ranked as a higher priority. Airport projects that have a direct economic impact can receive up to an additional 10 priority points. Available points range from 23 to 100 and are assigned by project type according to an established priority system. Priority points may be increased or decreased at GDOT's discretion.</p> <p><i>(GDOT – Aviation Programs, Policies and Standards Guide)</i></p>	
Indiana	<p>The Office of Aviation's Chief Airport Engineer and Aviation Planner will determine which project applications to fund using a set of criteria. The highest priority is given to a project that is a safety or security effort. Priority consideration is also given to projects that advance economic development. The amount of significant impact the project would have on the state aviation system plan is also highly considered, at the discretion of the Chief Airport Engineer and Aviation Planner.</p> <p><i>(INDOT - Airport Development Fund Grant Programs)</i></p>	<p>Evaluate including features from the TASP, including impact on an airport's performance in a PM or Facility and Service Objective, to the prioritization process or a potential point ranking system.</p>
Montana	<p>Projects which are specifically related to airports and airport development will be given highest priority when evaluating applications for aeronautically related projects.</p> <p><i>(Montana State Rules - Rule 18.13.406 Evaluation, Review, and Selection)</i></p>	<p>N/A – TDOT Aeronautics Division project priority process is more detailed with top priority on safety and security</p>
North Carolina	<p>The project priority number system is based on the North Carolina Airport Development Plan (ADP) system objectives, developed as part of the 2015 North Carolina Airports System Plan (NCASP). Each submitted project will be assigned a priority rating and will consist of a 3- or 4-digit number. This numbered list (with two zeros added) matches the Airport Development Categories listed in the ADP. A lower number equates to a higher priority. Staff can make adjustments to priority rating on a case-by-case basis by taking into account items such as:</p> <ul style="list-style-type: none"> • Cost • Public safety • Airspace constraints • Local support • Regional impacts • Airport infrastructure 	<p>Evaluate the feasibility of implementing a point ranking system for project prioritization based on existing state priorities or a reevaluation of priorities based on system needs.</p>

State	Project Priority Processes	Suggestions for TDOT Aeronautics Division
	<ul style="list-style-type: none"> • Based aircraft • Airport operations <p><i>(NCDOT - North Carolina Airports Program Guidance Handbook)</i></p>	
<p>Pennsylvania</p>	<p>Project prioritization is based on a point system. Points are assigned based on four criteria categories:</p> <ol style="list-style-type: none"> 1. Airport Class & Activity <ol style="list-style-type: none"> a. SASP classification (Commercial Service/Advanced, Intermediate, Basic, and Limited/Special Use) b. General aviation activity (single engine, multi engine, jet, helicopter) 2. Project Elements <ol style="list-style-type: none"> a. Runway/Planning b. Taxiway c. Terminal/Apron d. Landside 3. Equity and Obligations, 4. Department Goals <ol style="list-style-type: none"> a. System preservation b. Economic development c. Intermodal/Planning d. Other <p><i>(PennDOT - Aviation Development Program Project Selection Criteria)</i></p>	<p>Evaluate the feasibility of implementing a point ranking system for project prioritization based on existing state priorities or a reevaluation of priorities based on system needs.</p>

Source: Kimley-Horn, 2021

SAFETY THROUGH AIRPORT INSPECTIONS

Safety is the overarching goal for all state DOTs. DOT departments and divisions responsible for aviation and airport administration, along with individual airports, are responsible for ensuring safety at airports and their surrounding areas. Safety encompasses and affects all the other focus areas presented in this chapter. For example, safety is often one of the top priorities and goals supported by federal and state funding for airport projects. Additionally, land use and zoning regulations related to airport zoning and airport hazards areas are implemented to ensure available space for safe aircraft operations around airports and to protect the public from potential aviation-related hazards.

The peer state analysis focuses specifically on safety inspections, as state approaches to other aspects of airport safety are covered by other focus areas. Similar to Tennessee, airports in Arkansas, Indiana, Kentucky, and Montana conduct airport inspections on a regular basis. The inspection cycle varies among the peer states and there are different requirements for public-use and private-use airports. A summary of the safety procedures and programs comparison of the peer states is presented in [Table 12](#).

Based on the peer state review of safety inspections it is recommended that the TDOT Aeronautics Division considers the following:

- ◆ The implementation of a pilot's eye-view inspection in addition to the current ground-level inspection components

Table 12: Safety Through Airport Inspections Comparison Summary

State	Safety Through Airport Inspections	Suggestions for TDOT Aeronautics Division
<p>Tennessee</p>	<p>The TDOT Aeronautics Division conducts annual inspections of general aviation public use airports. Annual inspections are a requirement for verifying and validating the safety and maintenance state of airport installation and surrounding area for licensing. Components of the annual inspections include airport administrative data, runway, taxiway, apron/ramp, lighting, NAVAIDS, and general airfield infrastructure. <i>(TDOT Aeronautics Division – Tennessee General Aviation Airport Management Guide)</i></p>	<p>N/A</p>
<p>Arkansas</p>	<p>State inspections of public-owned airports are conducted every three years. <i>(Arkansas Department of Aeronautics - Strategic Plan)</i></p>	<p>N/A – TDOT Aeronautics Division inspection program is more comprehensive and inspections occur annually.</p>
<p>Georgia</p>	<p>Aviation Planning staff conduct biennial airport inspections at open-to-the-public airports in accordance to state rule and regulations and the FAA’s Airport Safety Data Program, and issue Georgia Airport Licenses every odd year. <i>(GDOT - Aviation Planning)</i></p>	<p>N/A – TDOT Aeronautics Division conducts inspections annually.</p>
<p>Indiana</p>	<p>All private and public use landing facilities are required under state code to receive a Certificate of Site Approval. Public-use landing facilities receive annual inspections while private-use facilities receive an initial certificate which is valid for the operating life of the facility. <i>(INDOT - Aeronautics Functions)</i></p>	<p>N/A – TDOT Aeronautics Division has a similar inspection policy.</p>
<p>Kentucky</p>	<p>Annual airport inspections of all general aviation airport facilities are conducted by Kentucky Department of Aviation. Inspections include pavement, airfield pavement marking, lighting system, fuel systems, runway and taxiway safety areas, approach slopes, navigational aids, and overall aesthetics of the airport. The Transportation Cabinet issues a certificate for the inspection. <i>(Kentucky Transportation Cabinet - Airport Inspections)</i></p>	<p>N/A – The TDOT Aeronautics Division inspection process includes similar components such as runways and taxiways, lighting, and navigational aids.</p>

State	Safety Through Airport Inspections	Suggestions for TDOT Aeronautics Division
<p>Montana</p>	<p>MDT Aeronautics conducts inspections of all public use airports. About 1/3 of the systems airports (approximately 40 airports) are inspected each year. Inspections include a detailed ground inspection of runway lights, obstructions, approach angles, and runway condition, as well as an inspection from the air for a pilot's point of view. <i>(MDT - Airport Inspections)</i></p>	<p>Consider the implementation of a pilot's eye-view inspection in addition to the current ground-level inspection components.</p>
<p>Pennsylvania</p>	<p>Aviation safety specialists conduct routine safety inspections of all public- and private-use facilities to assess compliance with State and Federal aviation regulations. All airports/heliports in Pennsylvania require licensing and periodic inspections by the department. <i>(PennDOT - Airport Licensing and Safety)</i></p>	<p>Consider the implementation of inspection requirements for private general aviation airports in Tennessee.</p>

Source: Kimley-Horn, 2021

STATE AVIATION PROGRAMS

State aviation programs include programs implemented and maintained by state DOTs. Examples of TDOT Aeronautics Division state programs include the Pavement Maintenance/Preservation Program, the Airport Maintenance Program, Education and Outreach programs, and the Automated Weather Observation System (AWOS) Program. For this focus area, the peer states were reviewed for similar programs and initiatives. Funding and grant programs are reviewed under the Funding Programs and Grant Priority Process focus areas, respectively and are not included in this focus area. Most peer states implement multiple state aviation programs, similar to the programs managed by the TDOT Aeronautics Division. These programs cover a wide variety of airport-related activities and aspects such as pavement maintenance, stormwater pollution prevention, education, and safety. A summary of the state aviation programs comparison is presented in **Table 13**. The peer state aviation programs presented in the table are programs that Tennessee does not currently have in place and is not exhaustive of all aviation programs within the peer states.

Based on the peer state review of state aviation programs, it is recommended that the TDOT Aeronautics Division considers the following:

- ◆ The implementation of TDOT Aeronautics Division managed Sustainability Program for enhanced sustainability at TASP airports
- ◆ The implementation of an aircraft counting program to forecast and support future Tennessee Aviation System Plan facilities and projects
- ◆ Exploring the need for and the feasibility of implementing a Turf Runway Marking Program to support safety at both public- and private-use airports
- ◆ The implementation of a drone program similar to that of North Carolina's UAS Integration Pilot Program for expanding the use of UAS in support of the TDOT Aeronautics Division goals and airport operations within the state
- ◆ The implementation of a Wildlife Hazard Management Program to assist airports with meeting their federal grant assurances relating to the safe operating conditions.
- ◆ Exploring the need for and the feasibility of implementing a Windsock Program to support safety at both public-use airports.

Table 13: State Aviation Programs Comparison Summary

State	State Aviation Programs	Suggestions for TDOT Aeronautics Division
Tennessee		<p>Airport Maintenance Program: Intended to assist municipalities with their efforts to maintain and preserve their publicly-owned public use airport facilities. Under the Airport Maintenance Program, airports are eligible for reimbursement for minor airport maintenance and safety correction projects that utilize both local municipality staff and on-call consultants and contractors necessary for the safe and efficient functioning of the airport. Maintenance projects include, but are not limited to: minor crack sealing, small full-depth pavement patching, minor pavement markings, minor seal coating, joint sealing, seal grading and seal rejuvenation, general grounds maintenance and mowing activities, minor drainage repair, shoulder grading and erosion control, beacon painting/rehabilitation, marking and rubber removal, airport signage, fire extinguishers maintenance, and pressure washing.</p> <p>Airfield Pavement and Markings Maintenance Program (APMM Program): This contract aims to protect and preserve the Statewide airport pavement network through preventative maintenance treatments and pavement re-marking on a four- to five-year recurring cycle. Treatments and repair include asphalt seal coat, asphalt crack sealing, concrete joint repair and joint sealing, and airfield re-marking.</p> <p>Airport Pavement Management Program (APMP): Provides a consistent, objective, and systematic procedure for establishing facility policies, setting priorities and schedules, allocating resources, and budgeting for pavement maintenance and rehabilitation. The program elements include pavement inventory, pavement inspection/survey schedules, record keeping, and information retrieval. To assist in developing the pavement program, TDOT Aeronautics Division uses PMP software. The PMP software uses the inspection results to efficiently identify pavements requiring maintenance and rehabilitation, reconstruction, or repair. Under the Airport Pavement Management Program airports may be eligible for additional pavement related professional and testing activities funding. Examples of professional and testing activities include: pavement project planning assistance, pavement structure determination, pavement Classification Number (PCN) determinations, geotechnical investigations and studies, pavement marking reflectivity testing, pavement friction testing, and pavement roughness testing.</p>

N/A

State	State Aviation Programs	Suggestions for TDOT Aeronautics Division	
	<p>Automated Weather Observation System (AWOS) Program: An array of weather collection equipment that utilizes a computerized system to collect aviation specific weather parameters every 20 minutes. The systems are designed to promote pilot safety and provide on-site weather information at General Aviation airports. The AWOS monitors aviation weather conditions such as: wind direction and speed, temperature, relative humidity, visibility, barometric pressure, density altitude, and cloud ceiling.</p> <p>Aviation Outreach and Education Program: Increases public awareness and knowledge of aviation related fields throughout Tennessee. The program focus involves increased concentration on aviation educational programs and activities for students in high school and higher education programs. The goal of the education programs is to cultivate student interest in, and knowledge of, aeronautics and aviation related career fields in Tennessee. Emphasis on these student outcomes, in conjunction with greater involvement with service and education organizations, increases knowledge of the economic benefits of aviation in Tennessee. Additionally, the program may result in a trained workforce for the aviation industry. These results can be used by community leaders to attract aviation related businesses or industry to the area. (TDOT Aeronautics Division – Tennessee General Aviation Airport Management Guide)</p>		
<p style="text-align: center;">Colorado</p>	<p>Colorado Airport Sustainability Program: Provides guidance and resources to general aviation airports in Colorado in order to help airports prepare their own individually customized sustainability plans. Results in three completed sustainability plans for three pre-selected case study airports: Centennial Airport, Rifle-Garfield County Regional Airport, and the Fremont County Airport. Case study sustainability plans will provide a valuable resource as a reference for other airports when developing their own unique plans. The overall goal of the Colorado Airport Sustainability Program is to provide Colorado general aviation airports with a tool that will assist in addressing ways to improve sustainability within economic, social, operational, and environmental realms at their airports. (CDOT Aeronautics - Colorado Airport Sustainability Program)</p>	<p>Consider the implementation of a TDOT Aeronautics Division managed Sustainability Program for enhanced sustainability at TASP airports</p>	

State	State Aviation Programs	Suggestions for TDOT Aeronautics Division	
Indiana		<p>Aircraft Traffic Counting Program: Involves the continuous development of aircraft operation estimates at various non-towered airports throughout the State of Indiana. Data collected from this program are used to forecast future activity at Indiana State Aviation System Plan facilities and for prioritizing capital improvement projects by state and federal authorities. The most important input into any method of estimating aircraft operations is collecting accurate sample data. As such, this program utilizes acoustically actuated aircraft traffic counters for its data collection in an effort to develop the most accurate operational estimates through the most practical and feasible means. (INDOT - Aeronautics Functions)</p>	<p>Consider the implementation of an aircraft counting program to forecast and support future Tennessee Aviation System Plan facilities and projects.</p>
North Carolina		<p>Turf Runway Marking Program: Provides yellow plastic cones for marking turf runways to increase airport safety. These cones mark the runway similar to runway lighting. They also help maintain runway dimensions throughout mowing. The cones are provided to both public-use and private-use airports, regardless of whether the ownership is private or public. Public-use airports are given the cones free of charge. Private-use airports can purchase the cones for \$20.00 each. Division of Aviation provides additional guidance on the placement and spacing of the cones.</p> <p>UAS Integration Pilot Program: Involves the implementation of drone programs to integrate emerging technology into current state and federal regulations. The UAS Integration Pilot Program is an opportunity for state, local and tribal governments to partner with private sector entities, such as UAS operators or manufacturers, and gather data on the efficiency of drone programs. The program has two main goals: 1) To foster a meaningful dialogue on the balance of local and national interests related to unmanned aircraft systems, 2) To provide useful data to the U.S. Department of Transportation for expanding and implementing unmanned aircraft systems into the National Airspace System. In North Carolina the program is focused primarily on using drones to deliver life-saving medical supplies, run food delivery services, and to conduct bridge and infrastructure inspections, especially after natural disasters.</p> <p>Wildlife Hazard Management Program: Helps minimize wildlife hazards at North Carolina airports and assist airports with meeting their federal grant assurances</p>	<p>Turf Runway Marking Program – Explore the need for and the feasibility of implementing a Turf Runway Marking Program to support safety at both public- and private-use airports.</p> <p>UAS Integration Pilot Program – Consider the implementation of a drone program similar to that of the UAS Integration Pilot Program for expanding the use of UAS in support of TDOT Aeronautics Division goals and airport operations.</p> <p>Wildlife Hazard Management Program – Consider the implementation of a Wildlife Hazard Management Program to assist airports with meeting their federal grant assurances relating to the safe operating conditions.</p> <p>Windsock Program - Explore the need for and the feasibility of implementing a</p>

State	State Aviation Programs	Suggestions for TDOT Aeronautics Division	
		<p>relating to the safe operating conditions, namely federal grant assurances 19 and 20. The program follows FAA guidance including AC 150/5200-33, Hazardous Wildlife Attractants On or Near Airports, as well as other FAA resources regarding this topic. In order to implement the program, Division of Aviation partners with the USDA APHIS Wildlife Services. As part of the program, USDA APHIS Wildlife Services conducts wildlife hazard site visits at general aviation airports and Wildlife Hazard Assessments at North Carolina's 15 airports that are 14 CFR Part 139 certified airports. In addition, Division of Aviation and USDA APHIS Wildlife Services provide wildlife hazard training to all airport personnel and others throughout North Carolina and respond to various requests for direct hazard management or technical assistance.</p> <p>Windsock Program: In the interest of reducing weather-related landing accidents caused by wind direction and magnitude, Division of Aviation has a program to provide windsocks, either free or at cost, to airports in North Carolina. To request a windsock, airports should determine which windsock they are eligible for, download and complete the appropriate request form, and submit it to the Division of Aviation. The requestor should be an owner or the manager of the airport requesting the windsock. (NCDOT - North Carolina Airports Program Guidance Handbook)</p>	<p>Windsock Program to support safety at both public-use airports.</p>

Source: Kimley-Horn, 2021

UNMANNED AERIAL SYSTEMS (UAS)

Unmanned aerial systems or unmanned aircraft systems (UAS), also referred to as drones, must be registered with the Federal Aviation Administration (FAA). UAS vary in size and shape. Small UAS (sUAS) are defined by the FAA as weighing less than 55 pounds. In most of the peer states reviewed, the regulation of UAS defaults to FAA regulations, although some states have enacted additional legislation on the operation of UAS within their states or require additional permits and licensure for UAS operation. Arizona, Kentucky, and Pennsylvania have imposed state legislation that define the use of UAS and sUAS in a criminal offence. In other states, such as North Carolina, the Department of Transportation has established additional age restrictions and permitting requirements for the operation of UAS in the state, on top of overarching FAA regulations. A summary for the UAS peer state comparison is presented in [Table 14](#).

Based on the peer state review of UAS regulations, it is recommended that the TDOT Aeronautics Division considers the following:

- ◆ Establish UAS Policy on age and testing requirements for commercial UAS Operators in Tennessee

Table 14: UAS Comparison Summary

State	UAS Requirements	Suggestions for TDOT Aeronautics Division
Tennessee	<p>No additional regulations on UAS recreational and commercial operation in Tennessee except for FAA rules and guidelines. TDOT Policy 170-03 requires that all persons operating a sUAS on behalf of TDOT shall adhere to the TDOT Standard Operating Guidelines (SOG) for sUAS and the aircraft manufacturer's approved manuals and checklists. Additionally, only sUAS owned by TDOT may be used to conduct sUAS operations for TDOT. Any TDOT division interested in operating a sUAS shall first contact the TDOT Aeronautics Division before engaging in any activities involving sUAS.</p> <p><i>(TDOT Aeronautics Division - Unmanned Aircraft Systems/Drones [1]; 2019 Policy 170-03 Small Unmanned Aerial Systems [2])</i></p>	N/A
Arizona	<p>In addition to FAA regulations, Arizona has legislation that defines the unlawful operation of model or unmanned aircraft within the state. Arizona State Statutes (13-3729) define the unlawful operation of unmanned aircraft if the operation interferes with a law enforcement, firefighter, or emergency services operation. Additionally, it is unlawful for a person to operate or use an unmanned aircraft or UAS to intentionally photograph or loiter over or near a critical facility in the furtherance of any criminal offense.</p> <p><i>(Arizona Statutes - 13-3729 Unlawful operation of model or unmanned aircraft)</i></p>	N/A – no additional UAS regulations by the DOT
Georgia	<p>No additional regulations on UAS operations in Georgia outside of FAA rules and guidelines.</p> <p><i>(Official Code of Georgia - 6-1-4. Unmanned aircraft system defined; preemption for unmanned aircraft systems; operations)</i></p>	N/A – no additional UAS regulations by the DOT
Kentucky	<p>No additional regulations on UAS operations in Kentucky outside of FAA rules and guidelines.</p> <p>To note: Kentucky state statutes allow commercial airports to prepare an unmanned aircraft facility map. Such maps should be filed with the secretary of the airport board and displayed on the airport's website. The map should not extend beyond approach surface areas defined in the official airport master plan and as defined in C.F.R. 14. An FAA unmanned aircraft facility map supersedes any commercial airport map.</p>	N/A – no additional UAS regulations by the DOT

State	UAS Requirements	Suggestions for TDOT Aeronautics Division
	<i>(Kentucky State Statutes - 183.085 Unmanned aircraft facility map for commercial airport; 183.086 Restrictions on operation of unmanned aircraft)</i>	
Nebraska	No additional regulations on UAS operations in Nebraska except for FAA rules and guidelines. <i>(NDOT - Drones)</i>	N/A – no additional UAS regulations by the DOT
North Carolina	In addition to FAA regulations, North Carolina has established age restrictions and permit requirements for Commercial and Government UAS operators. Commercial and Government UAS operators must be at least 16 years old and must take and pass the N.C. Department of Transportation’s UAS Operator’s Knowledge Test before applying for a state permit. A state permit must be obtained to operate UAS as a Commercial or Government Operator in North Carolina. <i>(NCDOT - Unmanned Aircraft Systems)</i>	Establish UAS Policy on age and testing requirements for commercial UAS Operators in Tennessee.
Pennsylvania	In addition to FAA regulations, Pennsylvania has legislation that defines the unlawful operation of a UAS or drone within the state. Pennsylvania law makes it a crime to operate a drone to conduct surveillance of another person in a private place; in a fashion that places another person in fear of bodily injury; and to deliver, provide, transmit, or furnish contraband. <i>(PennDOT - Unmanned Aircraft Systems / Drones)</i>	N/A – no additional UAS regulations by the DOT

Source: Kimley-Horn, 2021

Conclusion

Tennessee has a robust and ever-evolving aviation system. In order to preserve, enhance, and expand Tennessee's aviation system, this Chapter explored the programs and policies of ten peer states to determine potential policy recommendations for the TDOT Aeronautics Division. The ten peer states included:

- ◆ Arizona
- ◆ Arkansas
- ◆ Colorado
- ◆ Georgia
- ◆ Indiana
- ◆ Kentucky
- ◆ Montana
- ◆ Nebraska
- ◆ North Carolina
- ◆ Pennsylvania

It should be noted that the information provided in this chapter is based on publicly available information found on state Departments of Transportation (DOTs) and state legislation websites. There may be additional policy, procedure, and program information pertaining to state DOTs that is not readily and publicly available.

Policy recommendations were based on seven focus areas, which were developed concurrently to the review of the ten peer states' legislation and aviation-specific programs. A summary of recommendations by focus area follows.

Funding Programs (4)

- ◆ Implement an interest-bearing loan program for airport-related construction projects at publicly-owned airports.
- ◆ Implement a Fuel Storage Loan Program for the development of fuel storage to support the growth of Tennessee's aviation system and the implementation of the TASP facility and service objectives.
- ◆ Implement a Hangar Loan Program for the development of hangars to support the growth of Tennessee's aviation system and the implementation of the TASP facility and service objectives.
- ◆ Explore the feasibility of modeling economic and fiscal impacts for the Aeronautics Economic Development Fund.

Project Priority Process (2)

- ◆ Evaluate the feasibility of implementing a point ranking system for project prioritization based on existing state priorities or a reevaluation of priorities based on system needs.
- ◆ Evaluate the inclusion of features from the TASP, including impact on an airport's performance in a PM or Facility and Service Objective, to the prioritization process or a potential point ranking system.

Safety Through Airport Inspections (1)

- ◆ Implement a pilot's eye-view inspection in addition to the current ground-level inspection components.

State Aviation Programs (6)

- ◆ Implement a TDOT Aeronautics Division-managed Sustainability Program for enhanced sustainability at TASP airports.
- ◆ Implement an aircraft counting program to forecast and support future TASP facilities and projects.
- ◆ Explore the need for and the feasibility of implementing a Turf Runway Marking Program to support safety at both public- and private-use airports.
- ◆ Implement a drone program similar to that of North Carolina's UAS Integration Pilot Program for expanding the use of UAS in support of the TDOT Aeronautics Division goals and airport operations within the state.
- ◆ Implement a Wildlife Hazard Management Program to assist airports with meeting their federal grant assurances relating to the safe operating conditions.
- ◆ Explore the need for and the feasibility of implementing a Windsock Program to support safety at both public-use airports.

UAS (1)

- ◆ Establish UAS policy on age and testing requirements for commercial UAS operators in Tennessee.

Focus areas also included Land Use and Zoning and Minimum Airport Standards. No specific recommendations are made for these two focus areas due to governance by state legislature.

The TDOT Aeronautics Division should explore the feasibility of enacting any of the 14 recommendations provided across the five applicable focus areas. Enacting further policies and programs will not only ensure Tennessee continues to develop its aviation system, but also remain competitive with its peer states.