NAHSP

Nevada Airport and Heliport System Plan

TECHNICAL REPORT

PREPARED FOR: NEVADA DOT SAFE AND CONNECTED

PREPARED BY: Kimley»Horn
Expect More. Experience Better.

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Nevada Airport and Heliport System Plan

Prepared for

Nevada Department of Transportation
1263 S. Stewart Street
Carson City, NV 89712

Final Report
March 2022

Prepared by

Kimley»Horn

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1001 West Southern Avenue, Suite 131
Mesa, AZ 85210

In cooperation with

Quadrex Aviation, LLC
Ekay Economic Consultants, Inc.

The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration (FAA) as approved under the Airport and Airway Improvement Act of 1982. The contents of this report reflect the views of NDOT, which is responsible for the facts and the accuracy of the data depicted herein, and do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein, nor does it indicate that the proposed development is environmentally acceptable in accordance with applicable public laws.

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Chapter 1. System Goals and Performance Measures

1.1. Introduction

Nevada is known for world-renowned resorts and casinos, rich natural resources, a diverse landscape, unique industries, and a plethora of opportunity. All of these things that make Nevada the great state that it is are intertwined in a network that is connected through aviation. With 50[1] public-use aviation facilities, Nevada's aviation industry keeps the state safe, protected, and prospering. There are an additional 112 private-use facilities (airports, heliports, and glider ports) that supplement the public-use airports in Nevada.

In an effort to provide, operate, and preserve a transportation system that enhances safety, quality of life, and economic development, the Nevada Department of Transportation (NDOT) Aviation Program team initiated the development of a new Nevada Airport and Heliport System Plan (NAHSP). The NDOT Aviation Program last implemented a system plan study in 2004, which resulted in the Nevada Aviation System Plan (NASP). Since then, the NDOT Aviation Program realized that a new study was needed as the dynamic of aviation has changed around the state and throughout the United States (U.S.) and world, including the need to integrate rotorcraft and heliports in the state. Nevada has experienced tremendous growth in population and aviation activity over previous years, and this growth is expected to continue. The new NAHSP provides an updated, new outlook for Nevada aviation that includes both airports and heliports.

Included in this study is a complementary Airport Economic Impact Study (AEIS). Together, the NAHSP and AEIS demonstrate the system's needs and the economic impact of airports across the state of Nevada and the importance of continued investment in this critical state resource.

1.2. Study Process

System plans are typically developed at the state level and are guided by the Federal Aviation Administration (FAA) through Advisory Circular (AC) 150/5070-7, Change 1, *The Airport System Planning Process*. The FAA uses state system plan data and information at the federal level as input to the national aviation system plan, known as the National Plan of Integrated Airport Systems (NPIAS). States and the FAA use system planning results to guide decision-making and distribute resources to develop a network

[1] This includes one facility that was recently transferred to state ownership but is not yet registered with the Federal Aviation Administration (FAA).

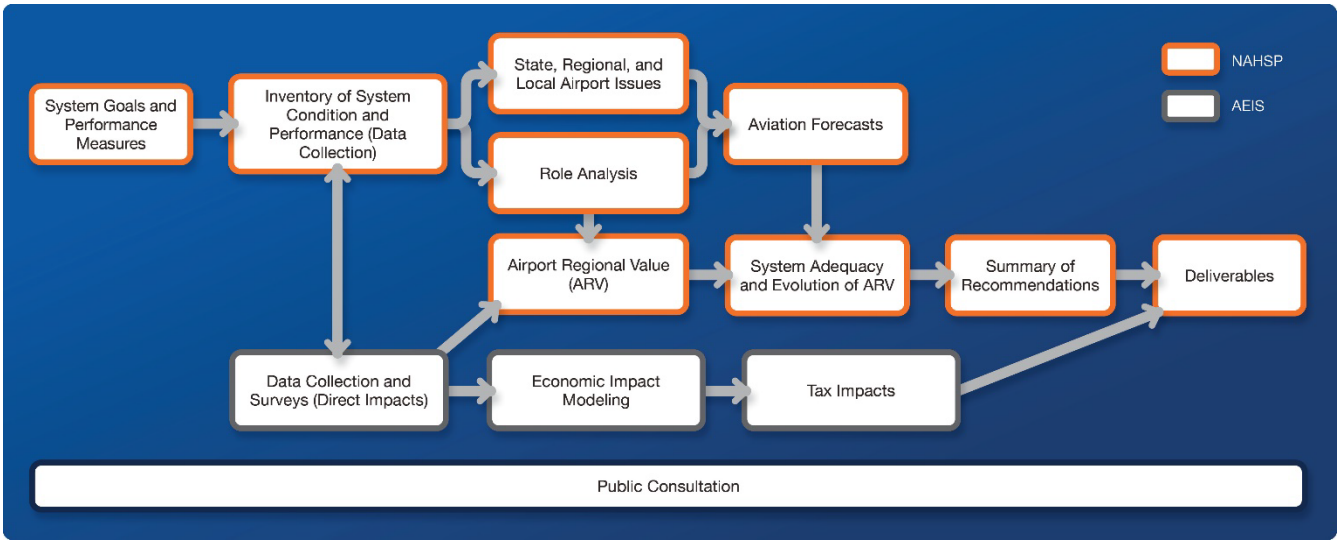
of airports based on existing and future needs. This process is achieved through coordination between the NPIAS and the federal Airports Capital Improvement Plan (ACIP) which identifies, prioritizes, and assigns funds to projects most critical to the National Airspace System (NAS).

System plans, like this one, include the following non-sequential components:

- Setting Goals and Performance Measures
- Discussing State, Regional, and Local Aviation Issues
- Taking Inventory of the System Condition and Performance
- Conducting and Defining Airport Roles
- Developing System Forecasts
- Evaluating System Performance
- Identifying System Needs
- Considering Alternatives
- Recommending System Changes

The latest update to the AC calls for additional analyses, including evaluating airport needs relative to multimodal planning and considering environmental considerations as part of system plans. Each of these analyses were included in developing the new NAHSP, as shown in **Figure 1-1**.

Figure 1-1: NAHSP Tasks and Process



Source: Kimley-Horn 2021

The NAHSP was guided by a Project Advisory Committee (PAC) that the NDOT Aviation Program established at the start of the study. The PAC was tasked with providing guidance and insight reflecting their perspectives in Nevada from airports and heliports, economic development, business organizations, emergency service providers, regional representatives, tourism operators, and government officials. Members have varying knowledge of airports and heliports, the aviation industry, and other policy issues that are discussed and evaluated in the study. The PAC meets throughout the project, reviews documentation, and provides feedback on study progress.

During the first PAC meeting, the PAC was asked "What does Aviation in Nevada mean to You". A variety of responses were received as shown in **Figure 1-2**. A key theme of opportunity emerged in the responses provided. Responses from PAC members showed that freedom, economic opportunity, including in rural areas, and tourism are important factors of the opportunities available in Nevada.

Figure 1-2: PAC Responses to "What Does Aviation in Nevada Mean to You"

Source: Project Advisory Committee (PAC) 2021, Kimley-Horn 2021

1.3. Goal Considerations

When developing a system plan, the first step is to establish goals and develop performance measures to evaluate progress toward achieving those goals. This includes review of the mission and vision for the agency and how these might be reflected in the goals for the plan. Definitions of goals and performance measures are as follows:

- **Goals:** Provide direction for the desired results for the state system in key result areas and serve as a starting point for defining objectives and performance-related metrics.
- **Performance Measures (PMs):** Directly relate to measuring the system's performance in meeting the goals.

The goals and their corresponding PMs support the recommendations that are developed at the conclusion of the system plan. To help with the creation of the NAHSP goals, a review of existing resources including the 2004 NASP and the NDOT *One Nevada Transportation Plan* was conducted.

1.3.1. 2004 NASP

In 2004, the state of Nevada conducted the Nevada Aviation System Plan (NASP). This was the most recent aviation system plan conducted in the state. The NASP goals were reviewed for their continued validity and potential consideration in the NAHSP. The NASP only provided two goals and no performance measures were included.

The mission statement and two goals from the 2004 NASP are as follows:

Mission Statement: Working in active partnership with other jurisdictions and the private sector, NDOT's mission is to ensure adequate mobility and choice for the transportation of Nevada's people and goods, now and in the future, through the development and maintenance of a technologically advanced, interlocking transportation system that stresses safety, protects and enhances the quality of life, and contributes to the economic vitality of the state.

Goals:

- To foster and promote the development of a safe, efficient, and dependable, and environmentally compatible air transportation system.
- To cooperate and coordinate with the FAA, regional transportation planning agencies, local governments, military authorities, other appropriate political subdivisions, the public, the air carrier, and general aviation industries, and the private sector in carrying out its aviation responsibilities.

Through discussion with the Aviation Program staff, it was determined that both goals and measures were needed for the new system plan.

1.3.2. NDOT Agency

The Nevada Department of Transportation (NDOT) is responsible for all planning, construction, operation, and maintenance of the transportation network within the state of Nevada. To oversee all projects, NDOT created a mission, vision, core values, and goals.

Mission: Provide, operate, and preserve a transportation system that enhances safety, quality of life and economic development through innovation, environmental stewardship and a dedicated workforce.

Vision: To be a leader and partner in delivering effective transportation solutions for a safe and connected Nevada.

Core Values:

- Respect – Treat others with dignity and value their contributions.
- Integrity – Do the right thing.
- Accountability – Take pride in our work and be accountable for our actions.
- Communication – Communicate with transparency and responsiveness both internally and externally.
- Teamwork – Foster collaborative and effective partnerships both internally and externally.
- Flexibility – Be responsive to changing conditions and open to new ideas.

Goals:

- Safety first.
- Cultivate environmental stewardship.
- Efficiently operate and maintain the transportation system in Nevada.
- Promote internal and external customer service.
- Enhance organizational and workforce development.

1.3.3. One Nevada Transportation Plan

The *One Nevada Transportation Plan* was developed in 2018, with a limited update in 2020, and is Nevada's current state transportation plan. The Plan contains clearly outlined goals and performance measures for guiding the state in transportation planning, as well as mission and vision statements regarding NDOT and the transportation system as a whole. As stated in the Plan, "the *One Nevada Transportation Plan* serves as the umbrella statewide plan that informs the goals, policies, and performance approach of other modal and system plans." The Plan also suggests "aligning performance measures and goals across" the other modal and program plans, including aviation. The vision defined for the state's transportation system in the Plan is as follows:

> "Nevada's future transportation vision is for a safe and connected multimodal transportation system that links Nevadans and supports the state's economic vitality. This vision balances the need to preserve and improve existing infrastructure while recognizing the value of strategic investments in mobility and connectivity. NDOT and its partners are committed to advancing this vision by identifying opportunities and priorities. These goals and supporting guiding principles were developed in partnership with NDOT's planning partners, through outreach to key stakeholders, and from input by the traveling public."

The vision was translated into a series of goals, guiding principles, and primary PMs for the transportation system as identified in **Table 1-1**. Of note, NDOT's Performance Analysis Section is responsible for managing the state's performance measurement. Performance measurement was required as part of federal surface transportation acts including Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act.

Table 1-1: Goals and Guiding Principles from the One Nevada Transportation Plan (2020)

One Nevada Goals		One Nevada Select Measures	One Nevada 2018 Performance	One Nevada Target	One Nevada Guiding Principles
Enhancing Safety	Continuously improve and promote safety on our transportation system for all modes.	Number of fatalities (and serious injuries) on all public roads (2016)	278 (1,211)	333 (1,883)	▪ Reduce traffic fatalities and serious injuries on all public roads through engineering, education, enforcement, and emergency response strategies. ▪ Reduce fatalities and serious injuries involving pedestrians, bicyclists, motorcyclists, and other vulnerable road users. ▪ Expand partnerships with safety advocates around the state to identify and implement safety improvement strategies and investments. ▪ Support automated and connected vehicle technology advancements that improve safety. ▪ Improve incident management and emergency response capabilities.
		Rate of fatalities (and serious injuries) per 100 million vehicle miles traveled (VMT) on all public roads (2016)	1.12 (5.08)	1.25 (4.89)	
		Number of non-motorized fatalities and serious injuries on all public roads (2016)	261	300	
Preserve Infrastructure	Maintain the state's transportation assets to preserve investments.	Percent of pavements on the Interstate system in good (and poor) condition (2017)	78% (1%)	75% (1.4%)	▪ Maintain transportation infrastructure assets (including highway pavement, bridges, buildings, intelligent transportation systems (ITS), roadway equipment, storm drains and culverts, geohazard sites, tunnels, traffic signals, sidewalks, bike paths, and walls) in a good condition in all areas of the state. ▪ Improve snow and ice removal performance and other routine maintenance.
		Percent of pavements on the National Highway System (NHS) (excluding Interstate system) in good (and poor) condition (2017)	79.4% (4.7%)	55.8% (6.5%)	
		Percent of NHS bridges classified in good (and poor) condition (2017)	42.2% (0.5%)	35% (7%)	

One Nevada Goals		One Nevada Select Measures	One Nevada 2018 Performance	One Nevada Target	One Nevada Guiding Principles
		Percent of non-NHS bridges classified in good (and poor) condition (2017)	>35% (<7%)	N/A	
Optimize Mobility	Make strategic investments that enhance mobility opportunities, better connections, and transportation reliability expectations.	Percent of person-miles traveled on the interstate system (non-interstate NHS) that are reliable (2016)	86.8% (66%)	87% (65%)	▪ Improve the short-term and long-term reliability of the transportation system through improved system management and operations. ▪ Expand multimodal options for moving people, including walking, bicycling, and transit. ▪ Improve connectivity between all modes of Nevada's transportation system, including highways, rail, transit, and airports. ▪ Expand use of emerging technologies to improve the management and operation of the transportation system, including considering the implications of autonomous, connected, and alternatively fueled vehicles when designing and operating the transportation system. ▪ Minimize impacts to travelers, such as shifting road and bridge maintenance and improvement work in congested areas to times when fewer vehicles are on the roads. ▪ Minimize growth in future delay through targeted investments and strategies for addressing bottlenecks, incidents, special events, and other sources of recurring and non-recurring delay.
		Annual hours of peak-hour excessive delay per capita on NHS (2016)	15	10	
		Percent of non-single-occupancy vehicle travel in urbanized areas (2016)	21.3%	21.6%	
		Percent interstate system mileage providing for reliable truck travel times (TTTR index, 2016)	1.28%	1.5%	

One Nevada Goals		One Nevada Select Measures	One Nevada 2018 Performance	One Nevada Target	One Nevada Guiding Principles
Transform Economies	Improve the contribution of the transportation system to Nevada's economic competitiveness through a supportive and innovative transportation framework.	Mean travel time to work, minutes	23.9	N/A	▪ Strengthen partnerships between NDOT and state and regional economic development agencies. ▪ Promote state and regional economic development goals by aligning transportation and economic development goals, strategies, and investments. ▪ Continue to position Nevada as a leader in emerging transportation technologies. ▪ Provide reliable and accessible transportation options to get people to work and customers and supplies to businesses. ▪ Support strategic investments and operational improvements that facilitate multimodal freight movement. ▪ Provide efficient, seamless, and reliable access to attractions for residents and visitors. ▪ Manage highway access to balance mobility and economic development considerations.
		Number of visitors to Nevada	56,320,196	N/A	
Foster Sustainability	Develop a transportation network that reduces emissions while being environmentally, historically, culturally, and financially sustainable.	Maintain highest bond rating among credit agencies	AAA	AAA	▪ Enhance the performance of the transportation system while protecting and enhancing the natural environment. ▪ Provide access to and support alternative energy options along designated corridors. ▪ Secure sustainable and reliable funding to support the preservation, management, and expansion of Nevada's transportation system. ▪ Promote fiscal responsibility and financial sustainability of state-funded investments.
		Percent of projects completed on schedule (and within budget)	100% (90%)	80% (80%)	
		Minimize environmental impact	To be developed	To be developed	

One Nevada Goals		One Nevada Select Measures	One Nevada 2018 Performance	One Nevada Target	One Nevada Guiding Principles
Connect Communities	Enhance opportunity, livability, and quality of life through better connections, increased transportation choice, and supportive infrastructure for all modes.	Percent of major improvements or plans consistent with regional and local goals	N/A	To be developed	▪ Coordinate transportation services across the public and private sectors to deliver programs and services effectively and responsively. ▪ Ensure integrated and seamless multimodal transportation choices locally and regionally. ▪ Strengthen and modernize transportation systems through investments in new technologies. ▪ Provide accessibility to all users of the transportation system. ▪ Foster inclusive, long-term relationships with regional and local planning partners to ensure transportation is coordinated with regional and community visions.

Source: One Nevada Transportation Plan, November 2018 (revised February 2020)

1.4. NAHSP Goals and Performance Measures

After reviewing and examining the previous system plan for the state of Nevada, the *One Nevada Transportation Plan*, and consulting the PAC, it was determined that the *One Nevada Transportation Plan's* six goals would be used, tailored to fit with aviation system goals. Aviation-specific PMs were selected for each goal to evaluate how the system is performing which leads to specific actions that may be considered to improve the aviation system's performance over time. The goals and PMs are outlined below in **Table 1-2**.

Table 1-2: NAHSP Goals and Performance Measures

Goal		Performance Measures
Enhance Safety	Continuously improve and promote aviation safety. 	Percent of airports meeting applicable FAA design and safety standards
		Percent of state land area and population within 30 minutes of airports with weather reporting capabilities
		Percent of state land area and population within 30 minutes of an airport with a paved runway
		Percent of airports that have a designated helicopter landing location
		Percent of airports that have broadband service
Preserve Infrastructure	Maintain the state's aviation assets to preserve investments. 	Percent of airports that have coordinated with local land use authority to adopt appropriate land use controls
		Percent of airports that have an approved airport planning document that was completed after 2013
		Percent of airports' primary runway meeting pavement condition index (PCI) of acceptable or rated Good (G)
		Percent of airports that are under a Military Operating Area (MOA) in the national airspace system

Goal		Performance Measures
Transform Economies	Improve the contribution of the aviation system to Nevada's economic competitiveness through a supportive and innovative transportation framework. 	Percent of airports with active development partnerships with chambers of commerce, tourism bureaus, service organizations, industries, governments, military officials, and recreational user groups
		Percent of airports with expansion/development potential
		Percent of airports that can support regular business aircraft activity (runway length, approach, weather, fuel)
		Percent of airports with tour operators, specifically utilizing helicopters
Foster Sustainability	Develop an aviation network that reduces emissions while being environmentally, historically, culturally, and financially sustainable. 	Percent of airports that have established public outreach protocols or programs that include efforts with the local community, as well as local, state, regional, and federal governmental representatives
		Percent of airports with or pursuing an alternative energy source
		Percent of airports with an airport manager to operate and maintain the airport
		Percent of airports that have received federal and/or state funding within the last five years
Connect Communities	Enhance opportunity, livability, and quality of life through better connections between aviation system and other modes. 	Percent of airports capable of supporting aerial firefighting operations
		Percent of airports capable of supporting emergency (medical/police) operations
		Population within 30 minutes of any public-use airport
		Percent of airports providing access to remote communities

Goal		Performance Measures
Optimize Mobility	Make strategic aviation investments that enhance mobility opportunities, better connections, and reliability expectations. 	Percent of airports that are adequately accessible in terms of signage and access road quality
		Percent of airports that provide off-airport transportation (e.g., courtesy car, transportation network carrier, bus, rental car, other)
		Percent of airports that are involved in unmanned aerial system (UAS)/unmanned aerial vehicle (UAV) (training, businesses, facilities, or safety protocols)

Source: Kimley-Horn 2021

1.5. Summary

The goals and PMs established in this chapter are a foundation for the NAHSP by informing subsequent efforts and analyses from collecting inventory information, to calculating performance, identifying system needs, and developing recommendations.

Chapter 2. Inventory of Aviation System Conditions

2.1. Introduction

An essential step in any planning study is to evaluate existing conditions, which starts with collecting data to develop an inventory. Data collection is one of the most important stages in the Nevada Airport and Heliport System Plan (NAHSP). This process compiles the baseline data used to evaluate the ability of each airport to provide adequate service for its given role and determine how the overall aviation system is performing. The Inventory of System Conditions presents the results of an in-depth data collection effort utilizing existing resources from the Federal Aviation Administration (FAA) and Nevada Transportation Department (NDOT) Aviation Program in addition to new primary data that was obtained through individual airport surveys and staff interviews.

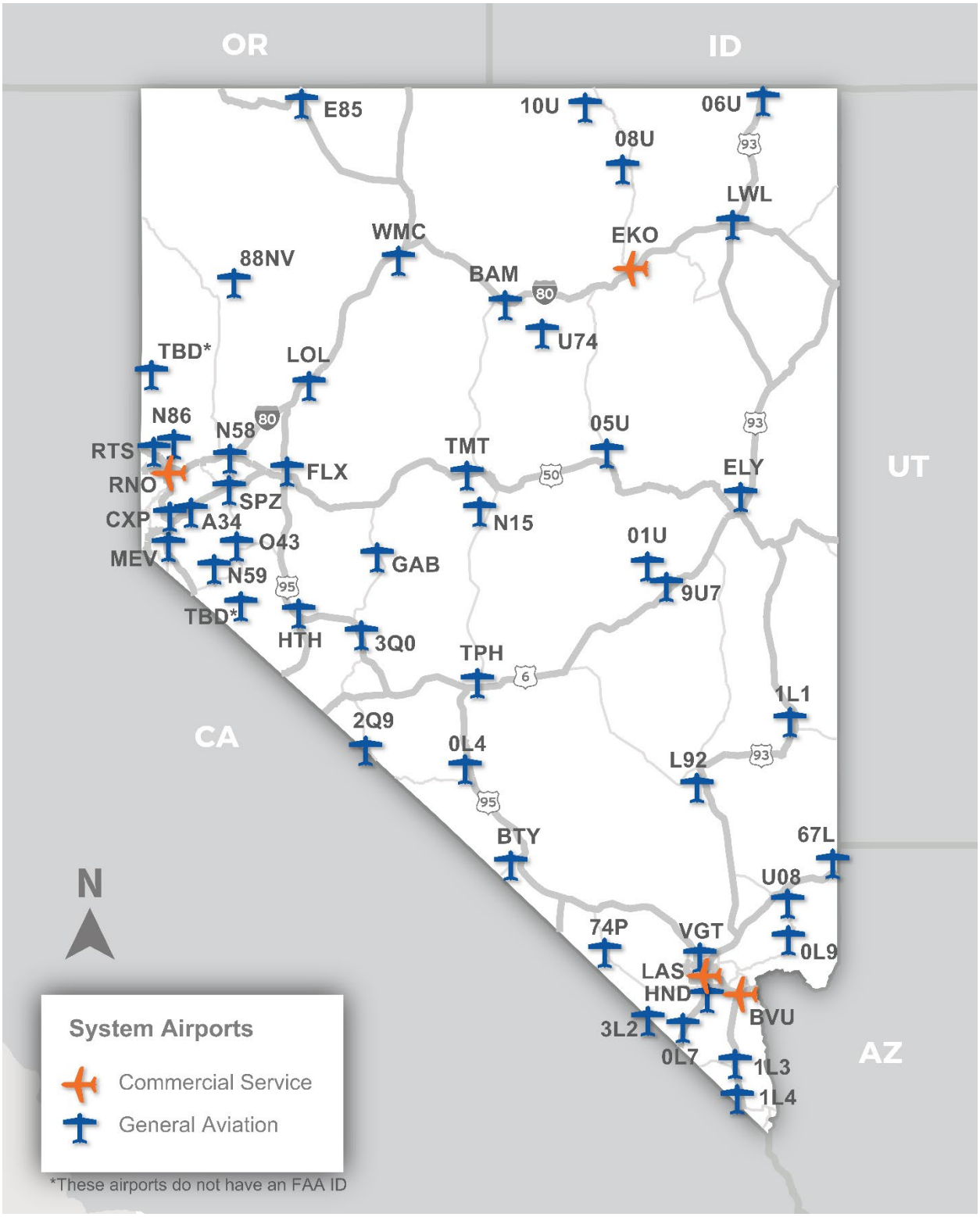
This chapter summarizes the compiled inventory data at a statewide level. Subsequent chapters present and evaluate data at the airport level, specifically in the analysis of performance measures and development of airport regional values.

2.2. Data Collection Process

The inventory process started with identification of the airports that would be considered in the NAHSP's analysis, which focuses primarily on those airport facilities open to the public as well as heliports throughout the state. The NAHSP's system consists of 44 public-use, publicly owned airport facilities in the state, five privately owned airports that are open to the public, and two temporary airports that are open to the public during major events for a total of 51 system airports. The 51 system airports are identified in **Figure 2-1** and listed in **Table 2-1**. Non-system airports in Nevada are identified in **Figure 2-2** and listed in **Table 2-2**. There are also five airports that are located in adjacent states but serving Nevada aviation needs due to proximity. These supporting airports are not analyzed in the study but are recognized as providing mobility options and accommodating demand for aviation services, even though they are outside the state.

Beyond the 51 system airports, Nevada has 63 operational heliports (also shown in **Figure 2-3** and listed in **Table 2-3**). The 63 heliports are stand-alone facilities but are primarily for private uses in the State of Nevada. There are an additional 14 heliports located on nine airports which are analyzed as part of the airport system. The 51 system airports were contacted to participate in the study's data collection process. The heliports are identified in the NAHSP, but there is limited analysis of these facilities given they are almost entirely private use. No surveys were conducted with the heliports. Subsequent sections focus primarily on the 51 system airports.

Figure 2-1: NAHSP System Airport Locations



Sources: FAA Form 5010 Airport Master Record, Kimley-Horn 2021

Table 2-1: NAHSP System Airport Listing[1]

Associated City	Airport Name	FAA ID
Alamo	Alamo Landing Field	L92
Austin	Austin	TMT
Battle Mountain	Battle Mountain	BAM
Beatty	Beatty	BTY
Boulder City	Boulder City Municipal	BVU
Cal Nev Ari	Kidwell	1L4
Carson City	Carson	CXP
Crescent Valley	Crescent Valley	U74
Currant	Currant Ranch	9U7*
Dayton/Carson City	Dayton Valley Airpark	A34
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	TBD
Denio	Denio Junction	E85
Duckwater	Duckwater	01U*
Dyer	Dyer	2Q9
Elko	Elko Regional	EKO
Ely	Ely Airport/Yelland Field	ELY
Eureka	Eureka	05U
Fallon	Fallon Muni	FLX
Fernley	Samsarg Field	N58
Gabbs	Gabbs	GAB
Gerlach	Black Rock City (Burning Man)	88NV
Goldfield	Lida Junction	0L4
Hawthorne	Hawthorne Industrial	HTH
Jackpot	Jackpot/Hayden Field	06U
Jean	Jean	0L7
Kingston	Kingston	N15
Las Vegas	Henderson Executive	HND
Las Vegas	North Las Vegas	VGT
Las Vegas	Harry Reid International (formerly McCarran)	LAS
Lovelock	Derby Field	LOL
Lyon County	Flying M Ranch (Hilton Ranch)	TBD

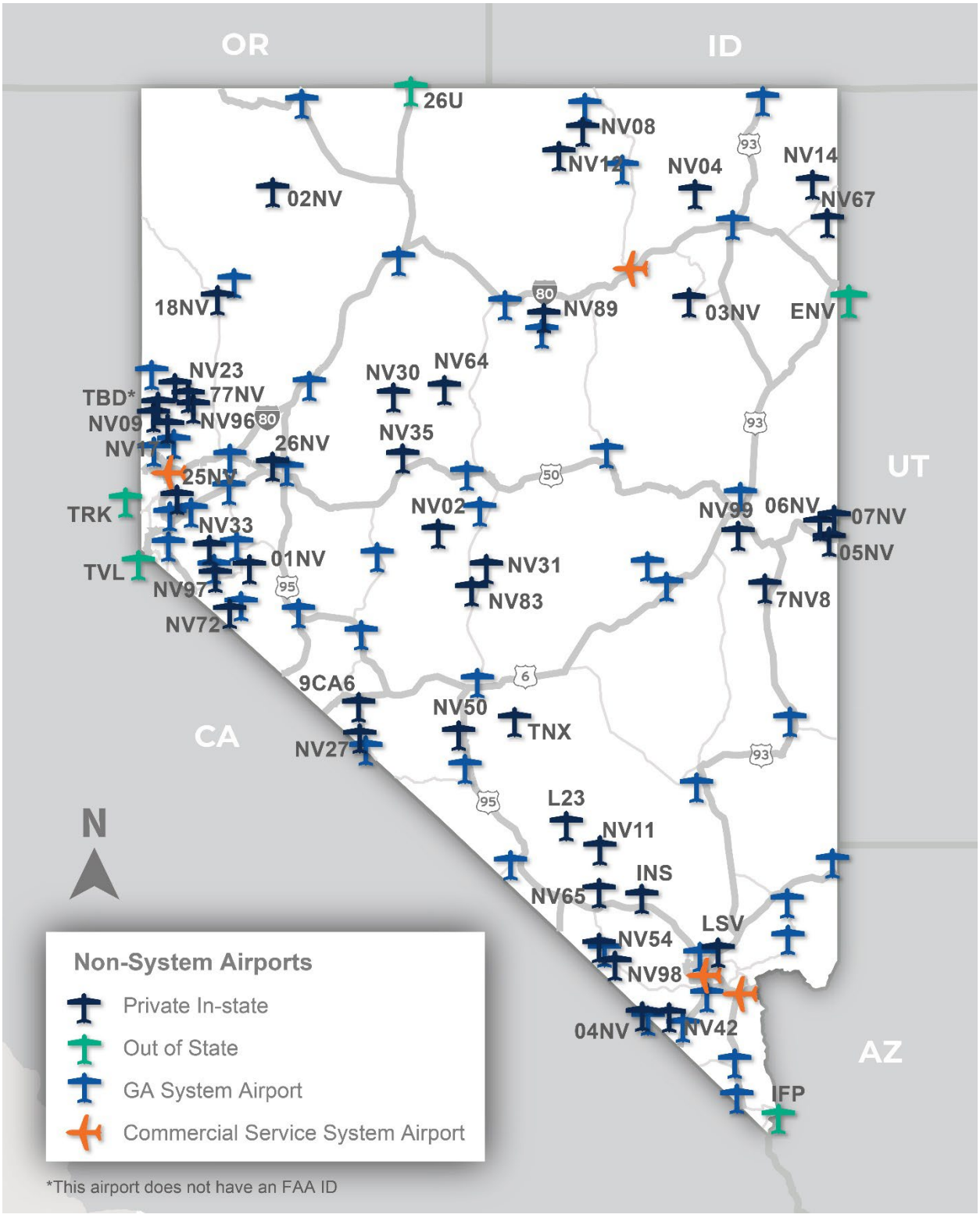
[1] The Goldfield (NV50) airport, currently a private airport without a helicopter landing area, has been requested to become a public airport, which would add it to this list. These changes have not yet taken place.

Associated City	Airport Name	FAA ID
Mesquite	Mesquite	67L
Mina	Mina	3Q0
Minden	Minden-Tahoe	MEV
North Fork	Stevens-Crosby	08U*
Overton	Echo Bay	0L9
Overton	Perkins Field	U08
Owyhee	Owyhee	10U
Pahrump	Calvada Meadows	74P
Panaca	Lincoln County	1L1
Reno	Reno/Tahoe International	RNO
Reno	Reno/Stead	RTS
Reno	Spanish Springs	N86*
Sandy Valley	Sky Ranch	3L2
Searchlight	Searchlight	1L3
Silver Springs	Silver Springs	SPZ
Smith	Rosaschi Air Park	N59
Tonopah	Tonopah	TPH
Wells	Wells Municipal/Harriet Field	LWL
Winnemucca	Winnemucca Municipal	WMC
Yerington	Yerington Municipal	O43

*Note: *Airport's lease with the Bureau of Land Management (BLM) has expired and coordination continues to renew the lease.*

Sources: FAA Form 5010 Airport Master Record, Kimley-Horn 2021

Figure 2-2: NAHSP Non-System Airport Locations



Sources: FAA Form 5010 Airport Master Record, Kimley-Horn 2021

Table 2-2: NAHSP Non-System Airport Listing

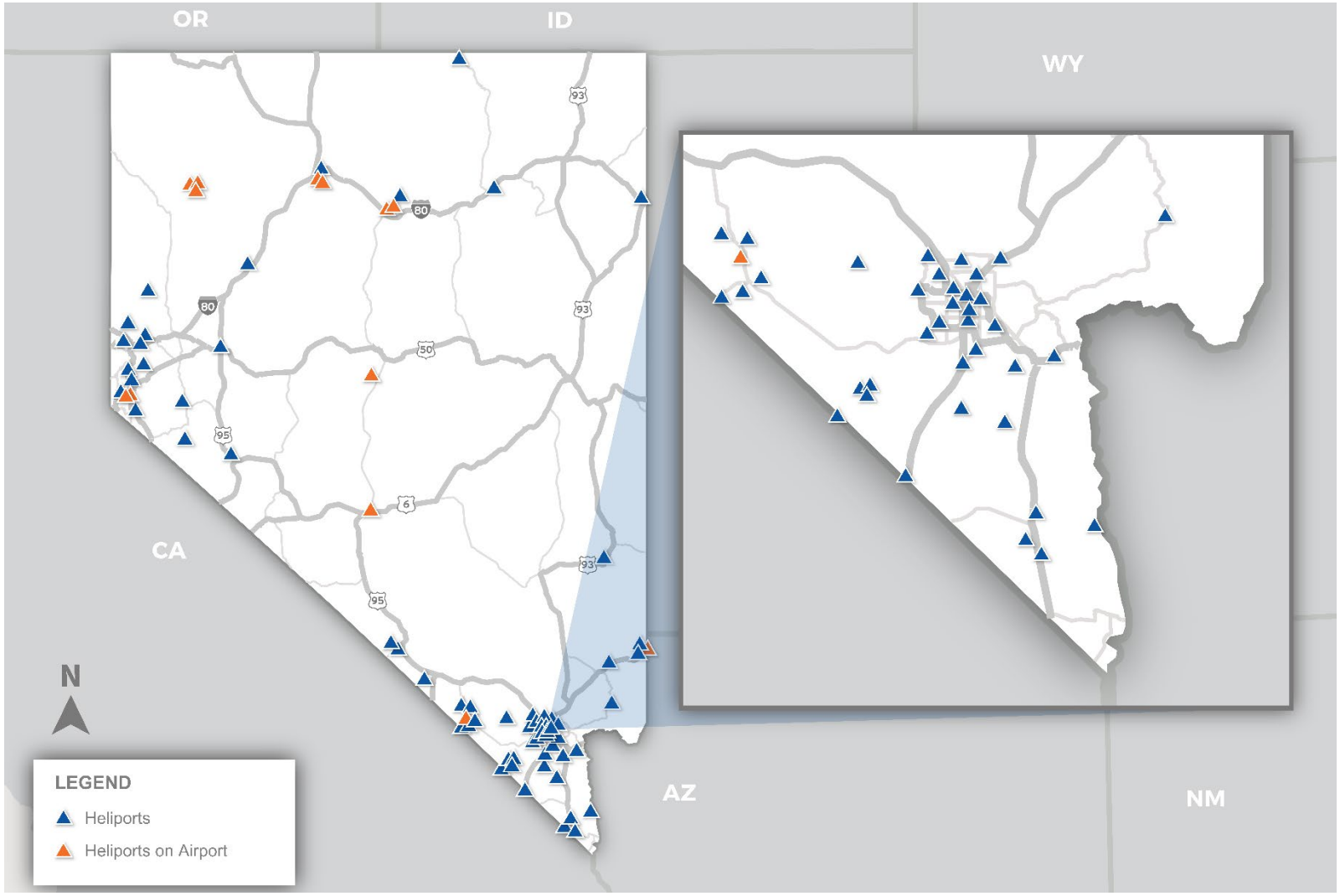
Associated City	Airport Name	FAA ID
Austin	O'Toole Ranch	NV02
Austin	Hudson	NV35
Baker	Baker Ranches	05NV
Baker	Border Line Farm	07NV
Baker	Silver Creek	06NV
Battle Mountain	Swanson Ranch 3	NV64
Bishop	North Valley	9CA6
Bullhead City, AZ	Laughlin/Bullhead International	IFP
Carson City	Parker Carson	25NV
Crescent Valley	Red Owl Ranch	NV89
Deeth	Marys River Ranch	NV04
Dyer	Circle L Ranch	NV27
Elko	Red Rock Ranch	NV22
Ely	Willow Creek Trading Post	NV99
Ely/Pioche	Geyser Ranch	7NV8
Empire	Empire	18NV
Fallon	Dixie Valley	NV30
Fallon	Darrow Field	26NV
Fallon	Fallon NAS (Van Voorhis Fld)	NFL
Fallon	Fallon Southwest Airpark	1NV1
Gardnerville	Pinenut	NV55
Gerlach	Soldier Meadow Nr 1	NV06
Gerlach	Soldier Meadow Nr 2	NV05
Goldfield	Goldfield	NV50[2]
Indian Springs	Creech Airforce Base	INS
Jean	Heritage	NV42
Las Vegas	Nellis Air Force Base	LSV
Lemmon Valley	Youngberg Ranch	NV17
McDermitt, OR	McDermitt State	26U
Montello	Juniper	NV14
Mercury	Desert Rock	NV65
Mercury	Pahute Mesa Airstrip	L23

[2] The Goldfield (NV50) airport, currently a private airport without a helicopter land area, has been requested to become a public airport, which would remove the airport from this list, and to have a helicopter landing area added. These changes have not yet taken place.

Associated City	Airport Name	FAA ID
Mercury	Yucca Airstrip	NV11
Montello	Pilot Creek Ranches	NV67
Mountain City	Petan Ranch	NV08
Pahrump	Caas	NV98
Pahrump	Flying S Ranch	NV54
Reno	Flying Eagle	77NV
Reno	H Bar H	NV09
Reno	Mavland Stolport	TBD
Round Mountain	Barker Creek Ranch Airstrip	NV31
Round Mountain	Hadley	NV83
Ruby Valley	Llama Ranch	03NV
Sandy Valley	Kingston Ranch	04NV
Smith Valley	Farias Wheel	NV33
South Lake Tahoe, CA	Lake Tahoe	TVL
Sparks	Air Sailing	NV23
Sparks	Gibb Ranch	2NV2
Sparks	Rolling Thunder	NV96
Tonopah	Tonopah Test Range	TNX
Truckee, CA	Truckee-Tahoe Airport	TRK
Tuscarora	I-L Ranch	NV12
Wellington	Desert Creek	NV97
Wellington	Sweetwater (USMC)	NV72
Wellington	Topaz Ranch	43NV
Wells	Two Star Ranch	NV07
Wendover, UT	Wendover	ENV
Winnemucca	Paiute Meadows	02NV
Yerington	Lantana Ranch	01NV

Sources: FAA Form 5010 Airport Master Record, Kimley-Horn 2021

Figure 2-3: NAHSP Heliport and Heliport on Airport Locations



Source: Kimley-Horn, FAA Form 5010 Airport Master Record 2021

Table 2-3: NAHSP Heliport Listing

Associated City	Heliport Name	FAA ID
Amargosa Valley	Amargosa EMS	On Request
Battle Mountain	Battle Mountain EMS	53NV
Battle Mountain	Battle Mountain H1	BAM
Battle Mountain	Battle Mountain H2	BAM
Beatty	Beatty Hospital-EMS	On Request
Beatty	Planet One Heliport	On Request
Boulder City	Boulder City Hospital	NV16
Caliente	Grover C Dils Medical Center	On Request
Carson City	Carson-Tahoe Gardnerville	On Request
Carson City	Carson-Tahoe Hospital	NV60
Carson City	Carson-Tahoe Regional Medical Center	NV15
Charleston	Spring Mountain - NPS	On Request
Cottonwood Cove	Lake Mead EMS - Cottonwood	On Request
Elko	Northeastern Nevada Regional Hospital	NV20
Fallon	Banner Hospital	On Request
Gerlach	Black Rock City (Burning Man) H1	88NV
Gerlach	Black Rock City (Burning Man) H2	88NV
Gerlach	Black Rock City (Burning Man) H3	88NV
Hawthorne	Grant Hospital	On Request
Henderson	Henderson Hospital	32NV
Henderson	St Rose Dominican Hospital	NV25
Kingston	Kingston H1	N15
Las Vegas	Action	NV40
Las Vegas	Centennial Hills Hospital	On Request
Las Vegas	Children's Hospital Heliport #2	On Request
Las Vegas	Circus Circus	NV48
Las Vegas	Desert Springs Hospital	3NV1
Las Vegas	Gilbert Development Corp	NV61
Las Vegas	KLAS Channel 8	NV38
Las Vegas	Las Vegas Motor Speedway - EMS	On Request
Las Vegas	Primm Valley Resort Casino EMS	On Request
Las Vegas	Spring Valley Hospital	2VE2
Las Vegas	St Rose Dominican San Martin Campus	64NV
Las Vegas	St. Rose Dominican - Rose De Lima	On Request
Las Vegas	Summerlin Medical Center	0NV1

Associated City	Heliport Name	FAA ID
Las Vegas	Sunrise Medical Center	NV86
Las Vegas	Sunrise Mountain View Hospital	10NV
Las Vegas	University Medical Center-Southern Nevada	NV34
Las Vegas	Valley Hospital Medical Center	NV53
Logandale	Moapa Logandale	On Request
Lovelock	Pershing General Hospital	NV19
Lyon County	Flying M Ranch (Hilton Ranch)	On Request
Mesquite	Mesa View Regional Hospital	99NV
Mesquite	Vista Del Monte Lot 55	2NV3
Mesquite	Mesquite H1	67L
Minden	Helicopter Parts International Inc. (HPI)	On Request
Minden	Minden-Tahoe BLM1	MEV
Minden	Minden-Tahoe BLM2	MEV
Nelson	Eldorado Substation	NV37
North Las Vegas	Emerus	NV24
Overton	Echo Bay	On Request[3]
Owyhee	Owyhee Hospital	On Request
Pahrump	Desert View Hospital	On Request
Pahrump	Flying S Ranch	NV54
Pahrump	KPVM Television	90NV
Pahrump	Mercy Air-Pahrump	2NV8
Pahrump	Precious Materials	NV73
Pahrump	Calvada Meadows H1	74P
Reno	Freedom Helipad	NV77
Reno	Remsa/Care Flight	NV78
Reno	Renown Regional Medical Center	NV57
Reno	St Mary's Regional Medical Center	NV58
Sandy Valley	Fly Sin City #1	NV91
Sandy Valley	Fly Sin City #2	NV92
Sandy Valley	Fly Sin City #3	NV93
Sandy Valley	Sky Ranch	NV21
Searchlight	Renegades Mines Partners LLC	NV10
Searchlight	Searchlight Airport H1	On Request

[3] The Echo Bay Marina Heliport (0L9) is located approximately three miles away from the Echo Bay Airport (0L9).

Associated City	Heliport Name	FAA ID
Searchlight	Searchlight Airport H2 EMS	On Request
Sparks	Air Sailing	NV23
Sparks	Northern Nevada Medical Center	NV69
Tonopah	Tonopah H1	TPH
Wendover	West Wendover EMS	On Request
Winnemucca	Humboldt General Hospital EMS	22NV
Winnemucca	Winnemucca Municipal H1	WMC
Winnemucca	Winnemucca Municipal H2	WMC
Yerington	South Lyon County Hospital	On Request

Sources: Kimley-Horn, FAA Form 5010 Airport Master Record, 2021

The data collection process took place in Winter 2020 and Spring 2021 through the distribution of the Airport Inventory Data Collection Form (inventory or survey form) to airports. This form was then reviewed by the project team with the airport sponsor during a virtual site visit to provide a complete portrait of each airport's activities, facilities, services, and use. Due to COVID-19, no in-person site visits were conducted as part of the inventory efforts prior to June 2021. The survey form requested information from the airport owner regarding facilities and services, as well as information to support the Airport Economic Impact Study (AEIS) being conducted as part of the NAHSP. AEIS data were compiled during the inventory effort but are not summarized in this chapter.

While numerous attempts were made to contact all system airports, there were a few unresponsive airports. In these cases, the survey forms were completed as best possible by the project team and reviewed by NDOT. Information for any of the airports that could not be verified was noted as "not provided" or "N/P" to ensure that they were not counted as a "no" in tabulating results.

As supplements to the inventory form and on-site visits, additional information was gathered directly from the airport and/or FAA and examined for a more in-depth analysis of the airports and the system. Sources of this data included:

- FAA Terminal Area Forecasts (TAF)
- FAA Form 5010, Airport Master Record
- Airport master plans (MPs)
- Airport Layout Plans (ALPs)
- FAA U.S. Chart Supplements
- NDOT Aviation Program Data

The following data were collected (as applicable) for each airport via the Airport Inventory Data Collection Form, virtual site visits (of the 51 identified airports), additional correspondence with airport representatives, and other available sources:

- Economic factors (e.g., operating revenue, financial subsidy information)
- Airport sponsor employment (e.g., employment counts and occupations)
- Airport expenditures (e.g., total annual wages, capital improvements, other operating expenses)
- Airport activity (e.g., transient activity, average length of stay, purpose of travel, real estate development, other non-aeronautical revenue streams, through-the-fence operations, fixed-base operators)

- Business tenant information (e.g., on-airport businesses, off-airport businesses that rely on the airport)
- General airport information (e.g., airport management, airport interest groups, business organization partnerships, cell phone coverage, volunteer organizations, unique local policies, airport website)
- Aircraft storage (e.g., helicopter storage, amount and types of hangar storage, hangar storage utilization, amount and types of tie-down storage, overnight tie-down storage utilization)
- Airport security (e.g., closed circuit TV, perimeter and wildlife fencing, mutual aid agreements with emergency providers, emergency response capabilities of the airport)
- Airport planning (e.g., current and future airport reference code, critical aircraft, airport master plan, airport layout plan with narrative, sustainability plans, airport capital improvement plan, pavement maintenance plan)
- Infrastructure (e.g., condition of runways, utilities, alternative energy sources, navigational equipment)
- Facilities, services, and amenities (e.g., general aviation terminal building, airport amenities, fuel availability and sales, snow removal equipment, aviation education programs, airport rescue and firefighting)
- Mobility and access (e.g., airport involvement in local comprehensive transportation plans, availability of types of mobility and access from an airport, integration with regional transportation, sufficiency of surface street and highway access)
- Land use compatibility (e.g., land use compatibility and height hazard zoning, Federal Aviation Regulation [FAR] Part 77 guidelines, enforcement of zoning)
- Operations (e.g., total operations, operations by type, impact of military operations and airspace, COVID-19 impacts, common activities associated with aviation)
- Unmanned aerial systems (UAS)/unmanned aerial vehicles (UAVs or drones) (e.g., presence and types of drone operations, airport drone regulations, airport stance on drone operations, designated UAS/UAV flight or instruction areas)
- Aerial firefighting (e.g., types available, ability to support large firefighting aircraft, available land and amenities for this purpose, operational impact from firefighting operations)
- Emergency medical operations (e.g., types and frequency, aircraft types utilized, operator information)
- Helicopter tourism (e.g., types of tours offered, infrastructure used and requested, impact of COVID-19, contact information)
- Other information (e.g., unique features of the airport, top three trends and issues observed)

All collected data is used in the subsequent evaluation of the Nevada airport system. Key data elements are summarized in the following sections.

2.3. Airport Infrastructure

2.3.1. Runways

Length

The most important infrastructure at an airport is its runway as it provides the ability for aircraft to land, whether the runway is paved or not. Runway length is vital to being able to accommodate larger and heavier aircraft, particularly at airports at higher elevations or those that experience high temperatures. Aircraft require additional runway length to takeoff with the same payload as mean maximum temperatures increase and for runways at higher elevations. In Nevada, the average elevation is 4,204 feet above sea level with the lowest at 1,365 feet and highest at 6,837 feet above sea level. Additionally, an airport that sees regular operations by larger aircraft types would need a longer runway to allow larger aircraft to operate at their maximum capability.

Having a second crosswind or additional runway may be necessary to allow aircraft to operate during high wind conditions or if an airport experiences frequent changes in wind direction. Multiple runways may also allow an airport to accommodate greater numbers of operations.

The longest runway in the state is Runway 08L-26R at Harry Reid International Airport (LAS) with a length of 14,515 feet. The shortest is Runway 12-30 at Dyer Airport (2Q9) with a length of 2,870 feet. In Nevada, 26 airports have one runway, and 25 airports have two or more runways. The entire state has a total of 79 runways and length information by airport is presented in **Table 2-5**[4]

Surface Type

It is important to note that runways can be designed for different types of aircraft operations that may not require the same level of infrastructure. For example, a rural airport that caters to small tailwheel aircraft may only need to provide a dirt or gravel runway, while an airport that sees larger jet traffic may need to provide a paved runway. Paved and non-paved runways each require unique levels of care to ensure that they can be used effectively. Of the 51 airports evaluated, 37 airports have paved runways of either asphalt or concrete. The remaining airports include 11 dirt runways, one sand runway, one gravel and dirt runway, and one turf and dirt runway. Runway surface type information by airport is presented in **Table 2-5**.

Pavement Condition

Pavement condition is important to providing a safe operating environment for aircraft. For an airport with a paved runway, this can be expressed as a Pavement Condition Index (PCI), where 100 refers to pavement in perfect condition and zero refers to pavement that is completely unusable, as shown in **Figure 2-4.** The FAA uses a similar rating system, referred to as PASER, that ranges from Excellent, where the pavement is less than five years old and requires no maintenance, to Failed, where the pavement may be limiting operations and needs reconstruction. The NAHSP summarized the pavement conditions of the primary runway at airports included in the study from the State (2018 NDOT Pavement Management System Update) utilizing PCI ratings methodology and federal sources (FAA Airport Master Record) utilizing the PASER methodology.

Figure 2-4: PCI Ratings

PCI Rating	
PCI Range	**Pavement Condition**
86 –100	Good
71 – 85	Satisfactory
56 – 70	Fair
41 – 55	Poor
26 – 40	Very Poor
11 – 25	Serious
0 – 10	Failed

Source: FAA Advisory Circular 150/5380-7B Airport Pavement Management Program (PMP), Figure B-1

Airport pavements are also one of the most significant capital investments in the Nevada aviation system due to their high costs to construct and maintain. In Nevada, there are 14 airports with primary runways in

[4] For ease of reading this chapter, the data for each section has been combined in multiple paged tables at the conclusion of the text.

Excellent condition, 20 with Good, 12 with Fair, and three with Poor. Primary runway pavement condition information by airport is presented in **Table 2-5**.

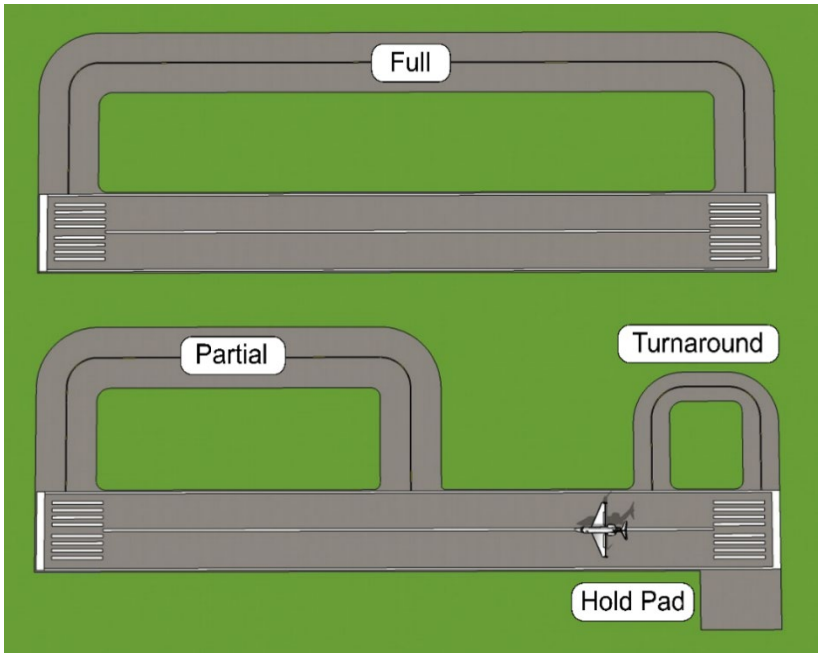
Runway Lighting

The FAA recognizes three types of runway lighting: High Intensity Runway Lighting (HIRL), Medium Intensity Runway Lighting (MIRL), and Low Intensity Runway Lighting (LIRL). Increased lighting intensity allows a runway to be visible from a greater distance, which can help pilots locate a runway during night operations. An alternative to runway lighting involves using passive reflector systems, which utilize material that reflects an aircraft's landing light to provide a level of visibility without active runway lighting. In Nevada, 33 airports have some level of runway lighting on at least one of their runways. Runway lighting intensity information by airport is presented in **Table 2-5**.

2.3.2. Taxiways

Taxiways allow for an efficient flow of aircraft to and from a runway, with the potential to increase or reduce congestion and pilot confusion. The FAA provides taxiway design standards to facilitate their development and recognizes four types of taxiways, shown in **Figure 2-5**.

Figure 2-5: Types of Taxiways Recognized by the FAA



Source: Kimley-Horn 2021

Definitions for the four taxiway types are as follows:

- Full-length parallel – provides a taxiway parallel to the runway for the full length of the runway
- Partial parallel – provides a taxiway parallel to the runway for only a portion of the runway
- Hold pad – provides an area near a taxiway for aircraft to park while waiting to access the runway or apron
- Turnaround – serves as a combination bypass taxiway and holding bay when a parallel taxiway cannot be provided

In Nevada, 26 airports have a partial or full parallel taxiway for their primary runway. Taxiway information by airport is presented in **Table 2-5**.

2.3.3. Aircraft Storage Information

A major component of airport infrastructure is aircraft storage. Storage is needed for both based aircraft and those that are transient or arriving from another airport to stay for some amount of time. The following describes based aircraft and other storage data at Nevada's airports.

Based Aircraft and Market Share

A based aircraft is defined as an aircraft that is stored at an airport for the majority of the year. An accurate based aircraft count can provide insight to the ability of aircraft storage and facility capacity at an airport to meet demand for such facilities. The number of based aircraft reported from the FAA's 5010 Form (the latest available for airports as of April 2021) is reflective of a single point in time and may increase or decrease in the future depending on various factors such as storage cost or the condition of an airport's facilities. Additionally, the types of based aircraft at an airport drive various levels of demand for aircraft storage depending on aircraft size. Currently, there are approximately 2,457 based aircraft in Nevada per the research completed as part of the NAHSP. Based aircraft information by airport is presented in **Table 2-5**.

Hangars

Hangars are storage locations for aircraft that come in numerous shapes and sizes and offer protection for aircraft from weather, privacy for the aircraft owner, and even office space in larger hangars. Having available hangars on property allows an airport to appeal to more aircraft owners and business tenants that could move their aircraft and operations to the airport.

An estimated total of 1,600 hangar spaces were identified as part of the inventory effort. This total comprises conventional box hangar spaces, T-hangar spaces, and shade hangar spaces. It's important to note that this estimated total is an approximation as the number of spaces available in each type of storage facility can vary depending on the size of aircraft being accommodated in each box hangar. Airport representatives were asked to provide the number of storage spaces available based on the average number of aircraft observed within the facilities. In Nevada, there are approximately 740 T-hangar units across airports in the state. There are approximately 600 to 700 spaces within conventional hangars available and 200 shade hangars as reported through the airport interview process. T-hangar information by airport is presented in **Table 2-5**.

Helicopter Parking

Helicopters play a major role in Nevada aviation for emergency operations as well as a thriving tourism industry. Medical operators use helicopters to provide vital emergency medical service for rural or remote areas that do not have the capability to handle a particular specialized situation or when time is a critical factor. The military also uses helicopters and conducts training operations throughout the state. Providing spaces and areas capable of accommodating helicopter operations on an airport creates a safer environment for existing and future users and appeals to helicopter operators. When asked about helicopter storage and spaces on property, 15 airports identified that they had a designated zone for helicopters to use on a paved area or other appropriate, non-dirt surface. Helicopter parking information by airport is presented in **Table 2-5**.

2.3.4. Fencing

Airport fencing provides the first line of protection, safety, and security for the airport and its associated property. The two most common types of fencing are: 1) a six- to eight-foot-tall security fence with one foot of three-strand barbed wire and 2) wildlife fencing, which will vary in height and may provide underground skirting. While most airports prefer to have full perimeter fencing, some airports may not have fencing due to operational preferences or financial constraints. One alternative is to set up fencing around "high-need" areas such as the runway, terminal, or apron area. In Nevada, 29 airports have either partial or full fencing of some kind. Fencing information by airport is presented in **Table 2-5**.

2.4. Airport Services and Amenities

2.4.1. Terminal Buildings and Associated Amenities

To provide the best service to general aviation (GA) users, particularly visitors, an airport typically offers a terminal building or some type of facility for pilots and passengers. A terminal building is a designated space where GA and/or commercial operators can rest, use the restroom, meet, or connect with local transportation options. Terminal buildings often serve as the first impression for a city or region, as they are the first building that visitors see. In Nevada, 25 airports have a terminal building at their respective airports with some form of amenities such as public restrooms, pilot lounge, or conference rooms. Terminal building and amenities information by airport are presented in **Table 2-5**.

2.4.2. Fuel

The availability of fuel at airports can be one of the most influential factors driving aircraft operational activity. Fuel at GA airports is a substantial component of airport revenues and its availability can be the reason that a user or business decides to operate at a particular airport. Small, piston-engine aircraft rely on 100LL (also known as AvGas), while turbine-engine aircraft rely on Jet-A. Five airports in Nevada only sell 100LL on property, while there are 22 airports that sell both 100LL and Jet-A fuel. No airport sells only Jet-A fuel. In the NAHSP, 24 airports have no available fuel.

Offering self-service fuel allows an airport to accommodate increased demand with the same level of staff. Through a credit card reader (CR), a pilot is able to conveniently self-pay for fuel at all hours of the day, which can lead to increased fuel sales from pilots flying at odd hours or at night. Self-service (SS) fueling is available at 24 airports in Nevada, with CR capabilities reported as available at 14 of those airports. 14 airports provide full service (FS) as a fueling option, which requires dedicated staff members to pump the fuel into the aircraft for the pilot. Fuel information by airport is presented in **Table 2-6**.

2.4.3. Communication Connectivity

Cellular coverage is essential due to the current prevalence of cellular devices and their usefulness in everyday life. For aviation in particular, cellular-connected iPads are becoming more common as electronic flight bags (EFBs) are replacing traditional paper products and tools. NDOT has developed the Nevada Airport Directory iPad Application that many pilots use as part of their EFB.

Reliable cellular coverage is especially critical for airports in Nevada that are either unattended or that have limited business hours, where the ability to connect to a cellular network to communicate with emergency services can make a significant difference in the event of an emergency. The ability to connect digitally also provides the ability to provide weather reporting throughout the state, which is vital

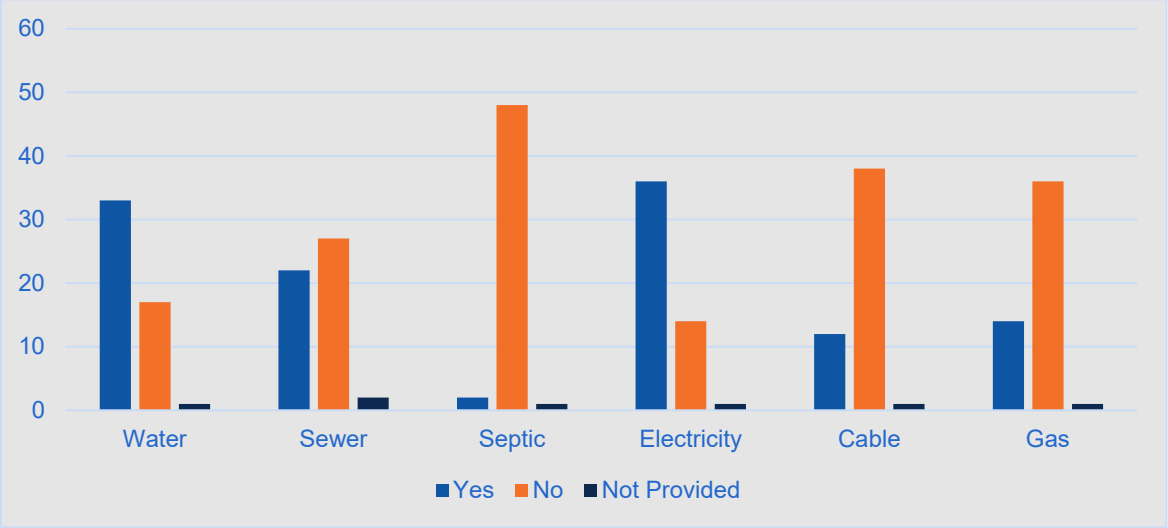
for pilots and operators to make key flight decisions. In Nevada, 46 airports have data coverage of some kind, one has only voice coverage, and four have no connectivity. Communication connectivity information by airport is presented in **Table 2-6**.

2.4.4. Utilities

The availability of utilities at an airport is necessary to support the airfield (e.g., lighting, visuals, etc.), provide critical infrastructure for emergency operations, and provide an opportunity for development. This infrastructure is a long-term investment that can be used to attract economic activity while also ensuring that tenants and visitors are able to access what they need at an airport. In Nevada, it is vital for aerial firefighters to have the resources to refill their aircraft with water as well as provide support to their ground personnel. It should be noted that a detailed analysis on the level of services, such as the pounds per square inch (PSI) of water pressure, was not conducted as part of the NAHSP.

As shown in **Figure 2-6**, 33 airports in Nevada have water utilities available and 36 have electric utilities available. Utilities information by airport is presented in **Table 2-6**.

Figure 2-6: Airports in Nevada with Utilities



Sources: Airport Inventory Data Collection Survey, Kimley-Horn 2021

2.4.5. Alternative Energy Sources

To help the environment by reducing carbon footprints, many organizations have implemented alternative energy sources, such as solar, wind, or geothermal systems. This results in lower emissions and can also lead to energy cost savings and a more positive community perception of an airport. The manner in which alternative energy sources can be implemented at an airport varies based on the type of airport, operational characteristics, and location. The most common source of alternative energy at airports comes from solar panels, which take advantage of the predominantly sunny weather in Nevada and can be installed on the roofs of airport buildings and as solar canopies over airport parking lots. Currently, there are seven airports that utilize alternative energy sources at the airport. Alternative energy source information by airport is presented in **Table 2-6**.

2.4.6. Aircraft Maintenance

Some airports have tenants on site that can conduct aircraft maintenance. This is an appealing service for an airport, as it provides a service for other tenants and for transient aircraft that may visit an airport specifically for its maintenance capabilities. This service can apply to either powerplants, the engines on an aircraft, or to an airframe, which is the rest of the aircraft. Aircraft maintenance is regulated by the FAA and aircraft mechanics are certified by the FAA.

The distinction between a major and minor repair is defined by the FAA. Major repairs, if done improperly, would have an appreciable impact on important qualities affecting airworthiness such as balance and structural strength. Minor repairs are all repairs that are not defined as major repairs. In Nevada, 14 airports offer some level of maintenance services. Aircraft maintenance information by airport is presented in **Table 2-6**.

2.5. Planning and Design

Airport planning is important because it ensures that an airport provides a high level of safety while also meeting demand for aircraft operations and airport business needs. FAA design standards for a given airport are driven by the demand at an airport, which is determined through the Airport Master Plan and Airport Layout Plan process. Local regulations on zoning are important for an airport as well because development near an airport can impact its ability to meet runway and airspace design standards and may also cause operational restrictions for aircraft that use the airport.

2.5.1. Airport Design Standards

The FAA has published extensive regulations on all facets of an airport, which must be met to receive FAA funding for eligible projects such as runway rehabilitation. Safety is the primary concern with FAA design standards, particularly with runways, and the FAA-defined safety areas around a runway are some of the most important standards for an airport to meet. Specific design standards that were reviewed as part of the NAHSP include the three described in this section. In Nevada, 36 airports were considered to meet the FAA design standards.

Runway Safety Areas (RSAs):
RSAs support safe aircraft operations during take-off and landing. The RSAs extend from both ends of the runway and provide additional clearance in the event of an aircraft overrun, overshoot, or if the aircraft veers off the side of the runway. RSAs are typically 500-feet wide and extend 1,000 feet beyond each runway end but may be smaller if the runway has a less demanding runway design code (RDC). According to FAA AC 150/5300-13A, RSAs must be:

- Cleared and graded with no potentially hazardous ruts, humps, depressions, or other surface variations
- Drained by grading or storm sewers to prevent water accumulation
- Capable, under dry conditions, of supporting snow removal equipment (SRE), aircraft rescue and firefighting (ARFF) equipment, and occasional passage of aircraft without causing damage
- Free of objects and obstructions[5]

[5] Except for objects that are required to be located in the RSA because of their function, in which case, objects higher than three inches above grade must be constructed on frangible mounted structures.

Runway Object Free Area (ROFAs):
ROFAs are centered around the runway centerline and have clearing standards that require clearing of above-ground objectives protruding above the nearest point of the RSA. According to FAA AC 150/5300-13A, unless other clearing standards dictate otherwise, it is acceptable for objects that need to be located in the ROFA for air navigation or aircraft ground maneuvering purposes to protrude above the nearest point of the RSA, and to taxi and hold aircraft in the ROFA. Any objects deemed non-essential for air navigation or aircraft maneuvering must be removed from the ROFA.

Separation Standards:
Airfield separation standards are another FAA design element reviewed under Goal 1 of the NAHSP. For the purposes of this analysis, the following airfield separation standards are evaluated:

- Primary runway centerline to holding position
- Primary runway centerline to parallel taxiway centerline
- Primary runway centerline to aircraft parking area

The recommended distance between these airfield components depends on the RDC. Separation standards are implemented to facilitate safe operations of aircraft around the airfield by ensuring there is adequate clearance for aircraft to navigate the airfield. Airports are only evaluated based on the separation standards that are applicable to the airport's design, so in the event an airport did not have a full or partial parallel taxiway, or no holding position marking is present because the runway is unpaved, then these standards are not evaluated.

2.5.2. Airport Plans

Airport Master Plans are a way for airports to identify, establish, and prepare a long-term plan for the overall direction of an airport. The process analyzes everything from existing facilities to traffic forecasting to future airport development. Master Plans allow an airport to evaluate its long-term growth and develop a feasible strategy to meet future needs. Airport Master Plans often include an updated Airport Layout Plan (ALP), which is a tool that graphically shows existing facilities and planned development at an airport. Having an ALP allows airports to comply with one of the Airport Improvement Program (AIP) funding grant assurances, which is to "keep the ALP up-to-date at all times." In the NAHSP, 26 airports had an Airport Master Plan on file and 30 airports had an ALP on file. Of those airports, 19 had an Airport Master Plan published after 2013 and 26 had an ALP published after 2013, when the FAA's primary airport design advisory circular (AC 150/5300-13A) last received a major update.

Certain airports may not experience enough operational demand to warrant a full Airport Master Plan or ALP due to their size, location, funding ability, or other reasons. In lieu of such documents, NDOT has developed Airport Diagrams for these airports to collect and present essential airport information for potential airport users. This provides air ambulance and firefighting aircraft with the basic information required to operate at rural airports and by GA aircraft that might use these airports more often. In Nevada, 14 airports have just a state diagram, while the rest have an ALP and/or Airport Master Plan. Airport plan information by airport is presented in **Table 2-6**.

2.5.3. Airport Reference Code (ARC)

The FAA classifies airports by an Airport Reference Code (ARC) which is used in evaluating planning and design criteria for airports. Establishing an ARC starts with selecting a "critical aircraft" or "design aircraft" that uses, or is expected to use, the airport. A critical aircraft is defined as the most demanding aircraft

conducting at least 500 annual operations at the airport. An airport's critical aircraft can be either a specific aircraft type or a grouping of aircraft with similar characteristics. The ARC classification system is based on the critical aircraft and comprises an alpha-numeric identifier representing the Aircraft Approach Category (AAC) and Airplane Design Group (ADG). The AAC is shown as a letter and reflects the approach speed of the critical aircraft. The ADG is shown as a Roman numeral and reflects the critical aircraft's wingspan and tail height. AAC and ADG criteria are shown in **Table 2-4**.

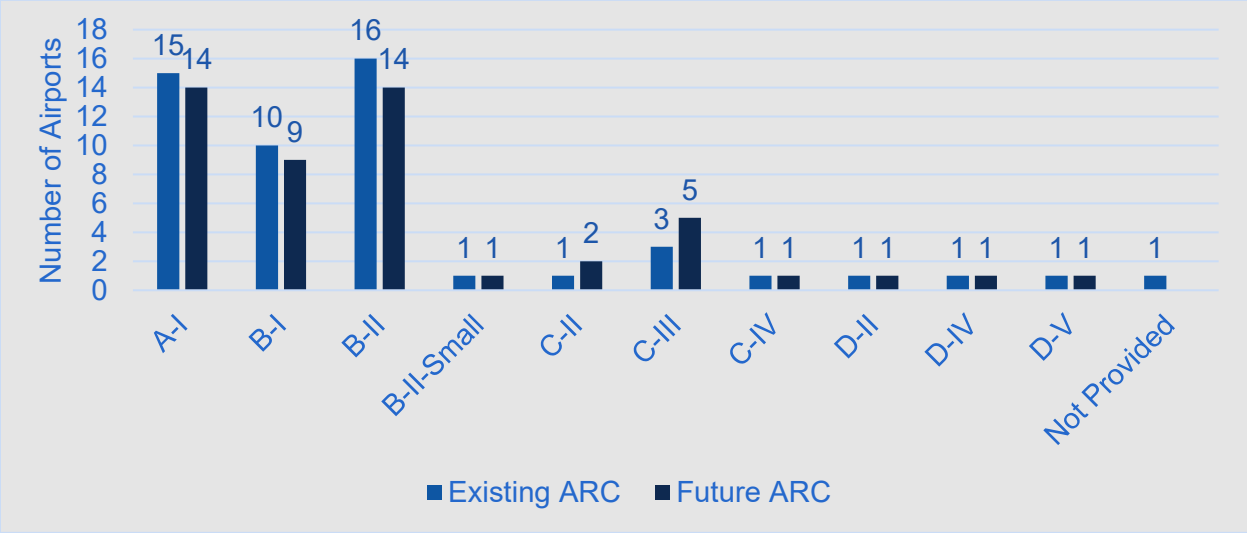
Table 2-4: AAC and ADG Criteria

Aircraft Approach Category (AAC)		Aircraft Design Group (ADG)		
Category	**Speed**	**Group**	**Wingspan Size**	**Tail Height**
A	< 91 knots	I	< 49'	< 20'
B	91 to 120 knots	II	49' - < 79'	20' - < 30'
C	121 to 140 knots	III	79' - < 118'	30' - < 45'
D	141 to 165 knots	IV	118' - < 171'	45' - < 60'
E	166 knots or more	V	171' - < 214'	60' - < 66'
-	-	VI	214' - < 262'	66' - <80'

Source: FAA Advisory Circular 150/5300-13A, Airport Design

As shown in **Figure 2-7**, 43 airports in Nevada had a current ARC of B-II or smaller. Additionally, only seven airports anticipate a different ARC in the future. ARC information by airport is presented in **Table 2-6**.

Figure 2-7: Nevada Airports by Existing and Future ARC



Sources: Airport Inventory Data Collection Survey, Kimley-Horn 2021

2.5.4. Control of Runway Protection Zone (RPZ)

Maintaining control of additional property, whether through direct ownership, individual agreements, or a combination of the two, mitigates the risk of development near an airport that could present height hazards to aircraft, also known as encroachment. For example, the FAA recommends maintaining full control of the Runway Protection Zone (RPZ), which allows for standard aircraft operations and minimizes conflicts with off-airport development, through either property ownership or easements. An RPZ is a trapezoidal area of land at the end of a runway that protects people and property from aircraft operations. The dimensions of a runway end's RPZ are based on the ARC and the visibility minimums of each runway. Only six airports in Nevada have full control of their RPZ areas. RPZ control information by airport is presented in **Table 2-6**.

2.5.5. Local Zoning

The FAA established Code of Federal Regulations (CFR) Part 77, "Objects Affecting Navigable Airspace" in 1965 to protect the nation's navigable airspace and to ensure the safety of aircraft. Now called Federal Aviation Regulation (FAR) Part 77 "Safe, Efficient Use and Preservation of the Navigable Airspace," the regulation lays out specific airspace dimensions as "imaginary surfaces," based on the design criteria of airports, that should not be penetrated by objects or structures. These surfaces are designed to allow aircraft to operate free of obstructions within the airport's traffic pattern and along established flight paths in and out of the airport.

Zoning is a set of rules that govern how a plot of land may be developed and allow a municipality to enact protections such as height hazard zoning that reflect Part 77 Surfaces. Having such regulations in place in the vicinity of an airport can prevent incompatible land use that could interfere with safe aircraft operations. In Nevada, 10 airports were noted to have local height hazard zoning that protects these surfaces from objects and structures. Height hazard zoning information by airport is presented in **Table 2-7**.

Beyond height hazard zoning by itself, proper land use compatibility zoning regulations can lead to improved safety for nearby people and property, maintain the current level of operational capability for aircraft, and reduce noise levels in the community, all while providing developers with clarity on locations on which to build. In general, industrial and commercial uses (e.g., warehouses) are considered to be compatible with airport operations while residential and institutional land uses (e.g., schools and hospitals) are considered to be incompatible. In Nevada, only two cities/towns had not established some sort of land use compatibility zoning laws to protect their local airport or system of airports. Land use compatibility zoning information by airport is presented in **Table 2-7**.

2.5.6. Displaced Threshold

A displaced threshold refers to a landing point, a threshold, that is located on a runway at a point other than the physical beginning of the runway, effectively shortening the runway length available for landings. This is often implemented to bring an airport's safety areas within its property or within property under its controlling interest to avoid an obstacle. The reduction of runway length limits aircraft performance capabilities and, in certain cases, the types of aircraft that can safely land at the airport. In Nevada, nine airports have a displaced threshold on the primary runway. Displaced threshold information by airport is presented in **Table 2-7**.

2.6. Airspace and Navigational Aids

2.6.1. Special Use Airspace

Airspace restrictions limit how an aircraft may conduct its operations and may affect airports that are located near sensitive areas, areas of special aerial activity, or military airspace. In addition to being a potential nuisance for regular GA users, navigating the unique, unfamiliar procedures of specific portions of special airspace may force a firefighting or medical aircraft to spend valuable time coordinating with the operator of the special use airspace or circumventing the airspace.

Military Operating Areas (MOAs), alert areas, and restricted airspace typically cause airspace restrictions at airports located nearby. Pilots operating in these areas experience greater risks, and prior contact with an area's controlling agency is strongly recommended for MOAs and restricted airspace.

- **MOAs** are sections of airspace in which military pilots conduct general training activity.
- **Alert areas** warn pilots about abnormal flight activity in a given section of airspace that could cause safety issues if the pilot was not aware.
- **Restricted airspace** applies to a section of airspace in which pilots are subject to operating restrictions.

In Nevada, eight airports are located within special use airspace and another eight are within 10 miles of special use airspace. Special use airspace information by airport is presented in **Table 2-7**.

2.6.2. Instrument Approaches

At many airports pilots can follow an established series of procedures with specific routes and points as they conduct their landing, known as an instrument approach procedure (IAP). IAPs are a combination of fixes and navigational aids (NAVAIDs) that allow for the transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to landing or to a point from which a landing may be made visually. There are three types of instrument approaches in addition to a visual approach:

- **Precision Approach –** This approach has both lateral and vertical guidance and is supported by multiple ground-based NAVAIDs. Currently there are four airports that have precision approaches in Nevada.
- **Non-Precision Approach –** This approach has lateral guidance from a localizer but does not utilize vertical guidance. There are several types of non-precision approaches such as Area Navigation (RNAV), Very-High Frequency Omnidirectional Range (VOR), and Non-Directional Beacon (NDB). Such approaches use ground-based infrastructure like a radio transmitter or use a Global Positioning System (GPS), though an aircraft may need to be equipped with the appropriate receiver to utilize a particular approach. There are seven airports in Nevada that are equipped with a non-precision approach.
- **Approach with Vertical Guidance (APV) –** This approach is GPS-based and provides both lateral and vertical guidance, though it does not meet the FAA definition for a precision approach. Aircraft must have a Wide Area Augmentation System (WAAS) to utilize this type of approach. APV approaches include Localizer Performance with Vertical Guidance (LPV) and Lateral Navigation (LNAV)/Vertical Navigation (VNAV). Five airports in Nevada are equipped with an APV approach.
- **Visual –** This approach is not based on technology inside or outside an aircraft and is conducted using visual references. To complete an instrument approach, a pilot must have the airport and any proceeding aircraft in sight. Additionally, reported weather at an airport must allow for a pilot to have the appropriate level of visibility. In Nevada, 35 airports only provide visual approaches.

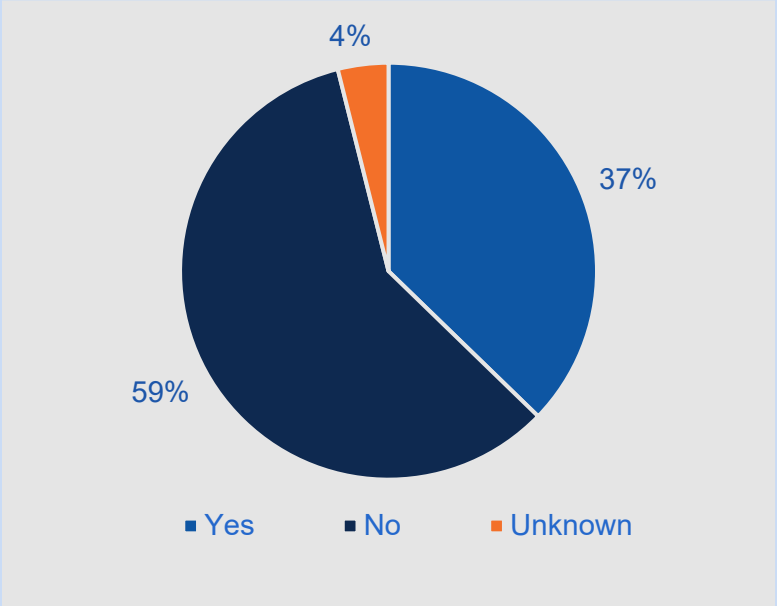
Instrument approach information by airport is presented in **Table 2-7**.

2.6.3. Weather Reporting Equipment

Weather observation systems are a common feature at many airports across the United States including Nevada. These systems consist of various sensors, a processor, computer-generated voice subsystem, and transmitter to broadcast local, minute-by-minute weather data directly to a pilot. There are two primary types, Automated Weather Observing System (AWOS) and Automated Surface Observing System (ASOS). Both systems provide weather-data sensing, processing, and dissemination of information designed to support weather forecast activities and aviation operations. For the NAHSP, there was no distinction made between the two systems for reporting purposes.

Some of these weather systems have the capability to upload data to the National Airspace Data Interchange Network (NADIN). The NADIN is the way aviation weather information is transmitted from AWOS systems around the U.S. to the FAA and National Weather Service. Weather reporting capabilities were reported by 21 airports in the NAHSP. As shown in **Figure 2-8**, only 37 percent of those weather reporting systems provide data to the NADIN. Weather reporting equipment information by airport is presented in **Table 2-7**.

Figure 2-8: Nevada Airports that Report Weather Data to the NADIN



Sources: Airport Inventory Data Collection Survey, Kimley-Horn 2021

2.6.4. Visual Aids

Visual aids provide guidance to pilots with important information used in visual flight rule (VFR) operations and during night flight. Beacons indicate the presence of an airport while runway end identifier lights (REILs) indicate the beginning of a runway. Wind indicators show the direction of the wind at an airport and can be equipped with a segmented circle, which shows the direction of the airport's traffic pattern to pilots in the air. A Visual Glide Slope Indicator (VGSI) provides vertical guidance to the pilot on final approach to help determine if the aircraft is approaching too high, too low, or on slope. VGSIs, such as Precision Approach Path Indicators (PAPIs) and Visual Approach Slope Indicators (VASIs), allow aircraft

to transition from instrument flight to visual flight for landing. In Nevada, 45 airports are equipped with a visual aid on at least one of their runways. Visual aid information by airport is presented in **Table 2-7**.

2.7. Types of Activity

Airports are used for numerous purposes in Nevada, with many supporting specialized services that provide unique value to the state and its residents and bolster its economic competitiveness. These services can range from emergency medical services (EMS), aerial firefighting, tourism, new technologies, flight training, special events, air cargo, and many more. For the purposes of the NAHSP, a select type of activities was analyzed further. Activity type information by airport is presented in **Table 2-7**.

2.7.1. Unmanned Aerial System (UAS)/Unmanned Aerial Vehicle (UAV) Operations

Over the past few years, the United States has seen an increase in UAS/UAV activity, also referred to as drones. As a result, additional policy and regulations were implemented to provide a safe framework for this new type of users. Previously, drone operators were required to notify the airport operator and air traffic control (ATC) before flying within five miles of an airport. Regulations now require drone operators to obtain an airspace authorization prior to flying a drone in controlled airspace.

The State of Nevada has a unique connection to UAS/UAV activity due to the state's designation by the FAA as a UAS test site. This allows the state to conduct additional research on these types of operations, verify UAS safety, and develop procedures to integrate UAS into the National Airspace System. As a result, many airports in the system experience a large amount of UAS operations and certain airports have testing ranges run by the Nevada Institute for Autonomous Systems (NIAS). UAS flight testing also involves FAA-approved corridors within the state designed for unmanned flight testing. Overall, UAS/UAV activity is officially located at three airports in Nevada, but they operate around others as well.

2.7.2. Aerial Firefighting

Aerial firefighting activity is common within the Western Pacific U.S., and especially in Nevada. To combat forest fires and other large fires, aircraft are often used to provide a rapid response over wide geographic areas while reducing human exposure to threats on the ground. Airports across the state support fire suppression response teams by providing fuel, maintenance facilities, and other critical aircraft services.

Airports were surveyed about their operational capacity for firefighting aircraft, the amount of land available for emergency providers to stage their equipment, and their general support for this type of activity. Airport staff expressed strong support for firefighting operations in their interviews, which shows that the people of Nevada understand the significance of aerial firefighting operations. There are 32 airports that provide permanent or temporary facilities for aerial firefighting.

2.7.3. Emergency Medical Operations

Medical flights offer access to patients in need of specialized or emergency medical care, as well as the transport of healthcare supplies and personnel to rural areas. These services are particularly important for residents of remote and tribal communities without nearby access to medical facilities. Providing a network of airports to quickly connect medical professionals and supplies with patients is one of the most important functions an aviation system can provide. Airports in Nevada see a wide variety of these operations throughout the year. The types of aircraft used tend to be a helicopter or Pilatus PC-12

turboprop aircraft depending on the responding organization as well as the patient's location and destination. In Nevada, 11 airports identified having regular emergency medical operations at their facility.

2.7.4. Helicopter Tourism

As previously discussed, there is a large helicopter tourism presence in certain parts of Nevada. Currently 19 airports in Nevada support helicopter tourism activities. These helicopter flights operate to and around the Hoover Dam, the Grand Canyon, the Las Vegas strip, Death Valley, and other scenic locations. Airports were asked about helicopter tour operators that regularly use their facilities and infrastructure that accommodates these operations. Due to COVID-19, helicopter tourism operators saw a decline in international tourism in 2020, which dramatically decreased their number of operations. While helicopter operations at individual airports declined in 2021, no airport saw a compete departure of their tourism operations.

2.7.5. Special Events

Special events can be a unique draw for an airport that bring in activity and business outside of normal airport operations. Races and fly-ins are events that have several benefits for an airport. Typically, these events involve rare or historic aircraft visiting an airport, which has the immediate impact of increased fuel sales and aircraft storage fees for the airport. Additionally, the community may experience an increase in business from visiting pilots who go into the town. Special events are also a way for local residents to visit an airport, experience interesting aircraft, and see the airport's impact firsthand.

Other airports may accommodate specific, infrequent special events that generate substantial traffic during the days of the event. Such an occurrence elevates the financial standing of an airport and increases its local importance through business involvement and community participation. In Nevada, 13 airports reported that they conduct some form of special event at the airport.

Nevada is recognized for three unique, well-known annual events: the National Championship Air Races (commonly known as the Reno Air Races), Burning Man, and the High Sierra Fly-In. The Reno Air Races take place every September at the Reno Stead Airport and feature six racing classes, military and civil flight demonstrations, and static aircraft displays. Burning Man is a multi-day event in Black Rock Desert around Labor Day that focuses on community, art, and self-reliance, and features an airport (Black Rock City Municipal Airport) that is created and disassembled for each Burning Man event. The High Sierra Fly-In takes place at Dead Cow Lakebed in October and focuses on backcountry aviation, particularly the Short Take Off and Landing (STOL) Drag Racing event for participating pilots and aircraft. Each of these events brings national and international visitors to Nevada, two specifically for aviation-related events and one that draws visitors, many of which fly commercial service airlines or general aviation.

2.8. Community Involvement

2.8.1. Ownership

There are multiple forms of airport ownership, management, and/or operation. Airports can be owned by a local municipality (city, county, or group of cities or counties), an independent entity such as an authority, by the State, by a federal entity such as the Bureau of Land Management (BLM), or a private entity. At a few Nevada airports, the BLM owns the property the airport resides on and leases the property to an individual with the expectation that they will maintain and operate the airport for public use.

When the ownership is private or leased there can be a level of uncertainty about the future of the airport, which can limit investment into the airport. In Nevada, there are 44 airports that are publicly owned and 7 that are privately owned. Ownership information by airport is presented in **Table 2-8**.

2.8.2. Management Type

The type of ownership can impact the type and level of management. A full-time airport manager is a common form for the management of an airport, but not every airport sponsor may have the financial capability to have a sole person dedicated to the airport nor have enough activity at the airport to warrant such a time commitment. For many airports, the responsibility will fall on a city manager, public works director, or another individual that may only be able to provide part-time management. Sometimes, there may not be a manager of the day-to-day operations of the airport, but staff will occasionally go out to handle specific tasks or complete annual grant administration. In other cases, the on-site Fixed-Based Operator (FBO) may not be the official airport manager but provides similar services. This is typically formalized through an agreement between the FBO and the airport sponsor. In the NAHSP, 24 airports reported some form of management (11 airports had full-time, 9 had part-time, 4 had municipal staff[6], and 1 had FBO) and 26 did not report having dedicated management staff. Management type information by airport is presented in **Table 2-8**.

2.8.3. Partnerships for Development

A partnership between an airport and its local community is a helpful relationship that bolsters the airport and the community it serves. In some cases, there are other organizations that will partner with the airport to promote activity and business to the area, such as a chamber of commerce, a tourism bureau, local businesses, or recreational user groups. Active development partnerships promote an airport through economic methods, which bolster the financial sustainability and success of the airport as well as the airport owner and sponsor. Overall, these arrangements reflect strong collaboration between an airport and various organizations. There are 16 airports that currently have a development partnership; this information by airport is presented in **Table 2-8**.

2.8.4. Local Outreach and Community Goodwill

Community outreach and the general impression of airport-related press relate to an airport's goodwill in its area and the level of airport support provided by the community. Examples of outreach conducted by an airport include having a robust online presence and by hosting local events that bring business to the community while providing opportunities for public participation at the airport. Additionally, airports may work with their communities to establish operating procedures that minimize aircraft noise. Local press articles about an airport may also contribute to an airport's image in the eyes of its community. Overall, strong, consistent communication with local residents and businesses tends to improve the image of an airport and the likelihood of community support.

Training the next generation of aviators is another method of outreach that can increase an airport's goodwill by introducing the industry to prospective pilots. The most common type of education program

[6] This refers to staff that primarily provide certain management aspects for the airport (e.g., grant administration, answer main phone line, etc.) from a municipal office location rather than at the airport or conducting visits to the airport.

within the system of airports is flight training, though some airports are also able to offer aviation maintenance training. Another common program involves hosting educational events for local schools. This could include sponsored field trips to the airport as well as specific classes and seminars taught by the airport. These benefit the community by introducing young students to a potential career path and informing the public about aviation. Overall, aviation training broadens the general appeal of the aviation industry, which has resultant benefits for airports.

In Nevada 33 airports had some sort of community outreach effort to generate goodwill. Community goodwill information by airport is presented in **Table 2-8**.

2.9. Financial Information

2.9.1. Historical Capital Improvement Funding

Airports often seek to expand their capabilities and sphere of influence. To make this possible, airports tend to spend money on capital improvements to make their airport competitive in their market area, which would lead to additional traffic and business for the airport. As part of the data collection, airports were asked how much they spent on capital improvements from 2016 to 2020. Additionally, the FAA AIP grant history was collected for the 30 NPIAS airports within the state. In total, Nevada airports spent $249.43 million from 2016 to 2020 on capital improvement projects, including FAA, state, and airport sponsor shares. Historical capital improvement funding information by airport is presented in **Table 2-8**.

2.9.2. Airport Capital Improvement Plan (ACIP)

The ACIP serves as the primary planning tool for identifying, prioritizing, and assigning funds that are critical to an airport's development and capital needs. As part of the plan, required to be prepared for NPIAS airports, a short-term roadmap for airport capital improvements in the next three to five years is prepared. The ACIP also serves as the basis for considering how projects will be funded between the FAA, state, and local funding. For NPIAS airports, these plans must be updated annually and submitted to the FAA for their concurrence. Not all airports in Nevada have ACIPs or provided them for this study, thus the information was compiled for those provided, which is primarily composed of the NPIAS airports. The compiled ACIPs show over $280.88 million in planned spending by Nevada airports over the next five years. Future capital improvement funding information by airport is presented in **Table 2-8**.

2.9.3. Financial Sustainability

In addition to funding amounts, the way airports finance their day-to-day operations, routine maintenance, and future capital development is important to examine. Many airports receive different types of grants and subsidies from federal, state, and local sources. Based on an airport's NPIAS or state classification, funding sources may or may not be available, which could impact an airport's ability to provide necessary funding in a sustainable manner. Currently, 29 airports in Nevada receive some sort of financial subsidy from a government agency. Subsidies can be divided into capital improvement and operations subsidies. Out of the 29 airports, 16 of them receive capital improvement subsidies, three receive operations subsidies, and 10 receive both capital improvement and operations subsidies.

Capital improvement subsidies are for development projects that are funded through federal, state, or local sources. For example, a major runway reconstruction project could receive the majority of its funding

through the FAA Airport Improvement Program (AIP) in combination with smaller percentages through state and local matches set up for infrastructure projects.

In some cases, an airport may receive funding from its local municipality when its expenses for day-to-day operations and routine maintenance outpace its revenue. Such an airport may provide a valuable role in the local community by providing accessibility to medical ambulances and firefighting aircraft for example, which would make the airport too important for a municipality to let operating budget deficits threaten the airport. Financial subsidy information by airport is presented in **Table 2-8**.

2.10. Mobility and Access

2.10.1. Multi-Modal Access

Airports represent one of many transportation modes that provide residents and visitors with access to all areas of Nevada. Connections between remote communities, large cities, and recreational areas are made even more accessible through aviation, but passengers must be able to get to the community from the airport. This is commonly known as the “last mile” and can be provided by courtesy cars, rail, buses, shuttles, rental cars, ride share, and taxis. In Nevada, 40 airports provide some form of ground transportation to leave the airport. Multi-modal access information by airport is presented in **Table 2-8**.

2.10.2. Central Business District

The Central Business District, or CBD, is the focal point of a city and typically acts as a common location for business and cultural opportunities and may also act as the core of a public transportation network. Overall, a CBD can also be thought of as a city’s downtown area. Proximity to a CBD allows an airport to connect a larger amount of people with local offerings while providing the local community with access to outside opportunities. On average, an airport in Nevada is approximately 3.9 miles away from the nearest CBD. The distance from the nearest CBD by airport is presented in **Table 2-8**.

2.10.3. Roadway Access

The State of Nevada has a functional classification for each type of roadway. Larger roadways such as interstates, freeways and expressways, and other principal arterials provide the greatest amount of traffic to an area, which increases the amount of activity that can access an airport. Surface streets, which include Major Arterials, Minor Arterials, Major Collectors, Minor Collectors, and Local Roads provide access to a lesser extent, which may be sufficient for a given airport and region.

Currently, 39 airports are within 10 miles of a highway or interstate. The distance to the nearest freeway by airport is presented in **Table 2-8**.

In Nevada, the primary access road type is an arterial road for 21 airports, while 19 airports are primarily accessed by a collector road and two are primarily accessed by an interstate. Access road information by airport is presented in **Table 2-8**.

2.10.4. Nearest Airport

The distance between one airport and the next closest airport is an important factor. If airports are located close enough to each other, operational capabilities at both may become impacted by congested airspace and competing services. Additionally, a community with only one airport may be more inclined to support the airport given that the airport gains significance by providing the region’s primary access point for air

travel. On average, an airport in Nevada is approximately 37 miles away from the nearest airport. The distance to the nearest airport is presented by airport in **Table 2-8**.

2.11. Summary

This chapter provides an in-depth look into Nevada's airport system and its assets that were reported by the airports included in the study. This data is essential to evaluating the system's adequacy and facility needs. The results from this chapter are used as the baseline for analysis in subsequent chapters.

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Table 2-5: Runway, Taxiway, Based Aircraft Storage, Fencing, and GA Terminal Building Amenities at NAHSP Airports

Associated City	Airport Name	FAA ID	Primary Runway Length	Surface Type	Pavement Condition	Runway Lighting Intensity	Taxiway	Based Aircraft	T-hangar (Units)	Designated Helicopter Parking	Fencing	GA Terminal Building	Amenities Offered in Terminal
Alamo	Alamo Landing Field	L92	4,362	Asphalt	Good	High	Turn Arounds	1	0	Yes	Partial	No	None
Austin	Austin	TMT	5,999	Asphalt	Good	Medium	Full Parallel to Primary Runway	5	3	None	Full	Yes	Public Restroom, Conference Room, Pilot Lounge
Battle Mountain	Battle Mountain	BAM	7,300	Asphalt	Good	Medium	Turn Arounds	4	2	Yes	Full	Yes	Public Restroom, Conference Room, Pilot Lounge
Beatty	Beatty	BTY	5,615	Asphalt	Excellent	None	Hold Pad	5	0	None	Partial	No	Public Restroom
Boulder City	Boulder City Municipal	BVU	5,103	Asphalt	Good	Medium	Partial Parallel to All Runways	240	30	Yes	Full	Yes	Public Restroom, Pilot Lounge
Cal Nev Ari	Kidwell	1L4	4,140	Sand	Fair	Non-Standard	Partial Parallel to Primary Runway	14	0	None	Partial	Yes	Public Restroom
Carson City	Carson	CXP	6,101	Asphalt	Excellent	Medium	Full Parallel to All Runways	298	106	Yes	Full	Yes	Public Restroom, Pilot Lounge
Crescent Valley	Crescent Valley	U74	5,424	Dirt	Poor	None	None	0	0	None	None	Yes	None
Currant	Currant Ranch	9U7	5,100	Turf/Dirt	Fair	None	None	0	0	None	None	Yes	Public Restroom
Dayton/Carson City	Dayton Valley Airpark	A34	5,343	Asphalt	Excellent	None	Partial Parallel to Primary Runway	31	0	None	Partial	Yes	Pilot Lounge
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	TBD	N/A	Dirt	None	None	None	0	0	None	Partial	No	None
Denio	Denio Junction	E85	3,430	Dirt	Poor	None	None	0	0	None	Full	No	None
Duckwater	Duckwater	01U	3,400	Dirt	Fair	None	None	0	0	None	None	No	None
Dyer	Dyer	2Q9	2,870	Dirt	Poor	None	None	5	0	None	None	Yes	None
Elko	Elko Regional	EKO	7,454	Asphalt	Good	Medium	Full Parallel to All Runways	78	53	Yes	Full	Yes	Public Restroom
Ely	Ely Airport/Yelland Field	ELY	6,017	Asphalt	Excellent	High	Full Parallel to Primary Runway	10	5	Yes	Partial	Yes	Pilot Lounge
Eureka	Eureka	05U	7,300	Asphalt	Excellent	High	Full Parallel to All Runways	1	0	None	None	Yes	Public Restroom, Pilot Lounge
Fallon	Fallon Muni	FLX	5,705	Asphalt	Excellent	Medium	Full Parallel to Primary Runway	80	1	None	Full	Yes	Public Restroom, Conference Room, Pilot Lounge
Fernley	Samsarg Field	N58	3,974	Asphalt	Low	None	Full Parallel to Primary Runway	3	0	None	Partial	Yes	None
Gabbs	Gabbs	GAB	5,950	Dirt	Excellent	None	None	1	0	None	Full	Yes	None

Associated City	Airport Name	FAA ID	Primary Runway Length	Surface Type	Pavement Condition	Runway Lighting Intensity	Taxiway	Based Aircraft	T-hangar (Units)	Designated Helicopter Parking	Fencing	GA Terminal Building	Amenities Offered in Terminal
Gerlach	Black Rock City (Burning Man)	88NV	6,022	Dirt	Dirt	Non-Standard	None	0	0	None	None	Yes	Public Restroom, Pilot Lounge
Goldfield	Lida Junction	0L4	6,100	Dirt	Fair	None	None	0	0	None	None	No	None
Hawthorne	Hawthorne Industrial	HTH	6,000	Asphalt	Good	Medium	Partial Parallel to Primary Runway	6	2	None	Full	No	Public Restroom, Pilot Lounge
Jackpot	Jackpot/Hayden Field	06U	6,183	Asphalt	Fair	Medium	Full Parallel to Primary Runway	0	0	None	None	Yes	Public Restroom, Pilot Lounge
Jean	Jean	0L7	4,600	Asphalt	Good	Medium	Full Parallel to Primary Runway	13	0	Yes	Partial	Yes	Public Restroom, Conference Room
Kingston	Kingston	N15	3,700	Gravel/Dirt	Fair	None	None	4	0	Yes	None	Yes	None
Las Vegas	Harry Reid International	LAS	14,515	Concrete	Good	High	Full Parallel to All Runways	148	0	Yes	Full	Yes	Public Restroom, Conference Room, Pilot Lounge
Las Vegas	Henderson Executive	HND	6,501	Asphalt	Excellent	Medium	Full Parallel to Primary Runway	247	16	None	Full	Yes	Public Restroom, Conference Room, Pilot Lounge
Las Vegas	North Las Vegas	VGT	5,005	Asphalt	Good	Medium	Full Parallel to All Runways	584	175	Yes	Full	Yes	Public Restroom, Conference Room, Pilot Lounge, Free WiFi, Public Phone
Lovelock	Derby Field	LOL	5,529	Asphalt	Excellent	Medium	Turn Arounds	2	0	None	None	Yes	Public Restroom, Conference Room, Pilot Lounge
Lyon County	Flying M Ranch (Hilton Ranch)	TBD	N/A	Asphalt	Excellent	None	None	0	0	None	Partial	no	None
Mesquite	Mesquite	67L	5,121	Asphalt	Good	Medium	Full Parallel to Primary Runway	9	19	Yes	None	Yes	Public Restroom, Conference Room, Pilot Lounge
Mina	Mina	3Q0	4,600	Dirt	Good	None	None	2	0	None	None	No	None
Minden	Minden-Tahoe	MEV	7,399	Asphalt	Excellent	High	Full Parallel to Primary Runway	175	80	Yes	None	Yes	Public Restroom, Conference Room, Pilot Lounge, Free WiFi
North Fork	Stevens-Crosby	08U	3,600	Dirt	Fair	None	None	1	0	None	None	no	None

Associated City	Airport Name	FAA ID	Primary Runway Length	Surface Type	Pavement Condition	Runway Lighting Intensity	Taxiway	Based Aircraft	T-hangar (Units)	Designated Helicopter Parking	Fencing	GA Terminal Building	Amenities Offered in Terminal
Overton	Echo Bay	0L9	3,400	Asphalt	Good	None	Turn Arounds	0	0	None	None	No	None
Overton	Perkins Field	U08	4,811	Asphalt	Good	Medium	Full Parallel to Primary Runway	1	0	None	Full	Yes	Public Restrooms, Pilot Lounge
Owyhee	Owyhee	10U	4,700	Asphalt	Excellent	Medium	Turn Arounds	0	0	Yes	None	Yes	None
Pahrump	Calvada Meadows	74P	4,081	Asphalt/Gravel	Good	Low	Full Parallel to Primary Runway	47	0	None	None	no	Public Restroom, Pilot Lounge
Panaca	Lincoln County	1L1	4,606	Asphalt	Good	Medium	Partial Parallel to Primary Runway	2	0	Yes	Partial	no	Public Restroom, Conference Room
Reno	Reno/Stead	RTS	9,000	Asphalt	Good	High	Full Parallel to All Runways	172	140	Yes	Full	Yes	Public Restroom Conference Room, Pilot Lounge, Free WiFi
Reno	Reno/Tahoe International	RNO	11,001	Concrete	Good	High	Full Parallel to All Runways	123	82	None	Full	Yes	Public Restroom, Conference Room, Pilot Lounge, Free Wifi
Reno	Spanish Springs	N86	3,418	Dirt	Fair	Non-Standard	None	11	0	None	None	No	Public Restroom
Sandy Valley	Sky Ranch	3L2	3,340	Asphalt	Good	None	None	79	0	None	None	No	None
Searchlight	Searchlight	1L3	5,040	Asphalt	Fair	None	None	0	0	Yes	Partial	No	Public Restroom, Conference Room, Pilot Lounge
Silver Springs	Silver Springs	SPZ	6,001	Asphalt	Fair	Medium	Full Parallel to Primary Runway	12	14	None	None	No	Public Restroom, Conference Room, Pilot Lounge
Smith	Rosaschi Air Park	N59	4,800	Asphalt	Low	None	None	2	0	None	None	No	None
Tonopah	Tonopah	TPH	7,158	Asphalt	Excellent	Medium	Full Parallel to Primary Runway	9	2	Yes	Full	No	Public Restroom, Pilot Lounge
Wells	Wells Municipal/Harriet Field	LWL	5,508	Asphalt	Good	Medium	Hold Pads	4	1	None	Full	Yes	Public Restroom
Winnemucca	Winnemucca Municipal	WMC	7,000	Asphalt	Good	Medium	Full Parallel to All Runways	10	0	Yes	Full	Yes	Public Restroom, Conference Room, Pilot Lounge
Yerington	Yerington Municipal	O43	5,814	Asphalt	Excellent	Medium	Partial Parallel to Primary Runway	18	9	Yes	Full	No	Pilot Lounge

Sources: Airport Inventory Data Collection Survey; FAA Form 5010 Airport Master Record; Nevada Department of Transportation; Airport Master Plans and Airport Layout Plans; Kimley-Horn 2021

Table 2-6: Airport Amenities and Planning Information at NAHSP Airports

Associated City	Airport Name	FAA ID	Fuel	Communications	Utilities	Alternative Energy Sources	Aircraft Maintenance	Airport Plan Type(s)	Plan Year	Current ARC	Future ARC	Control of RPZ
Alamo	Alamo Landing Field	L92	None	Public Phone and Cellular (Data/4G)	Septic, Electricity, Cable	None	None	ALP & AMPU	2021	B-I	B-I	Partial, plan to acquire full control
Austin	Austin	TMT	Jet A (CC & SS) & 100 LL (CC & SS)	Cellular (Data/4G)	Water, Septic, Electricity	None	None	ALP & AMPU	2017	B-I	B-I	Full Control
Battle Mountain	Battle Mountain	BAM	Jet A (FS) & 100 LL (CC, FS, SS)	Cellular (Data/4G)	Water, Sewer, Septic, Electricity	None	Major Airframe & Powerplant	ALP & AMPU	2016	C-IV	C-III	Full Control
Beatty	Beatty	BTY	100LL (SS)	Cellular (Data/4G)	Electricity	Solar	None	ALP & AMPU	2006	B-II-Small	B-II-Small	Full Control
Boulder City	Boulder City Municipal	BVU	Jet A (FS) & 100 LL (SS)	Public Phone, Cellular (Data/4G) and Wifi	Water, Sewer, Septic, Electricity, Cable	None	Major Airframe & Powerplant	ALP & AMPU	2018	B-II	B-II	No
Cal Nev Ari	Kidwell	1L4	None	Cellular (Data/4G)	Water, Sewer, Septic, Electricity, Gas	Solar	None	ALP	1995, NDOT	A-I	A-I	No Available ALP
Carson City	Carson	CXP	Jet A (CC, SS) & 100 LL (CC & SS)	Cellular (Data/4G) and Wifi	Water, Sewer, Electricity, Gas	Solar	Major Airframe & Powerplant	ALP & AMPU	2020	B-II	B-II	Full Control
Crescent Valley	Crescent Valley	U74	None	None	None	None	None	None	None	A-I	A-I	No Available ALP
Currant	Currant Ranch	9U7	None	Cellular (Data/4G)	Water, Electricity	None	None	Diagram	None	A-I	A-I	No Available ALP
Dayton/Carson City	Dayton Valley Airpark	A34	None	Cellular (Data/4G)	Water, Sewer, Electricity, Cable, Gas	Solar	None	ALP	2020	B-II	B-II	No Available ALP
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	TBD	None	Cellular (Data/4G)	None	None	None	None	None	A-I	A-I	No
Denio	Denio Junction	E85	None	Voice	None	None	None	Diagram	None	A-I	A-I	No Available ALP
Duckwater	Duckwater	01U	None	None	None	None	None	Diagram	None	B-I	B-I	No Available ALP
Dyer	Dyer	2Q9	None	Cellular (Data/4G)	None	None	None	Diagram	None	A-I	A-I	No Available ALP
Elko	Elko Regional	EKO	Jet A (Call-out) & 100 LL (CC, FS, SS)	Cellular (Data/4G) and Wifi	Water, Sewer, Electricity, Cable, Gas	None	Major Airframe & Powerplant	ALP & AMPU	2013 (ALP) & 2020 (AMPU)	C-II	C-III	Partial, plan to acquire full control
Ely	Ely Airport/Yelland Field	ELY	Jet A (CC, SS) & 100 LL (CC & SS)	Public Phone and Cellular (Data/4G)	Water, Septic, Electricity	None	None	ALP	2015	A-I	A-I	Partial, plan to acquire full control
Eureka	Eureka	05U	Jet A (CC) & 100 LL (CC)	Public Phone and Cellular (Data/4G)	Water, Septic, Electricity	None	Major Airframe & Powerplant	ALP & AMPU	2015	B-I	B-I	Partial

Associated City	Airport Name	FAA ID	Fuel	Communications	Utilities	Alternative Energy Sources	Aircraft Maintenance	Airport Plan Type(s)	Plan Year	Current ARC	Future ARC	Control of RPZ
Fallon	Fallon Muni	FLX	Jet A (FS) & 100 LL (CC, FS & SS)	Cellular (Data/4G)	Water, Septic, Electricity	None	Major Airframe & Powerplant	ALP & AMPU	2019	B-II	B-II	Partial, plan to acquire full control
Fernley	Samsarg Field	N58	None	Cellular (Data/4G)	None	None	None	Diagram	None	B-I	B-I	No Available ALP
Gabbs	Gabbs	GAB	None	Cellular (Data/4G)	Electricity, Cable, Gas	None	None	ALP & AMPU	2015 &1985	A-I	A-I	Partial
Gerlach	Black Rock City (Burning Man)	88NV	None	Cellular (Data/4G) and Wifi	None	None	None	Diagram	None	B-II	B-II	Partial, plan to acquire full control
Goldfield	Lida Junction	0L4	None	Cellular (Data/4G)	None	None	None	Diagram	None	A-I	A-I	No Available ALP
Hawthorne	Hawthorne Industrial	HTH	Jet A (CC & SS) & 100LL (CC & SS)	Public Phone and Cellular (Data/4G)	Water, Sewer, Electricity	None	None	ALP & AMPU	2020 (ALP) & 2005 (AMPU)	B-II	B-II	No Available ALP
Jackpot	Jackpot/Hayden Field	06U	None	Public Phone and Cellular (Data/4G)	Water, Sewer, Electricity	None	None	Diagram	None	B-I	B-II	No
Jean	Jean	0L7	Jet A (CC & SS) & 100 LL (CC & SS)	Cellular (Data/4G)	Water, Sewer, Septic, Electricity	None	None	ALP	2019	B-I	B-II	No Available ALP
Kingston	Kingston	N15	None	Cellular (Data/4G)	None	None	None	Diagram	None	B-I	B-I	No Available ALP
Las Vegas	Henderson Executive	HND	Jet A (FS) & 100 LL (CC, FS & SS)	Public Phone, Cellular (Data/4G) and Wifi	Water, Sewer, Electricity, Cable, Gas	None	Minor Airframe & Powerplant	ALP & AMPU	2021	D-II	D-III	Full Control
Las Vegas	Harry Reid International	LAS	Jet A (FS) & 100 LL (FS)	Public Phone, Cellular (Data/4G) and Wifi	Water, Sewer, Septic, Electricity, Cable, Gas	None	Major Airframe & Powerplant	ALP	2019	D-V	D-V	Partial
Las Vegas	North Las Vegas	VGT	Jet A (FS) & 100 LL (FS & SS)	Public Phone, Cellular (Data/4G) and Wifi	Water, Sewer, Electricity, Cable, Gas	None	Major Airframe & Powerplant	ALP & AMPU	2020 (ALP) & 2003 (AMPU)	B-I	B-I	Full Control
Lovelock	Derby Field	LOL	100LL (SS)	Public Phone and Cellular (Data/4G)	Water, Septic, Electricity	None	None	None	Unknown	B-II	B-II	Partial
Lyon County	Flying M Ranch (Hilton Ranch)	TBD	Jet A (SS) & 100 LL (SS)	None	Water, Septic, Electricity	None	None	Diagram	None	B-II	B-II	No
Mesquite	Mesquite	67L	Jet A (CC, FS, SS, & Truck) & 100 LL (CC & SS)	Cellular (Data/4G)	Water, Sewer, Septic, Electricity, Cable	None	None	Unknown	None	B-II	B-II	Partial
Mina	Mina	3Q0	None	Cellular (Data/4G)	None	None	None	Diagram	None	A-I	A-I	No Available ALP
Minden	Minden-Tahoe	MEV	Jet A (SS) & 100 LL (CC, FS, SS)	Cellular (Data/4G) and Wifi	Water, Sewer, Electricity, Gas	None	Major Airframe & Powerplant	ALP & AMPU	2016	C-III	C-III	Partial, plan to acquire full control
North Fork	Stevens-Crosby	08U	None	None	None	None	None	Diagram	None	A-I	A-I	No Available ALP

Associated City	Airport Name	FAA ID	Fuel	Communications	Utilities	Alternative Energy Sources	Aircraft Maintenance	Airport Plan Type(s)	Plan Year	Current ARC	Future ARC	Control of RPZ
Overton	Echo Bay	0L9	None	Cellular (Data/4G)	None	None	None	None	None	A-I	A-I	No Available ALP
Overton	Perkins Field	U08	100 LL (SS)	Cellular (Data/4G)	Water, Sewer, Electricity, Gas	None	None	Unknown	None	C-III	C-III	Full Control
Owyhee	Owyhee	10U	None	None	Electricity	None	None	Unknown	None	C-III	C-III	Full Control
Pahrump	Calvada Meadows	74P	100 LL (SS)	Cellular (Data/4G) and Wifi	Water, Sewer, Septic, Electricity	None	None	ALP & AMPU	2012	A-I	A-I	No Available ALP
Panaca	Lincoln County	1L1	100LL (SS & CC)	Cellular (Data/4G)	Water, Sewer, Septic, Electricity, Cable	None	None	ALP & AMPU	2015	B-II	B-II	Partial
Reno	Reno/Tahoe International	RNO	Jet A (FS) & 100 LL (FS)	Public Phone, Cellular (Data/4G) and Wifi	Water, Sewer, Electricity, Cable, Gas	Solar	Major Airframe & Powerplant	ALP & AMPU	2019 (ALP) & 2018 (AMPU)	D-IV	D-IV	Partial, plan to acquire full control
Reno	Reno/Stead	RTS	Jet A (FBO) & 100 LL (SS)	Cellular (Data/4G) and Wifi	Water, Sewer, Electricity, Gas	None	Major Airframe & Powerplant	ALP & AMPU	2018	C-III	C-III	Partial
Reno	Spanish Springs	N86	None	Cellular (Data/4G)	Water & Septic	Solar	None	ALP & AMPU	2020	A-I	A-I	No Available ALP
Sandy Valley	Sky Ranch	3L2	None	Cellular (Data/4G)	None	None	None	Diagram	None	A-I	A-I	No Available ALP
Searchlight	Searchlight	1L3	None	Cellular (Data/4G) and Wifi	Water & Electricity	None	None	Diagram	None	B-I	B-I	No Available ALP
Silver Springs	Silver Springs	SPZ	Jet A (FS) & 100 LL (CC & SS)	None	Water, Septic, Electricity	Solar	None	ALP & AMPU	2015	A-I	A-I	Full Control
Smith	Rosaschi Air Park	N59	None	Cellular (Data/4G)	None	None	None	Diagram	None	A-I	A-I	No Available ALP
Tonopah	Tonopah	TPH	Jet A (CC & FS) & 100 LL (CC & FS)	Public Phone and Cellular (Data/4G)	Water, Sewer, Electricity, Cable	None	Major Airframe & Powerplant	ALP & AMPU	2010	B-II	B-II	Full Control
Wells	Wells Municipal/Harriet Field	LWL	Jet A (CC, FS, SS) & 100 LL (CC, FS, SS)	Public Phone and Cellular (Data/4G)	Water, Sewer, Septic, Electricity	None	None	ALP & AMPU	2018	B-II	B-II	Partial
Winnemucca	Winnemucca Municipal	WMC	Jet A (FS) & 100 LL (FS & SS)	Public Phone and Cellular (Data/4G)	Water, Septic, Electricity, Gas	None	Minor Airframe & Powerplant	ALP & AMPU	2020 (ALP) 2011 (AMPU)	B-II	B-II	Full Control
Yerington	Yerington Municipal	O43	100LL SS	Cellular (Data/4G)	Water, Sewer, Electricity, Gas	None	None	ALP & AMPU	2018 (ALP) 2006 (AMPU)	B-I	B-I	No Available ALP

Sources: Airport Inventory Data Collection Survey; FAA Form 5010 Airport Master Record; Nevada Department of Transportation; Airport Master Plans and Airport Layout Plans; Kimley-Horn 2021

Table 2-7: Land Use Compatibility, Airspace Information, and Types of Activity at NAHSP Airports

Associated City	Airport Name	FAA ID	Height Hazard Zoning	Distance to Incompatible Land Use (miles)	Displaced Threshold	Total Acreage	Special Use Airspace (miles)	Instrument Approach	Weather Reporting Equipment	Visual Aids	Types of Activity
Alamo	Alamo Landing Field	L92	No	0.1	None	640	Overhead	Visual	None	Rotating Beacon & Lighted Wind Cone	Hunting, Fishing, Sightseeing
Austin	Austin	TMT	No	0.6	None	1,205	Overhead	Visual	AWOS	Rotating Beacon, Lighted Wind Cone, REILs	Military Exercise Use, BLM SEAT Base Activity, GA operations
Battle Mountain	Battle Mountain	BAM	No	0.29	None	1,066	15	Non-Precision with Vertical Guidance	AWOS	Rotating Beacon, Lighted Wind Cone, VASI	Military Use, Medevac, BLM SEAT Operations, BLM Heavy Air Attack Base, GA Operations
Beatty	Beatty	BTY	No	0.3	None	440	10	Visual	None	Rotating Beacon & Lighted Wind Cone	Helicopter Tourism, Gliders, EMS, Flight Instruction, Sightseeing, Military Activity, Gliders
Boulder City	Boulder City Municipal	BVU	No	0.026	300	530	22	Non-precision	AWOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Flight Training, Skydiving, Military Use, Helicopter Tourism, Department Wildlife Sightseeing
Cal Nev Ari	Kidwell	1L4	No	0.006	None	103	64.5	Visual	None	Lighted Wind Cone	Helicopter Tourism, Flight Training, Recreational Use
Carson City	Carson	CXP	Yes	0.1	None	632	37.7	Non-Precision	AWOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Flight Training, EMS, Military, Sightseeing Tourism, Support Storage for Airshow and Burning Man
Crescent Valley	Crescent Valley	U74	No	0.008	None	640	0.5	Visual	None	Lighted Wind Cone	None reported
Currant	Currant Ranch	9U7	No	0.023	None	15	36	Visual	None	None	Emergency Medical and Fire Operations
Dayton/Carson City	Dayton Valley Airpark	A34	Yes	0.1	991	98	28	Visual	None	Lighted Wind Cone	Special Events include racing, camping, recreational use, High Sierra Fly-In
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	TBD	No	N/A	None	n/a	10.5	Visual	None	None	High Sierra Fly-In, Racing, Recreational Use
Denio	Denio Junction	E85	No	0.0102	None	100	11.3	Visual	None	Lighted Wind Cone	-
Duckwater	Duckwater	01U	No	1.28	None	275	44	Visual	None	None	EMS Operations, Temp Fire Operations
Dyer	Dyer	2Q9	No	0.1	None	156	50	Visual	None	Lighted Wind Cone	Recreational
Elko	Elko Regional	EKO	No	0.039	1036	700	48	Non-Precision	ASOS	Rotating Beacon, Lighted Wind Cone, PAPI	Heli-Skiing, EMS, Military Use, Firefighting, Special Events
Ely	Ely Airport/Yelland Field	ELY	No	0.2	None	4999	18.5	Non-Precision with Vertical Guidance	ASOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Helicopter Tourism, Gliders, USDA Flights, Recreational use, EMS, Cargo, Air Shows & Races
Eureka	Eureka	05U	No	0.16	None	800	27.5	Non-Precision	AWOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Medical Use, Agricultural aerial operations
Fallon	Fallon Muni	FLX	Yes	0.1	102	440	9.11	Non-Precision	AWOS	Rotating Beacon, Lighted Wind Cone, PAPI	GA Operations, Medical Use
Fernley	Samsarg Field	N58	No	0.23	None	80	16.3	Visual	None	Rotating Beacon & Lighted Wind Cone	Recreational Use & Military Use
Gabbs	Gabbs	GAB	No	0.1	None	880	Overhead	Visual	None	Lighted Wind Cone	Military Use, Firefighting, Recreational
Gerlach	Black Rock City (Burning Man)	88NV	No	0.34	None	0	Overhead	Visual	None	Lighted Wind Cone	Recreational, Sightseeing, Special Events (Burning Man)

Associated City	Airport Name	FAA ID	Height Hazard Zoning	Distance to Incompatible Land Use (miles)	Displaced Threshold	Total Acreage	Special Use Airspace (miles)	Instrument Approach	Weather Reporting Equipment	Visual Aids	Types of Activity
Goldfield	Lida Junction	0L4	No	0.012	None	168	5.7	Visual	None	None	Recreational Use, EMS, Temp Military Use
Hawthorne	Hawthorne Industrial	HTH	No	0.1	None	901	23	Non-Precision	AWOS	Rotating Beacon, Lighted Wind Cone, REILs	Rec, business, Military, Fire, EMS, Fish and Game, Helicopter Tourism
Jackpot	Jackpot/Hayden Field	06U	Yes	0.1	None	325	20	Visual	None	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Fish & Game , Military Use, Recreational, Fire, EMS
Jean	Jean	0L7	No	0.018	None	232	33.5	Visual	None	Rotating Beacon & Lighted Wind Cone	Skydiving, GA Gliders, Firefighting, Aerobatic Practice Operations
Kingston	Kingston	N15	No	0.14	None	144	Overhead	Visual	None	Rotating Beacon & Lighted Wind Cone	BLM Operations, Military, Fish and Game Operations, EMS
Las Vegas	Henderson Executive	HND	Yes	0.11	None	760	18.5	Non-Precision	AWOS, ATCT	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Skydiving, Charter & Private Aircraft Operations, Helicopter Tourism, Cargo Operations, EMS, Military, Special Events
Las Vegas	Harry Reid International	LAS	Yes	0.2	2139	2800	11	Precision	ASOS, ATCT	Rotating Beacon, Lighted Wind Cone, PAPI	Skydiving, EMS, Helicopter Tourism, Charter Services, Flight Training, Military Use
Las Vegas	North Las Vegas	VGT	Yes	0.14	None	920	2.2	Precision	AWOS, ATCT	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Helicopter Tours, Flight Schools, Aerial Firefighting (BLM), Charter Businesses, National Guard, Conventions
Lovelock	Derby Field	LOL	No	0.1	None	550	6.1	Non-Precision with Vertical Guidance	ASOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Recreational Use, Military, Special Events, Fire Operations
Lyon County	Flying M Ranch (Hilton Ranch)	TBD	No	N/A	None	n/a	4.6	Visual	None	None	EMS, Recreational use
Mesquite	Mesquite	67L	Yes	0.041	None	155	21	Visual	AWOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Skydiving, Casinos, Golf, EMS, Firefighting
Mina	Mina	3Q0	No	0.034	None	29	24	Visual	None	Lighted Wind Cone	Recreational
Minden	Minden-Tahoe	MEV	No	0.038	None	996	40.6	Visual	AWOS	Rotating Beacon, Lighted Wind Cone, VASI	Skydiving, Gliders, Helicopter Instruction, Fixed-Wing Instruction, EMS, Biennial Air Show
North Fork	Stevens-Crosby	08U	No	0.13	None	6	Overhead	Visual	None	None	Jerritt Canyon Mine-Mining business, Temp Fire Operations
Overton	Echo Bay	0L9	No	0.17	None	250	29.2	Visual	None	Lighted Wind Cone	Recreational Flying, Military Training, GA Training
Overton	Perkins Field	U08	No	0.067	None	11	13.5	Visual	None	Rotating Beacon & Lighted Wind Cone	Skydiving, Military Use, VGT Flight Training, Air Ambulance
Owyhee	Owyhee	10U	No	0.1	None	135	Overhead	Visual	AWOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	BLM/Forest Service Firefighting, Medical Services
Pahrump	Calvada Meadows	74P	No	0.1	200	62	19.5	Visual	None	Lighted Wind Cone	Helicopter Tourism, Flight Training, Military Use, Sightseeing, Young Eagles
Panaca	Lincoln County	1L1	No	0.24	None	190	Overhead	Visual	None	Rotating Beacon & Lighted Wind Cone	Hunting, Fishing, Racing, Sightseeing, Firefighting, Medical Services
Reno	Spanish Springs	N86	No	0.11	None	35	37	Visual	None	Lighted Wind Cone	Training, BLM Firefighting operations (As Needed)

Associated City	Airport Name	FAA ID	Height Hazard Zoning	Distance to Incompatible Land Use (miles)	Displaced Threshold	Total Acreage	Special Use Airspace (miles)	Instrument Approach	Weather Reporting Equipment	Visual Aids	Types of Activity
Reno	Reno/Tahoe International	RNO	No	0.19	1000	1450	40	Precision	ASOS, ATCT	Rotating Beacon, Lighted Wind Cone, PAPI, MALSR	Air Cargo Operations, Helicopter Operations, National Guard, Drone Operations
Reno	Reno/Stead	RTS	No	0.19	1200	5000	38	Precision	AWOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Helicopter tours, flight schools, Aerial firefighting (BLM), Charter businesses, CAP, National Guard, LV Metro Police & S&R, Air Races
Sandy Valley	Sky Ranch	3L2	No	0.025	180	158	33	Visual	None	Lighted Wind Cone	Recreational Use
Searchlight	Searchlight	1L3	No	0.15	None	179	55	Visual	None	Lighted Wind Cone	Military Use, UAS/UAV Business Operations, Flight Tests
Silver Springs	Silver Springs	SPZ	No	0.27	None	400	12	Non-Precision with Vertical Guidance	AWOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Air Racing, UAS Flight Testing, Flight Training, Helicopter Operations for Military & Public, Geo-mapping Aerial Survey Operations
Smith	Rosaschi Air Park	N59	No	0.035	None	482	18.2	Visual	None	Lighted Wind Cone	GA Operations, Medical
Tonopah	Tonopah	TPH	No	0.27	None	3,820	12.5	Non-Precision	ASOS	Rotating Beacon, Lighted Wind Cone, PAPI	Skydiving, Gliders, EMS, Hunting/Fishing, Recreational Use, Military Use, Firefighting
Wells	Wells Municipal/Harriet Field	LWL	Yes	0.2	None	708	25	Visual	None	Rotating Beacon, Lighted Wind Cone, REILs	EMS, Search & Rescue efforts, BLM Seat, Agriculture Business
Winnemucca	Winnemucca Municipal	WMC	Yes	0.21	None	968	42	Non-Precision with Vertical Guidance	ASOS	Rotating Beacon, Lighted Wind Cone, REILs, PAPI	Cargo Use, GA Operations, Fire Use
Yerington	Yerington Municipal	O43	Yes	0.1	None	101	12	Visual	None	Rotating Beacon, Lighted Wind Cone, PAPI	Recreational Use & Military Use

Sources: Airport Inventory Data Collection Survey; FAA Form 5010 Airport Master Record; Nevada Department of Transportation; Airport Master Plans and Airport Layout Plans; Kimley-Horn 2021

Table 2-8: Ownership, Financial, and Access Information at NAHSP Airports

Associated City	Airport Name	FAA ID	Airport Ownership	Management Type	Development Partnership	Community Goodwill	Historical Capital Funding	5-Year Future Capital Funding	Financial Subsidies	Multi-Modal Access	Distance from Central Business District	Nearest Airport (miles)	Distance to Freeway (miles)	Access Road Type
Alamo	Alamo Landing Field	L92	Public	None	No	Website	$1,576,358	$525,000	Operations Subsidy	None	2	72.5	1.7	Collector (Minor)
Austin	Austin	TMT	Public	Staff	No	None	$1,505,166	$2,614,391	Capital Improvements & Operations Subsidy	Car/Courtesy Car	4	64.44	4.8	Nevada State Route
Battle Mountain	Battle Mountain	BAM	Public	Staff	No	None	$4,942,917	$1,120,000	Capital Improvements & Operations Subsidy	Car/Courtesy Car	3	52.94	3	Collector (Minor)
Beatty	Beatty	BTY	Public	Staff	No	Education Program & Website	$1,432,969	$3,780,000	Capital Improvements	Car/Courtesy Car, Shuttle-Hotel	3	64.44	1.6	Arterial (Major)
Boulder City	Boulder City Municipal	BVU	Public	Full Time	No	Website	$10,608,922	$14,790,000	Capital Improvements	Car/Courtesy Car, Ride Share, Taxi, Rental Car	1	14.96	2.1	Arterial (Minor)
Cal Nev Ari	Kidwell	1L4	Private	Part-Time	No	None	$0	$0	None	Car/Courtesy, Shuttle, Ride Share	0	20.71	0.6	Arterial (Major)
Carson City	Carson	CXP	Public	Full Time	Yes	Education Program, Advertising, Website	$4,623,069	$4,960,000	Capital Improvements	Car/Courtesy Card, Bus, Ride Share, Taxi, Rental Car	3	13.81	1.4	Arterial (Minor)
Crescent Valley	Crescent Valley	U74	Public	None	No	None	$0	$0	None	None	1	20.71	25	Collector (Major)
Currant	Currant Ranch	9U7	Public	None	No	None	$0	$0	None	None	1	51.79	0.1	Local
Dayton/Carson City	Dayton Valley Airpark	A34	Private	Part-Time	Yes	Education Program	$0	$0	None	Ride Share	2	10.36	2.7	Local
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	TBD	Private	None	No	Advertising, Website, Positive News	$0	$0	None	Car/Courtesy Car	N/A	37.86	13.6	None
Denio	Denio Junction	E85	Public	Staff	No	None	$0	$0	Capital Improvements & Operations Subsidy	Car/Courtesy Car	3	85.16	65.7	Arterial (Major)
Duckwater	Duckwater	01U	Public	US BLM	No	None	$0	$0	None	None	6	52.94	20.3	Arterial (Minor)
Dyer	Dyer	2Q9	Public	None	No	None	$0	$0	None	Car/Courtesy Car	6	25.32	0.61	Collector (Major)
Elko	Elko Regional	EKO	Public	Full Time	Yes	Education Program & Website	$15,504,437	$18,093,333	Capital Improvements & Operations Subsidy	Car/Courtesy, Shuttle, Taxi, Rental Car	1	58.69	1.1	Arterial (Major)

Associated City	Airport Name	FAA ID	Airport Ownership	Management Type	Development Partnership	Community Goodwill	Historical Capital Funding	5-Year Future Capital Funding	Financial Subsidies	Multi-Modal Access	Distance from Central Business District	Nearest Airport (miles)	Distance to Freeway (miles)	Access Road Type
Ely	Ely Airport/Yelland Field	ELY	Public	Full Time	Yes	Education Program & Website	$5,159,417	$2,431,734	Capital Improvements	Car/Courtesy Car, Shuttle	3	65.59	0.06	Arterial (Major)
Eureka	Eureka	05U	Public	Part-Time	Yes	Positive News	$597,512	$2,540,667	Capital Improvements	None	6	65.59	3.5	Collector (Minor)
Fallon	Fallon Muni	FLX	Public	Full Time	No	Education Program & Positive News	$3,135,395	$3,948,500	Capital Improvements	Taxi	2	5.75	1.2	Collector (Minor)
Fernley	Samsarg Field	N58	Public	Part-Time	No	None	$0	$0	None	Car/Courtesy Car	3	10.36	1.3	Arterial (Minor)
Gabbs	Gabbs	GAB	Public	Staff	No	Website	$196,875	$1,143,001	Capital Improvements	Car/Courtesy Car	4	44.88	35.8	Local
Gerlach	Black Rock City (Burning Man)	88NV	Private	None	No	Advertising, Website, Positive News	$0	$0	None	Car/Courtesy Car	9	58.69	52	Collector (Minor)
Goldfield	Lida Junction	0L4	Public	None	No	None	$0	$0	Capital Improvements & Operations Subsidy	Car/Courtesy Car	14	31.07	1.1	Arterial (Major)
Hawthorne	Hawthorne Industrial	HTH	Public	None	No	Website & Positive News	$753,204	$6,250,000	Capital Improvements & Operations Subsidy	Car/Courtesy Car, Shuttle	1	59.84	0.009	Collector (Minor)
Jackpot	Jackpot/Hayden Field	06U	Public	Part-Time	Yes	None	$1,170,000	$1,360,666	Capital Improvements	Car/Courtesy Car & Shuttle	0	35.67	0.3	Arterial (Major)
Jean	Jean	0L7	Public	Part-Time	Yes	Website	$2,315,937	$1,000,000	Capital Improvements	None	1	18.41	1.4	Interstate
Kingston	Kingston	N15	Public	Part-Time	No	None	$0	$0	None	None	2	63.29	16.1	Arterial (Major)
Las Vegas	Harry Reid International	LAS	Public	Full Time	Yes	Website	$308,817,000	$350,000,000	Capital Improvements	Car/Courtesy Car, Bus, Light Rail, Micro, Shuttle, Ride Share, Taxi, Rental Car	5	6.9	2	Arterial (Major)
Las Vegas	Henderson Executive	HND	Public	Full Time	Yes	Education Program & Website	$1,907,508	$19,529,991	Capital Improvements	Car/Courtesy Car, Bus, Ride Share, Taxi, Rental Car	11	6.9	3.4	Collector (Minor)
Las Vegas	North Las Vegas	VGT	Public	Full Time	Yes	Website & Positive News	$1,406,250	$27,062,455	Capital Improvements	Car/Courtesy, Bus, Ride Share, Taxi, Rental Car	3	9.21	4.2	Arterial (Major)
Lovelock	Derby Field	LOL	Public	None	No	Positive News	$1,324,905	$5,875,733	Capital Improvements	Car/Courtesy Car, Shuttle	8	40.28	10	Arterial (Major)
Lyon County	Flying M Ranch (Hilton Ranch)	TBD	Public	None	No	Positive News	$0	$0	None	None	N/A	27.96	11.5	Local

Associated City	Airport Name	FAA ID	Airport Ownership	Management Type	Development Partnership	Community Goodwill	Historical Capital Funding	5-Year Future Capital Funding	Financial Subsidies	Multi-Modal Access	Distance from Central Business District	Nearest Airport (miles)	Distance to Freeway (miles)	Access Road Type
Mesquite	Mesquite	67L	Public	Part-Time	No	Website	$1,770,497	$4,777,599	Capital Improvements	Car/Courtesy Car, Shuttle, Ride Share	2	33.37	2.3	Collector (Minor)
Mina	Mina	3Q0	Public	Staff	No	None	$0	$0	None	Car/Courtesy Car	0	31.07	0.8	Arterial (Major)
Minden	Minden-Tahoe	MEV	Public	Full Time	Yes	Education Program & Website	$11,857,242	$5,860,000	Capital Improvements	Personal Car, Ride Share, Taxi, Rental Car	4	13.81	1.3	Local
North Fork	Stevens-Crosby	08U	Public	Bureau of Land Management	No	None	$0	$0	None	None	3	48.33	1.9	Collector (Minor)
Overton	Echo Bay	0L9	Public	None	No	None	$0	$0	None	Car/Courtesy Car	14	32.22	36.5	Collector (Minor)
Overton	Perkins Field	U08	Public	Part-Time	No	Website	$0	$0	Capital Improvements	None	2	27.62	11	Local
Owyhee	Owyhee	10U	Public	None	No	Positive News	$1,333,873	$1,248,126	Capital Improvements & Operations Subsidy	Car/Courtesy Car	4	77.1	6.3	Collector (Minor)
Pahrump	Calvada Meadows	74P	Private	Staff	No	Education Program & Website	$0	$0	None	Taxi & Rental Car	5	44.88	57.7	Local
Panaca	Lincoln County	1L1	Public	None	No	Website	$666,519	$1,633,333	Operations Subsidy	Car/Courtesy Car	2	69.05	0.8	Collector (Minor)
Reno	Reno/Tahoe International	RNO	Public	Full Time	Yes	Education Program & Website	$63,870,790	$6,958,559	Operations Subsidy	Car/Courtesy Car, Shuttle, Ride Share, Taxi, Rental Car, Public Bus	3	12.66	1.3	Interstate
Reno	Spanish Springs	N86	Public	Part-Time	No	None	$0	$0	Capital Improvements	Shuttle, Taxi, Rental Car	10	8.06	2.5	Collector (Minor)
Reno	Reno/Stead	RTS	Public	Full Time	Yes	Education Program, Advertising, Website	$30,131,375	$55,113,750	Capital Improvements & Operations Subsidy	Bus, Ride Share, Taxi, Rental Car	10	12.66	6.2	Arterial (Minor)
Sandy Valley	Sky Ranch	3L2	Private	Staff	Yes	Website	$0	$0	None	Car/Courtesy Car	2	29.92	19.2	Collector (Minor)
Searchlight	Searchlight	1L3	Private	Full Time	Yes	Education Program & Website	$0	$0	Capital Improvements & Operations Subsidy	Car/Courtesy Car	1	27.62	0.3	Arterial (Major)
Silver Springs	Silver Springs	SPZ	Public	FBO	Yes	Website	$1,083,958	$4,020,026	Capital Improvements	Car/Courtesy Car	2	27.62	0.3	Arterial (Major)
Smith	Rosaschi Air Park	N59	Public	None	No	None	$0	$0	None	Car/Courtesy Car	2	25.32	3	Collector (Minor)
Tonopah	Tonopah	TPH	Public	Staff	No	Website	$3,185,025	$2,394,562	Capital Improvements	Car/Courtesy Car	7	24.17	0.6	Interstate

Associated City	Airport Name	FAA ID	Airport Ownership	Management Type	Development Partnership	Community Goodwill	Historical Capital Funding	5-Year Future Capital Funding	Financial Subsidies	Multi-Modal Access	Distance from Central Business District	Nearest Airport (miles)	Distance to Freeway (miles)	Access Road Type
Wells	Wells Municipal/Harriet Field	LWL	Public	None	No	Website	$366,545	$6,925,333	Capital Improvements	Car/Courtesy Car, Shuttle	2	49.48	0.6	Arterial (Major)
Winnemucca	Winnemucca Municipal	WMC	Public	Full Time	Yes	Education Program & Positive News	$5,950,015	$7,150,666	Capital Improvements	Car/Courtesy Car, Taxi	5	52.94	3.2	Collector (Minor)
Yerington	Yerington Municipal	O43	Public	None	No	None	$3,034,042	$3,510,830	Capital Improvements & Operations Subsidy	Car/Courtesy Car	1	27.62	1.3	Local

Sources: Airport Inventory Data Collection Survey; FAA Form 5010 Airport Master Record; Nevada Department of Transportation; Airport Master Plans and Airport Layout Plans; Kimley-Horn 2021

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Chapter 3. Airport Roles and Classification Analysis

3.1. Introduction

Understanding the way aviation facilities function and operate within a state system is crucial to the development of a system plan. The system plan provides a top-down view of a state's needs and how each airport supports that statewide need is evaluated in terms of the role each airport is playing compared to what future role it might or could serve in the state system. If airports and heliports are planned and developed within the context of an integrated system, each facility could focus on supporting aviation activities commensurate with their role without impacting service levels within specific regions or communities. Airport and heliport planning from the system-wide perspective identifies areas where specific aviation functions are sufficient, inadequate, or duplicative in terms of meeting existing and future aviation demands. By identifying airport roles and functions, the system plan can then begin to support informed decision-making and resource allocation to needed aviation facilities.

Nevada's classification structure is designed to establish a network of facilities that supports the state's safety, infrastructure, mobility, economic, sustainability, and community goals while supporting the viability of all aviation facilities within the system. The classification process recognizes that all facilities contribute to the system; however, the level and type of contribution varies depending on the facility. These factors vary because they are attributed to the facility's own characteristics such as runway length, hangar and fuel availability, and accessibility. The characteristics can also be driven by external conditions that affect the type and volume of aviation activity that occur at a facility. External factors may include proximity to commercial markets, other facilities, and population centers or the socioeconomic characteristics of surrounding communities. Because each facility within a system plays a unique role, the availability of facilities and services at an airport should align with the overall system's needs and functions.

The Nevada Department of Transportation (NDOT) Aviation Program had previously determined the existing airport classification methodology from the 2004 Nevada Aviation System Plan (NASP) no longer met the needs of the state and needed to be updated as part of the 2020 Nevada Airport and Heliport System Plan (NAHSP). The prior methodology did not reflect the Federal Aviation Administration's (FAA's) latest airport roles and did not incorporate heliports.

This chapter aims to classify each system facility in a manner that aligns with the current needs and policies for the state of Nevada and its aviation system. By conducting a thorough review of federal methodologies, types of classification methodologies, and an evaluation of Nevada's existing classification system, the 2020 NAHSP takes a new path and approach to classify airports into roles. The objectives used to guide future airport development needs that correspond with these roles are documented in subsequent chapters.

3.2. Federal Classifications

There are almost 20,000 landing areas in the United States, with only 5,080 of them open to the public. Of these, 3,304 were included in the latest publication of the National Plan of Integrated Airport Systems (NPIAS), the national classification system. The *Report to Congress, NPIAS 2021-2025* (NPIAS), the most recent publication from the FAA, identifies 3,304 existing and six proposed public-use airports as significant to the national air system (3,338 total). Ninety-eight percent of NPIAS airports are publicly owned (3,244), while two percent (60) are owned by private entities. There are an additional 1,776 existing public-use airports that are not included in the NPIAS, generally because they do not meet the minimum entry criteria, cannot be expanded or improved to provide a safe and efficient airport, or are located within a 30-mile radius of at least one existing NPIAS airport.

The NPIAS airports encompass all types of landing areas specifically developed for conventional fixed-wing aircraft, helicopters, and seaplanes. These airports serve various functions within the system, and each plays an integral role in the economic, social, and/or physical well-being of the residents of and visitors to the U.S., as well as the private and public institutions that operate within its borders.

A key benefit of being included in the NPIAS program is the access to federal funding. Most NPIAS airports are eligible to receive federal entitlement funds through the Airport Improvement Program (AIP) for planning and development projects including improvements related to enhancing airport safety, capacity, security, and environmental concerns. The 2021-2025 NPIAS lists an estimated $305 million in development needs for the NPIAS airports located in Nevada. Of the over 3,300 U.S. airports in the NPIAS, Nevada has 30. **Table 3-1** presents the NPIAS classifications and the number of Nevada airports within each classification as of the 2021 publication.

Table 3-1: NPIAS Airport Classifications and Criteria in Nevada

NPIAS Classification	Criteria	Number of Nevada Airports
Primary	Publicly owned commercial service airports that have more than 10,000 passenger boardings or enplanements each calendar year and receive scheduled passenger service. Primary airports are then classified by hub size – Large, Medium, Small, or Non-Hub.	4
Non-Primary	Publicly owned general aviation airports and commercial service airports that have at least 2,500 and not more than 10,000 passenger boardings each year and that primarily support general aviation aircraft.	26
Non-Primary Classifications		
Commercial Service	Publicly owned airports with scheduled commercial flights with levels between 2,500 and 9,999 passenger boardings each year.	0
Reliever	Airports designated by the FAA to relieve congestion at commercial service airports and to provide improved access to the community for general aviation users. Reliever airports may be publicly or privately owned.	4
General Aviation	Airports that are not categorized as commercial service or reliever airports in the national system. General aviation (GA) airports can be publicly or privately owned.	22

Source: 2021-2025 FAA NPIAS Report

The non-primary NPIAS airports are further categorized by role, originally known as ASSET classifications. These roles were developed to provide additional context for airports and policy makers. **Table 3-2** summarizes the role categories, eligibility criteria, and the number of airports within each classification in Nevada.

Table 3-2: Non-Primary Airport Roles and Criteria in Nevada

Airport Role	Criteria	Number of Nevada Airports
National: Supports national and state system by providing communities with access to national and international markets in multiple states and throughout the U.S.	▪ 5,000+ instrument operations, 11+ based jets, 20+ international flights, or 500+ interstate departures OR ▪ 10,000+ enplanements OR ▪ 500+ million pounds of landed cargo	2
Regional: Supports regional economies connecting communities to statewide and interstate markets.	▪ Metropolitan Statistical Area (MSA) and 10+ domestic flights of 500 miles, 1,000 instrument operations, 1+based jet or 100+ based aircraft OR ▪ Located in an MSA and meets definition of commercial service	3
Local: Supplements local communities by providing access to intrastate and some interstate markets.	▪ 10+ instrument operations and 15+ based aircraft or 2,500+ passengers	2
Basic: Provides basic aeronautical needs in local economy.	▪ 10+ based aircraft; OR ▪ 4+ based helicopters; OR ▪ Located 30+ miles from nearest NPIAS airport ▪ Used by U.S. Forest Service, or U.S. Marshalls, or U.S. Customs and Border Protection, or U.S. Postal Service, or has essential air service; OR ▪ New or replacement airport activated after 1/1/2001; and ▪ Public or private “reliever” with a minimum of 90 based aircraft	19
Unclassified: Currently in NPIAS but has limited activity.	▪ Does not meet the criterion for any other classification	0

Source: 2021-2025 FAA NPIAS Report

Table 3-3 presents the current NPIAS classifications and roles for Nevada’s airports. In comparing the latest 2021 NPIAS report to the prior 2019 report, five airports experienced a change to their airport role: Jean (0L7), Mesquite (67L), and Winnemucca (WMC) were previously Local but are now Basic. Henderson (HND) went from a primary to non-primary airport with a National role. Reno/Stead (RTS) was upgraded from Local to Regional.

Table 3-3: Nevada's NPIAS Airport Classifications (2021)

Associated City	Airport Name	FAA ID	NPIAS Category	Hub	Non-Primary Role
Alamo	Alamo Landing Field	L92	GA		Basic
Austin	Austin	TMT	GA		Basic
Battle Mountain	Battle Mountain	BAM	GA		Basic
Beatty	Beatty	BTY	GA		Basic
Boulder City	Boulder City Municipal	BVU	P	N	-
Carson City	Carson	CXP	R		Regional
Elko	Elko Regional	EKO	P	N	-
Ely	Ely Airport/Yelland Field	ELY	GA		Basic
Eureka	Eureka	05U	GA		Basic
Fallon	Fallon Municipal	FLX	GA		Local
Gabbs	Gabbs	GAB	GA		Basic
Hawthorne	Hawthorne Industrial	HTH	GA		Basic
Jackpot	Jackpot/Hayden Field	06U	GA		Basic
Jean	Jean	0L7	GA		Basic
Las Vegas	Henderson Executive	HND	R		National
Las Vegas	Harry Reid International[1]	LAS	P	L	-
Las Vegas	North Las Vegas	VGT	R		National
Lovelock	Derby Field	LOL	GA		Basic
Mesquite	Mesquite	67L	GA		Basic
Minden	Minden-Tahoe	MEV	GA		Regional
Overton	Perkins Field	U08	GA		Basic
Owyhee	Owyhee	10U	GA		Basic
Panaca	Lincoln County	1L1	GA		Basic
Reno	Reno/Stead	RTS	R		Regional
Reno	Reno/Tahoe International	RNO	P	M	-
Silver Springs	Silver Springs	SPZ	GA		Basic
Tonopah	Tonopah	TPH	GA		Basic
Wells	Wells Municipal/Harriet Field	LWL	GA		Basic
Winnemucca	Winnemucca Municipal	WMC	GA		Basic
Yerington	Yerington Municipal	O43	GA		Local

Source: 2021-2025 FAA NPIAS Report

3.3. State Classification Methodologies

In addition to the federal-level NPIAS utilized by the FAA to classify airports significant to the national airspace system, states typically develop tailored methodologies designed to describe airports' roles at the state, regional, and/or local levels. These roles or classifications are based on the aviation characteristics and functions most important to a state's specific needs and priorities and generally

[1] Formerly McCarran International Airport.

encompass both NPIAS and non-NPIAS airports. As the needs can differ depending on numerous factors, federal and state classifications can be identical, partially overlap, or be completely different.

While role classification methodologies range from very complex systems that assign points based on airport services and facilities, to relatively straightforward flow chart methodologies, most state aviation system plans employ one of three methodologies as outlined below.

3.3.1. Strict Set of Role Criteria

Applying a strict set of role criteria to each airport role is the most straightforward approach for stratifying a state's airport system. It is also the methodology that was utilized by the FAA ASSET Study, the precursor to the FAA's non-primary roles now utilized in the NPIAS. The approach is simple: to be in the highest airport role, an airport must meet the most demanding set of criteria, followed by continually less-strict criteria for lower airport roles. This methodology typically uses the same type of criteria for all roles, although some system plans modify this methodology to use different criteria depending on the role level. For example, FAA uses the number of instrument flight rule (IFR) operations, number of based jet aircraft, number of international departures, annual interstate operations, annual enplanements, and air cargo landed weight as criteria for placing airports in the National airport classification. This methodology can also be adapted to allow airports to meet one of several sets of criteria to be placed within a specific role. For example, to be a Regional airport in the NPIAS, an airport must meet one of the following criteria:

- The airport is in a metropolitan or micropolitan statistical area, has at least 10 annual domestic IFR flights over 500 miles in radius, at least 1,000 annual IFR operations, at least one based jet, or at least 100 based aircraft *or*
- The airport is in a metropolitan or micropolitan statistical area, and the airport meets the definition of commercial service

This methodology's adaptability is its most notable advantage. By employing different criteria based on role and/or the use of "or" statements, the strict sets of role criteria methodology can be modified for use in small or complex airport systems while remaining relatively easy to communicate to clients and the public. Conversely, without such modifications, the methodology is often too rigid to be adequate for all but the simplest of aviation systems.

3.3.2. Flow Chart

A flow chart methodology uses an "if-then" series of decisions to categorize airports based on prioritized criteria as defined by the state. For example, a system of airports may first be divided based on tiers of primary runway length, then by the type of available fuel or instrument approach capabilities, number of based aircraft, and so on as deemed important to the specific state's airport system. An airport is assigned a role based on the path it takes along the flow chart. In addition to utilizing fewer criteria than other methodologies, advantages of the flow chart methodology include:

- Achieves detailed results with just a few decision criteria
- Easy to communicate to clients and the public
- Easy to replicate when updating system plans

However, a flow chart can be less customizable than other structures, particularly the points system methodology described below.

3.3.3. Points System

A points system methodology assigns points to airports based on airport characteristics such as activities and facilities as selected by the state. While this methodology can vary widely amongst states, facilities and services supporting higher levels of activity and larger aircraft are typically assigned higher point values. For example, an airport with a population of 450,000 people in its market area would earn more points for population coverage than would an airport with a smaller population in its market area.

To determine roles, each airport's points are summed, and roles are assigned based on ranges of total points (e.g., 50-36 for classification X, 35-20 for classification Y, etc.). The primary advantage of the points system is that it can be customized to be as complex and nuanced as the airport system requires. However, it does require more effort to communicate the process to clients and the public and update the data for the entire system between system plan updates. It is also more challenging when assigning point values for a range of data as there is more subjectivity.

3.4. 2004 NASP Roles

The 2004 Nevada Aviation System Plan utilized a set of role criteria methodology to develop airport classifications. The categories referred to the operational role of the airport within the system to provide an indication of the types of aircraft that can be safely accommodated at each airport.

The 2004 NASP outlined airports that fell within the service levels as defined in the NPIAS in 2004: commercial service, reliever, and general aviation. The NASP then broke the general aviation service level airports into community, rural, and basic. During this time, the FAA Airport Classification types of Basic Utility, General Utility, and Transport airports were being phased out and replaced by an Airport Reference Code (ARC) system as outlined in the FAA Advisory Circular (AC) 150/5300-13, *Airport Design*. The ARC is made up of two components: 1) a letter referring to the aircraft approach category in terms of speed and 2) a Roman numeral referring to the airplane design groups in terms of wingspan. The 2004 NASP utilized the NPIAS service levels together with the ARC to create the airport categories shown in **Table 3-4**.

Table 3-4: 2004 NASP Categories and Accommodated ARC

2004 NASP Airport Category	FAA Airport Reference Codes Accommodated
Commercial Service Airport (CM)	C-II through D-V
Reliever Airport (RL)	B-II through C-III
Community Airport (CA)	B-I through B-II
Rural Airport (RA)	A-I through B-I
Basic Airport (BA)	A-I

Source: 2004 NASP

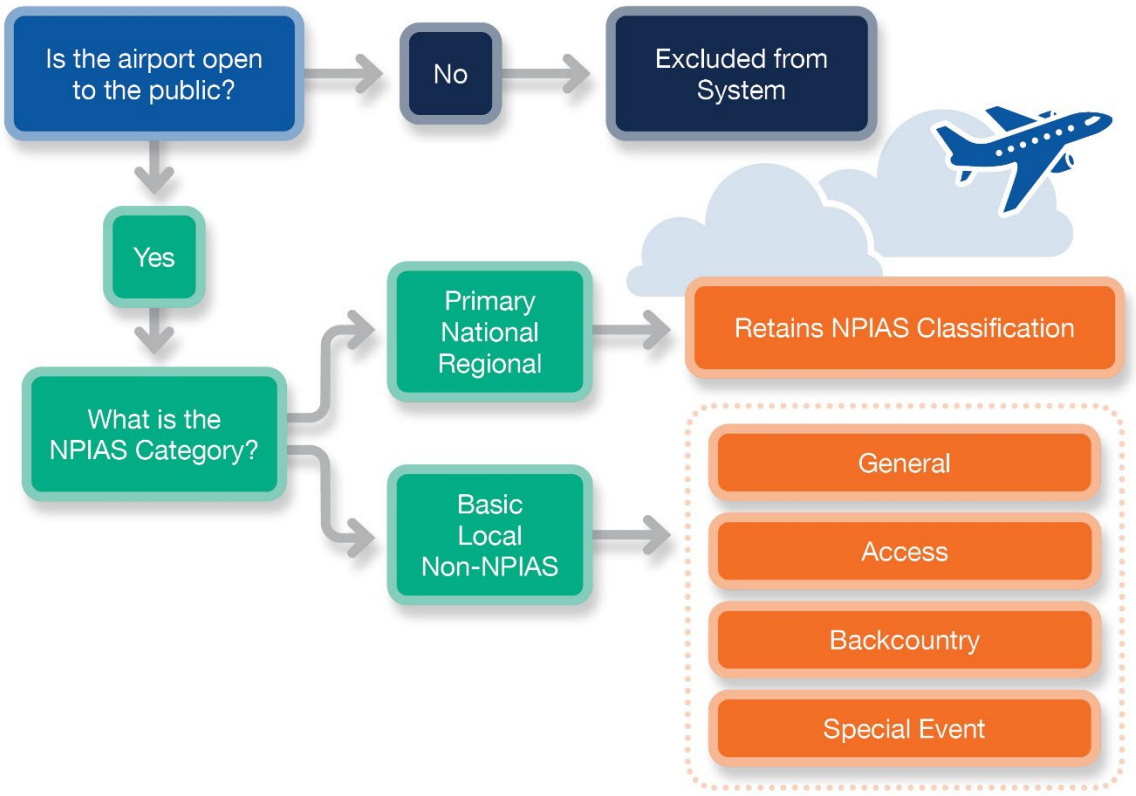
In 2004, of the 53 public-use airports included in the NASP, 32 public-use airports were in the NPIAS, including proposed airports in Ivanpah Valley, Mesquite (replacement of existing airport), and Pahrump Valley. 47 of the public-use airports were publicly owned and 6 were privately owned. Heliports and privately owned facilities were not included in the NASP.

It should be noted that the 2004 NASP captured a snapshot in time and utilized a different methodology; the study may not have captured all facilities that were present or present in their current form. Since the 2004 NASP, Hidden Hills (L57) closed. Several others are now private use since 2004: Goldfield (0L5) is now NV50, and Hadley (A36) is now referred to as Round Mountain and NV83. Ft. Ruby Ranch Airstrip (NV24) is now Emerus Heliport.

3.5. NAHSP Classifications

As discussed above, state roles are developed to reflect the existing and future needs of the state. The 2004 NASP assigned categories primarily based on a single factor—ARC. After review of methodologies, preliminary results, and potential criteria, it was determined the NAHSP would utilize the flow chart methodology using questions or factors such as whether the facility was open to the public (public-use facilities), the NPIAS classifications, and primary uses of the facility. This methodology is illustrated in **Figure 3-1**. Heliports were classified separately than airports due to the differences in use, infrastructure, and funding. The three criteria are described below.

Figure 3-1: NAHSP Role Classification Methodology



Source: Kimley-Horn 2021

3.5.1. Airports

Public-Use Facilities: Airports can be open to the public or only available to private users based on the ownership and use of the airport. Many privately owned facilities are not open to the public and/or are available for use only with prior permission. In order to be eligible for funding by a public

agency, including FAA, the facility must be open to the public. For the NAHSP, the 52 facilities that are private use and not open to the public are not considered to be in the "system." These facilities include five military airports and 44 privately owned facilities. The 49 facilities open to the public, whether they were privately or publicly owned, were then reviewed for NPIAS classifications.

Two facilities with special consideration regarding the public-use classification are Black Rock City (88NV) and Dead Cow Lakebed (High Sierra) as these are temporary airports open to the public during major events with prior permission. Due to this unique nature, these are considered public-use airports in the NAHSP and further classified through this methodology, bringing the number of system airports to 51.

NPIAS Classification: Airports classified by the NPIAS as Primary and those that are Nonprimary with roles of National and Regional as described in Section 4.2 maintain their same classification for the NAHSP. The remaining 21 Nevada airports that fall into the Local and Basic NPIAS classifications and the 24 that are not included in the NPIAS represent a wide range of facility sizes, uses, and needs. As such, these airports were then classified further by primary uses in order to develop a state classification.

Primary Uses: Uses for an airport can range widely and may include flight training, firefighting, medical transportation, tourism, recreational, and many others. Most airports serve multiple users that may fall into these different categories; however, a primary use was an important distinction for purposes of evaluating their state classification to then relate their varied infrastructure and support needs. For the remaining 46 public-use facilities that were not classified in the NPIAS as Primary, National, or Regional or not included in the NPIAS, the primary use of the facility resulted in a specific NAHSP classification of one of the following:

- **General:** Multi-purpose public use, general aviation facilities
- **Access:** Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g., mining, casinos)
- **Backcountry:** While the term backcountry may often be associated with privately owned and private-use aviation facilities used largely for recreational purposes, the NAHSP uses this term to identify public-use facilities that are primarily rural and contribute to the state's aviation system. These airports may have limited users and are mostly used for recreation.
- **Special Event:** Privately owned airports that are temporarily used by the public for special events.

This methodology results in seven role categories for the NAHSP: Primary, National, Regional, General, Access, Backcountry, and Special use, as summarized in **Table 3-5**. In addition to these seven roles, select airports were classified as Supporting as they actively support the Nevada aviation system, but are not physically located within the State borders. The role of these facilities is important in understanding how the Nevada population in these areas may be served but are not part of the Nevada airport system. The five supporting facilities include Laughlin/Bullhead International (IFP), Truckee-Tahoe Airport (TRK), Lake Tahoe (TVL), McDermitt State (26U), and Wendover (ENV).

Table 3-5: NAHSP Airport Role Classifications

State Role Classification	Public Use	NPIAS Classification	Primary Use	Number of Airports
Primary	Yes	Primary	Publicly owned commercial service airports that have more than 10,000 passenger boardings or enplanements each calendar year and receive scheduled passenger service	4
National	Yes	National	Supports national and state system by providing communities with access to national and international markets in multiple states and throughout the U.S.	2
Regional	Yes	Regional	Supports regional economies connecting communities to statewide and interstate markets	3
General	Yes	Basic & Local	Multi-purpose public-use facilities	18
Access	Yes	Basic & Local	Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g., mining, casinos)	13
Backcountry*	Yes	-	Recreational-use airports not utilized on a regular basis for another specific access purpose	9
Special Event	Yes, With Permission	-	Privately owned airports utilized for special events	2

*Note: * While the term backcountry may often be associated with privately owned and private use aviation facilities used largely for recreational purposes, the NAHSP uses this term to identify public-use facilities that are primarily rural and contribute to the state's aviation system. These airports may have limited users and are mostly used for recreation.*
Source: Kimley-Horn 2021

Table 3-6 and **Figure 3-2** provide the NAHSP role for each Nevada system airport.**Table 3-7** and **Figure 3-3** list the Nevada airports that are not included in the aviation system. Two airports note "On Request" under FAA Identifier which denotes that the facility has been submitted to the FAA to be established as a formal aviation facility through FAA Form 5010-5 Airport Master Record (Newly Established Private-use Airports).

Table 3-6: NAHSP Airport Roles[2]

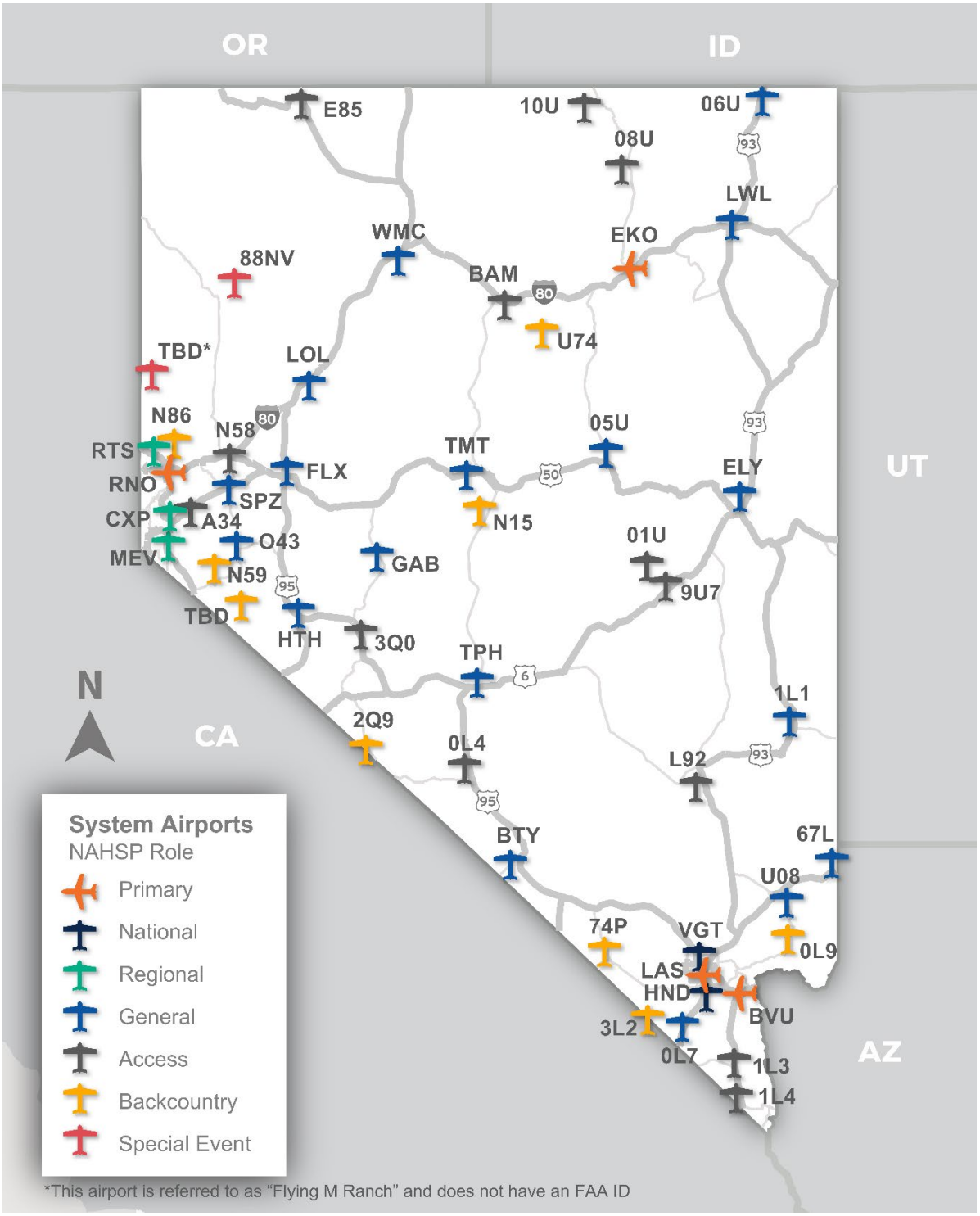
Associated City	Airport Name	FAA ID	NAHSP Role
Alamo	Alamo Landing Field	L92	Access
Austin	Austin	TMT	General
Battle Mountain	Battle Mountain	BAM	Access
Beatty	Beatty	BTY	General
Boulder City	Boulder City Municipal	BVU	Primary
Cal Nev Ari	Kidwell	1L4	Access
Carson City	Carson	CXP	Regional
Crescent Valley	Crescent Valley	U74	Backcountry
Currant	Currant Ranch	9U7	Access
Dayton/Carson City	Dayton Valley Airpark	A34	Access
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	TEMP	Special Event
Denio	Denio Junction	E85	Access
Duckwater	Duckwater	01U	Access
Dyer	Dyer	2Q9	Backcountry
Elko	Elko Regional	EKO	Primary
Ely	Ely Airport/Yelland Field	ELY	General
Eureka	Eureka	05U	General
Fallon	Fallon Muni	FLX	General
Fernley	Samsarg Field	N58	Access
Gabbs	Gabbs	GAB	General
Gerlach	Black Rock City (Burning Man)	88NV	Special Event
Goldfield	Lida Junction	0L4	Access
Hawthorne	Hawthorne Industrial	HTH	General
Jackpot	Jackpot/Hayden Field	06U	General
Jean	Jean	0L7	General
Kingston	Kingston	N15	Backcountry
Las Vegas	Henderson Executive	HND	National
Las Vegas	Harry Reid International	LAS	Primary
Las Vegas	North Las Vegas	VGT	National
Lovelock	Derby Field	LOL	General
Lyon County	Flying M Ranch (Hilton Ranch)	On Request	Backcountry
Mesquite	Mesquite	67L	General

[2] Goldfield Airport (NV50) has requested to become a public-use airport, which would add the airport to this list with the identifier of 0L5. This change has not yet taken place.

Associated City	Airport Name	FAA ID	NAHSP Role
Mina	Mina	3Q0	Access
Minden	Minden-Tahoe	MEV	Regional
North Fork	Stevens-Crosby	08U	Access
Overton	Echo Bay	0L9	Backcountry
Overton	Perkins Field	U08	General
Owyhee	Owyhee	10U	Access
Pahrump	Calvada Meadows	74P	Backcountry
Panaca	Lincoln County	1L1	General
Reno	Reno/Stead	RTS	Regional
Reno	Reno/Tahoe International	RNO	Primary
Reno	Spanish Springs	N86	Backcountry
Sandy Valley	Sky Ranch	3L2	Backcountry
Searchlight	Searchlight	1L3	Access
Silver Springs	Silver Springs	SPZ	General
Smith	Rosaschi Air Park	N59	Backcountry
Tonopah	Tonopah	TPH	General
Wells	Wells Municipal/Harriet Field	LWL	General
Winnemucca	Winnemucca Municipal	WMC	General
Yerington	Yerington Municipal	O43	General

Sources: Kimley-Horn 2021, FAA Airport Facilities Data 2021

Figure 3-2: NAHSP Airport Roles



Sources: Kimley-Horn, FAA Form 5010 Airport Master Record 2021

Table 3-7: Non-System Airports

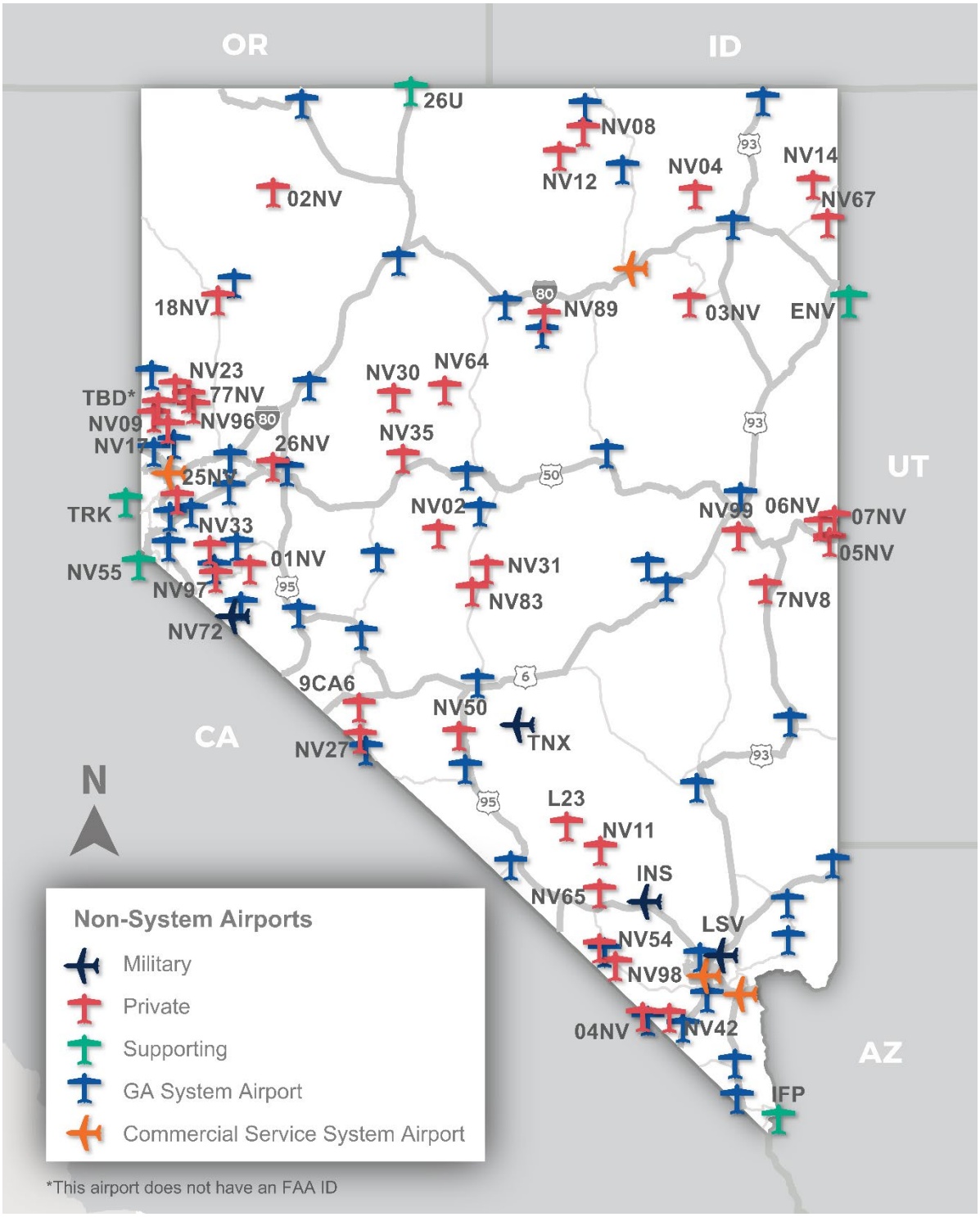
Associated City	Airport Name	FAA ID	NAHSP Role
Austin	O'Toole Ranch	NV02	Private
Austin	Hudson	NV35	Private
Baker	Baker Ranches	05NV	Private
Baker	Border Line Farm	07NV	Private
Baker	Silver Creek	06NV	Private
Battle Mountain	Swanson Ranch 3	NV64	Private
Bishop	North Valley	9CA6	Private
Bullhead City, AZ	Laughlin/Bullhead International	IFP	Supporting
Carson City	Parker Carson	25NV	Private
Crescent Valley	Red Owl Ranch	NV89	Private
Deeth	Marys River Ranch	NV04	Private
Dyer	Circle L Ranch	NV27	Private
Elko	Red Rock Ranch	NV22	Private
Ely	Willow Creek Trading Post	NV99	Private
Ely/Pioche	Geyser Ranch	7NV8	Private
Empire	Empire	18NV	Private
Fallon	Dixie Valley	NV30	Private
Fallon	Darrow Field	26NV	Private
Fallon	Fallon NAS (Van Voorhis Fld)	NFL	Military
Fallon	Fallon Southwest Airpark	1NV1	Private
Gardnerville	Pinenut	NV55	Private
Gerlach	Soldier Meadow Nr 1	NV06	Private
Gerlach	Soldier Meadow Nr 2	NV05	Private
Goldfield	Goldfield[3]	NV50	Private
Indian Springs	Creech Airforce Base	INS	Military
Jean	Heritage	NV42	Private
Las Vegas	Nellis Air Force Base	LSV	Military
Lemmon Valley	Youngberg Ranch	NV17	Private
McDermitt, OR	McDermitt State	26U	Supporting
Montello	Juniper	NV14	Private
Mercury	Desert Rock	NV65	Private
Mercury	Pahute Mesa Airstrip	L23	Private

[3] Goldfield Airport (NV50) has requested to become a public use airport, which would remove the airport from this list. This change has not yet taken place.

Associated City	Airport Name	FAA ID	NAHSP Role
Mercury	Yucca Airstrip	NV11	Private
Montello	Pilot Creek Ranches	NV67	Private
Mountain City	Petan Ranch	NV08	Private
Pahrump	Caas	NV98	Private
Pahrump	Flying S Ranch	NV54	Private
Reno	Flying Eagle	77NV	Private
Reno	H Bar H	NV09	Private
Reno	Mavland Stolport	On Request	Private
Round Mountain	Barker Creek Ranch Airstrip	NV31	Private
Round Mountain	Hadley	NV83	Private
Ruby Valley	Llama Ranch	03NV	Private
Sandy Valley	Kingston Ranch	04NV	Private
Smith Valley	Farias Wheel	NV33	Private
South Lake Tahoe, CA	Lake Tahoe	TVL	Supporting
Sparks	Air Sailing	NV23	Private
Sparks	Gibb Ranch	2NV2	Private
Sparks	Rolling Thunder	NV96	Private
Tonopah	Tonopah Test Range	TNX	Military
Truckee, CA	Truckee-Tahoe Airport	TRK	Supporting
Tuscarora	I-L Ranch	NV12	Private
Wellington	Desert Creek	NV97	Private
Wellington	Sweetwater (USMC)	NV72	Military
Wellington	Topaz Ranch	43NV	Private
Wells	Two Star Ranch	NV07	Private
Wendover, UT	Wendover	ENV	Supporting
Winnemucca	Paiute Meadows	02NV	Private
Yerington	Lantana Ranch	01NV	Private

Sources: Kimley-Horn 2021, FAA Airport Facilities Data 2021

Figure 3-3: Non-System Airports



Sources: Kimley-Horn, FAA Form 5010 Airport Master Record 2021

3.5.2. Heliports

In addition to the 51 system airports, there are 63 heliports and 14 heliports on airports in operation throughout Nevada. These heliports were classified separately from airports due to the differing needs and uses of the facilities. Thus, a similar flow chart method was utilized to classify the heliports based on their primary use, as shown in **Table 3-8.** Additional classifications such as law enforcement could be considered in the future if new heliports are established for these specific types of activities.

Table 3-8: NAHSP Heliport Roles by Classifications

Classification	Primary Use	Number of Facilities
Medical	Medical purposes including established medical facilities and emergency use only	43
Media	News and media activities, typically for news stations	2
Private Sector	Utilized by a private entity for a specific purpose whether recreation, business, tourism, or another purpose	18
Public	Available for use by the public	13
Fire	Firefighting purposes including wildfire management and prescribed fire operations	1

Source: Kimley-Horn 2021

Table 3-9 and **Figure 3-4** list the NAHSP role for the heliports in Nevada. Several heliports note "On Request" under FAA Identifier which denotes that the facility has been submitted to the FAA to be established as a formal aviation facility through FAA Form 5010-5 Airport Master Record (Newly Established Private-use Airports).

Table 3-9: NAHSP Heliport Roles

Associated City	Heliport Name	FAA ID	NAHSP Role
Amargosa Valley	Amargosa EMS	On Request	Medical
Battle Mountain	Battle Mountain EMS	53NV	Medical
Beatty	Beatty Hospital-EMS	On Request	Medical
Beatty	Planet 13 Heliport	On Request	Private Sector
Boulder City	Boulder City Hospital	NV16	Medical
Caliente	Grover C Dils Medical Center	On Request	Medical
Carson City	Carson-Tahoe Gardnerville	On Request	Medical
Carson City	Carson-Tahoe Hospital	NV60	Medical
Carson City	Carson-Tahoe Regional Medical Center	NV15	Medical
Charleston	Spring Mountain - NPS	On Request	Public
Cottonwood Cove	Lake Mead EMS - Cottonwood	On Request	Medical
Elko	Northeastern Nevada Regional Hospital	NV20	Medical
Fallon	Banner Hospital	On Request	Medical

Associated City	Heliport Name	FAA ID	NAHSP Role
Hawthorne	Grant Hospital	On Request	Medical
Henderson	Henderson Hospital	32NV	Medical
Henderson	St Rose Dominican Hospital	NV25	Medical
Las Vegas	Action	NV40	Medical
Las Vegas	Centennial Hills Hospital	On Request	Medical
Las Vegas	Children's Hospital Heliport #2	On Request	Medical
Las Vegas	Circus Circus	NV48	Private Sector
Las Vegas	Desert Springs Hospital	3NV1	Medical
Las Vegas	Gilbert Development Corp	NV61	Private Sector
Las Vegas	KLAS Channel 8	NV38	Media
Las Vegas	Las Vegas Motor Speedway - EMS	On Request	Medical
Las Vegas	Primm Valley Resort Casino EMS	On Request	Medical
Las Vegas	Spring Valley Hospital	2VE2	Medical
Las Vegas	St Rose Dominican San Martin Campus	64NV	Medical
Las Vegas	St. Rose Dominican - Rose De Lima	On Request	Medical
Las Vegas	Summerlin Medical Center	0NV1	Medical
Las Vegas	Sunrise Medical Center	NV86	Medical
Las Vegas	Sunrise Mountain View Hospital	10NV	Medical
Las Vegas	University Medical Center-Southern Nevada	NV34	Medical
Las Vegas	Valley Hospital Medical Center	NV53	Medical
Logandale	Moapa Logandale	On Request	Fire
Lovelock	Pershing General Hospital	NV19	Medical
Lyon County	Flying M Ranch (Hilton Ranch)	On Request	Public
Mesquite	Mesa View Regional Hospital	99NV	Medical
Mesquite	Vista Del Monte Lot 55	2NV3	Private Sector
Minden	Helicopter Parts International Inc. (HPI)	On Request	Private Sector
Nelson	Eldorado Substation	NV37	Private Sector
North Las Vegas	Emerus	NV24	Medical
Owyhee	Owyhee Hospital	On Request	Medical
Overton	Echo Bay[4]	On Request	Public
Pahrump	Desert View Hospital	On Request	Medical
Pahrump	Flying S Ranch	NV54	Private Sector
Pahrump	KPVM Television	90NV	Media

[4] Echo Bay Marina Heliport (FAA ID On Request) is located approximately three miles away from Echo Bay Airport (0L9).

Associated City	Heliport Name	FAA ID	NAHSP Role
Pahrump	Mercy Air-Pahrump	2NV8	Medical
Pahrump	Precious Materials	NV73	Private Sector
Reno	Freedom Helipad	NV77	Private Sector
Reno	Remsa/Care Flight	NV78	Medical
Reno	Renown Regional Medical Center	NV57	Medical
Reno	St Mary's Regional Medical Center	NV58	Medical
Sandy Valley	Fly Sin City #1	NV91	Private Sector
Sandy Valley	Fly Sin City #2	NV92	Private Sector
Sandy Valley	Fly Sin City #3	NV93	Private Sector
Sandy Valley	Sky Ranch	NV21	Medical
Searchlight	Renegades Mines Partners LLC	NV10	Medical
Searchlight	Searchlight Airport H1	On Request	Private Sector
Searchlight	Searchlight Airport H2 EMS	On Request	Private Sector
Sparks	Air Sailing	NV23	Private Sector
Sparks	Northern Nevada Medical Center	NV69	Medical
Wendover	West Wendover EMS	On Request	Medical
Winnemucca	Humboldt General Hospital EMS	22NV	Medical
Yerington	South Lyon County Hospital	On Request	Medical

Sources: Kimley-Horn 2021, NDOT 2021, FAA Form 5010 Airport Master Record 2021

In addition to stand-alone heliports, there are nine system airports that have one or more established heliports within the airport boundary, as listed in **Table 3-10**. These heliports are primarily for public use.

Table 3-10: Heliports on Airports[5]

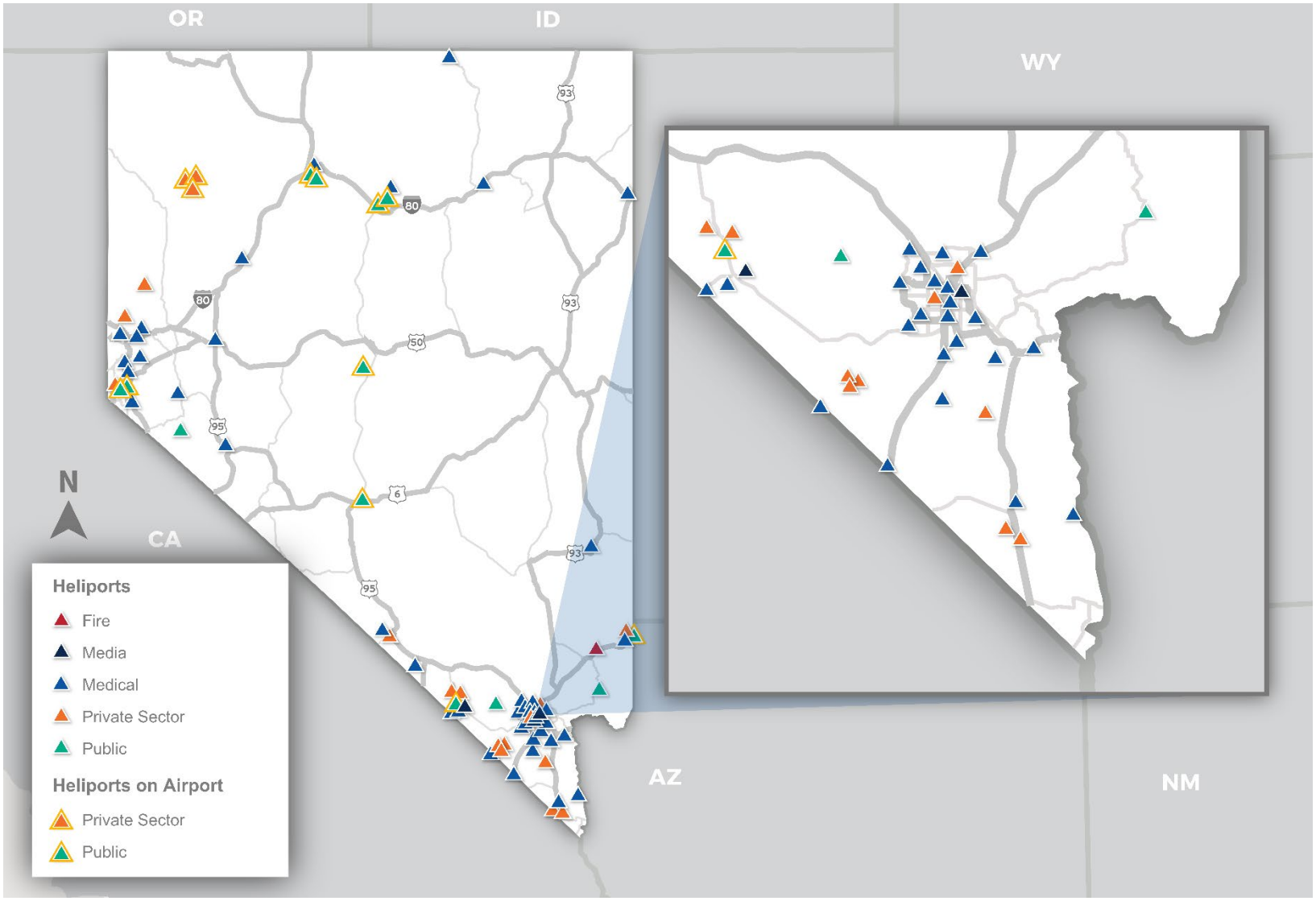
Associated City	Airport Name	FAA ID	Heliport ID	NAHSP Role
Battle Mountain	Battle Mountain	BAM	H1	Public
Battle Mountain	Battle Mountain	BAM	H2	Public
Gerlach	Black Rock City (Burning Man)	88NV	H1	Private Sector
Gerlach	Black Rock City (Burning Man)	88NV	H2	Private Sector
Gerlach	Black Rock City (Burning Man)	88NV	H3	Private Sector
Kingston	Kingston	N15	H1	Public
Mesquite	Mesquite	67L	H1	Public
Minden	Minden-Tahoe	MEV	BLM1	Public
Minden	Minden-Tahoe	MEV	BLM2	Public

[5] Goldfield Airport (NV50), currently a private airport without a heliport, has requested to become a public-use airport and to have a heliport added, which would add the airport to this list. These changes have not yet taken place.

Associated City	Airport Name	FAA ID	Heliport ID	NAHSP Role
Pahrump	Calvada Meadows	74P	H1	Public
Tonopah	Tonopah	TPH	H1	Public
Winnemucca	Winnemucca Municipal	WMC	H1	Public
Winnemucca	Winnemucca Municipal	WMC	H2	Public

Sources: Kimley-Horn 2021, FAA Form 5010 Airport Master Record 2021

Figure 3-4: NAHSP Heliport Roles



Sources: Kimley-Horn, FAA Form 5010 Airport Master Record 2021

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Chapter 4. State, Regional, and Local Airport Issues

4.1. Introduction

Aviation is constantly changing, which can have a substantial impact on future airport needs that sponsors should keep apprised of and be able to respond. There are many changes at the national, state, and regional levels that impact Nevada's airports, whether industry trends or specific issues such as new technologies, decreased funding coupled with increasing costs, uncertainty around ownership, and growing infrastructure needs. It is important to understand the major trends and issues affecting Nevada's airports when assessing the historical, current, and future performance of the airport system.

This chapter provides an overview of factors that are influencing aviation at the national level and more specifically, those that were identified by airports, airport sponsors, and various aviation stakeholders as having the most impact on the aviation system's abilities to optimally support its users. Trends and issues discussed in this chapter include:

- COVID-19
- Funding and Increasing Costs
- Weather Reporting
- Federal Land Ownership and Designations
- Special Use Airspace
- Compatible Land Use and Encroachment
- New Technologies
- Aviation Staffing Shortage
- Aerial Firefighting
- Tourism
- Rural and Tribal Communities

4.2. Stakeholder Engagement

The issues and trends described in this chapter were gathered from a variety of sources that captured a broad spectrum of perspectives on the Nevada aviation system including members of the Project Advisory Committee (PAC); interviews with airport managers, aviation stakeholders, and aviation user groups; and conversations with Nevada Department of Transportation (NDOT) staff. While there was an overlap of the issues and trends identified between the groups, there were also themes common among users that were not always mentioned by the airport sponsors.

4.2.1. Project Advisory Committee

The PAC was established to support and guide the implementation of the Nevada Airport and Heliport System Plan (NAHSP). The PAC includes representatives from airport sponsors and managers, policy makers, helicopter tour providers, aircraft owners and airport users, the aerospace industry, emergency medical operators, the Unmanned Aircraft System (UAS)/Unmanned Aerial Vehicle (UAV) industry, aviation special event interests, economic development, transportation interests, the Federal Aviation Administration (FAA), and NDOT. In the first PAC meeting, attendees identified and prioritized the most significant current and long-term issues that could affect the Nevada system, shown in **Figure 4-1.**

Figure 4-1: Major Issues Identified by the PAC During Meeting #1

Source: Kimley-Horn 2021

4.2.2. Airport Interviews

As discussed in **Chapter 2**, airport management provided information on the top three issues affecting their facilities through an Airport Inventory Data Collection Form and virtual meetings. Airport managers identified site-specific issues such as hangar shortages and communications, as well as broad issues such as funding and ownership topics. This feedback is incorporated within the NAHSP analysis and documented throughout this chapter. The most common issues described by airport managers were:

- Encroachment (Land Use Compatibility)
- Maintaining Existing Infrastructure
- Funding and Increasing Costs
- Land Ownership
- Communications
- Weather Reporting
- Fuel Shortage/Storage
- Hangar Shortage
- Runway Length

Other issues Nevada airports noted through this process included need for a crosswind runway to address wind conditions, lack of amenities, airspace and military operations, hangar ownership, water shortage and storage, helipad availability, lack of diversity of revenue sources, drone operations, effects of COVID-19 on local events, climate resiliency/flooding, and roadway capacity/access.

4.2.3. Aviation Stakeholders

Aviation stakeholders interviewed as part of the NAHSP also provided information on the top issues affecting their organizations through a virtual interview that integrated a variety of topics to ensure that consistent information was gathered from each session. Stakeholders identified organization-specific issues such as new aircraft technology and their infrastructure needs, as well as broad issues such as lack of weather reporting and funding. This feedback is incorporated into the NAHSP analysis and presented throughout this chapter. The most common types of issues described by stakeholders were:

- Lack of Weather Reporting
- Operations through Special Use Airspace
- Maintaining Infrastructure
- New Aircraft/Infrastructure Needs
- Funding and Increasing Costs
- Lack of Airport Amenities Available to Users

4.3. COVID-19

First identified in 2019, the Novel Coronavirus or COVID-19[1] was identified as a global pandemic in March 2020. Measures to mitigate the spread imposed a new dynamic to aviation operations worldwide that is still impacting the industry in mid-2021. Unprecedented global, national, and local travel restrictions designed to inhibit the spread of the virus had a profound logistical and financial impact on air travel and associated businesses at all levels. The effects of the travel restrictions have ranged from significantly reduced passenger enplanements and aircraft operations, especially at commercial service airports, but impacted operations at airports of all types and size. With the significant loss of revenue experienced by almost all airports nationwide, additional federal funding was provided to help airports and airlines survive financially.

The spread of COVID-19 brought global travel to a standstill as travel advisories, restrictions, and bans were imposed. The White House issued the first travel restriction between China and the U.S. on January 31, 2020 and expanded the restrictions to Iran, Italy, and South Korea on February 29. By March 11, travel restrictions were announced between the U.S. and continental Europe. On March 18, the U.S. and Canada agreed to close the border for all non-essential travel. The following day, the U.S. State Department raised the global travel advisory to level four, warning against all international travel. As March 2020 progressed, dozens of states closed public schools and universities and issued stay-at home orders that prohibited non-essential business or travel. According to the Bureau of Transportation Statistics, April 2020 was the absolute lowest point for U.S. air travel with passenger enplanements down

[1] COVID-19 is an infectious disease caused by a strain of coronavirus called SARS-CoV-2. First identified in 2019, COVID-19 developed into a global pandemic starting in March 2020.

96 percent over April 2019 levels. For calendar year 2020, air carrier activity declined 27.5 percent and general aviation declined by 8.9 percent compared to full-year 2019 activity levels.[2]

The pandemic had a devastating impact to the global economy in 2020 and in early 2021 as millions of businesses around the globe were forced to shut down or severely limit operations because of public health orders and travel bans. However, a rapid rollout of multiple vaccines in the U.S. in 2021, followed by a decline in caseloads to March 2020 levels and subsequent reductions to COVID-19 mandates have led to a revival of the U.S. economy that has included rapid growth in commercial airline travel. The U.S. Bureau of Economic Analysis (BEA) reported that the nation's gross domestic product (GDP) declined approximately five percent in the first quarter of 2020, the largest quarterly decline since the 2008 Global Financial Crisis but increased by approximately six percent in the first quarter of 2021. The trend was reflected in the stock market, as the Dow Jones Industrial Average plummeted more than 30 percent between February 2020 and March 2020 but increased by more than 57 percent between March 2020 and March 2021. Furthermore, the Bureau of Labor Statistics reported that approximately 14 percent of the total workforce was unemployed in April 2020 but this improved to approximately six percent in April 2021. According to IHS Markit, global trade volumes decreased approximately 13 percent in 2020 compared to 2019. However, global trade volumes are expected to increase by more than seven percent in 2021 compared to 2020. According to the International Monetary Fund, global GDP growth is projected at approximately six percent in 2021 compared to a decline of approximately 3 percent in 2020. Although it is too early to understand the full scope of the economic impacts of the pandemic, it is clear that a strong recovery is underway in the U.S. while the global recovery is positive but comparatively reduced.

Within the U.S., air travel is improving as of July 2021. According to traveler throughput counts from the Transportation Security Administration (TSA), between April and June 2021 there were over four million more travelers passing through TSA checkpoints than between April and June 2020. However, April to June 2021 TSA traveler throughput counts were approximately two million passengers fewer than they were between April and June of 2019. This is due in part to the uneven nature of the U.S. air travel recovery as leisure travel has generally returned while business travel is not expected to fully recover until 2023.[3]

During the outreach effort airport owners, managers, and other operating personnel were asked about the impact of COVID-19 to their airport and their businesses. The contacts were also asked to explain the likely reasoning for the impact if there was anything specific to the airport or region. The answers varied depending on the size, locations, and amenities that their airport/business had to offer. Normal traffic volumes have remained consistent to what they were pre-COVID-19 for smaller airports, with some increasing activity due to flight training and use of general aviation (GA) for pleasure and some business travel.

In Nevada, the larger commercial airports such as Las Vegas Harry Reid International Airport[4] (LAS) and Reno-Tahoe International Airport (RNO) were severely impacted in the beginning months of the

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[2] Federal Aviation Administration, FAA Aerospace Forecast Fiscal Years 2021-2041, https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/FY2021-41_FAA_Aerospace_Forecast.pdf

[3] CBS News, United Airlines CEO Scott Kirby on "Face the Nation," July 11, 2021.

[4] Formerly known as McCarran International Airport.

pandemic but have realized traffic increases to closer to pre-COVID levels, particularly with domestic travel, into 2021. However, business and international travel was the most impacted by the pandemic and is recovering more slowly by comparison to pleasure travel as previously mentioned.

For many of the other Nevada airports, the level and severity of the impact was dependent on numerous factors. One example was Carson City Airport (CXP), which saw reduced traffic numbers in the beginning months of the pandemic in March and April 2020, but the airport's traffic picked back up after this timeframe to comparable 2019 levels. Another example, Elko Regional Airport (EKO), experienced reduced GA traffic numbers and reduced commercial flight activity throughout the pandemic, though the airport's commercial flight schedule had generally returned to its pre-pandemic frequency as of mid-2021 according to the FAA's Traffic Flow Management System Counts (TFMSC) database. Furthermore, despite the trend of individuals using GA to reduce their exposure to COVID-19, airports like Henderson Executive Airport (HND) and North Las Vegas Airport (VGT) saw a reduction in total business aircraft activity in calendar year 2020 compared to calendar year 2019 because of the steep decline in business travel caused by the pandemic.

Helicopter tourism, a significant component of the Nevada aviation industry, saw a dramatic decline in demand through the end of 2020 and widespread layoffs affecting many tour operators. In fact, Sundance Helicopters permanently closed in August 2020, taking one of the world's largest helicopter tour companies offline.[5] While demand from domestic travelers for Las Vegas Strip tours has increased, scenic tours of the Grand Canyon were almost entirely made up of international travelers and this group is still largely unable to easily enter the United States.[6] As a result, the helicopter tourism industry in Nevada has generally not seen a recovery from the COVID-19 pandemic as of July 2021.

4.4. Funding and Increasing Costs

When discussing issues facing aviation in the present and in the future, funding is always an issue that is highlighted by all levels of aviation users and providers. This can be attributed to the increased costs of construction, limits on available funding from various sources, and numerous other reasons.

There are two primary methods by which publicly owned airports receive funding. Airports can receive federal funding from the FAA's Airport Improvement Program (AIP), which requires facilities to be included in the National Plan of Integrated Airport Systems (NPIAS). Secondarily, airports can receive money from state and local sources. Privately owned airports and development by private operators at airports are typically funded only by private sources.

4.4.1. Airport Funding

Airports have four primary ways to receive funding:

Federal Government: As noted, the most significant federal funding source is provided by the FAA through the AIP, which requires facilities to be included in the NPIAS. Airports not included in the NPIAS

[5] U.S. News & World Report, Virus-Related Travel Decline Hits Las Vegas Helicopter Tours, 2020, https://www.usnews.com/news/best-states/nevada/articles/2020-09-20/virus-related-travel-decline-hits-las-vegas-helicopter-tours.
[6] Centers for Disease Control and Prevention, Travelers Prohibited from Entry to the United States, April 2021, https://www.cdc.gov/coronavirus/2019-ncov/travelers/from-other-countries.html

are not eligible for AIP funding and must instead rely on state, local, and private sources. In Nevada, there are 30 airports included in the NPIAS. The NAHSP includes these NPIAS airports as well as an additional 21 non-NPIAS airports.

The FAA AIP provides funding for eligible projects at airports included in the NPIAS. The NPIAS is a bi-annual report that the FAA submits to Congress that includes a five-year estimate of project funding needs for approximately 3,310 existing and proposed airports. The NPIAS identifies existing and proposed airports considered "significant" to the nation's air transportation system. Airports included in the NPIAS are eligible for AIP grants for planning and development, which is usually limited to improvements related to aircraft operations and those that are mostly non-revenue producing.

For Large Hub Airports, which in Nevada is solely LAS, AIP grants cover 75 percent of the total eligible project cost. For all other classifications of airports in Nevada, which covers all NPIAS airports in the state aside from LAS, AIP grants cover 93.75 percent of the total eligible project cost. Note that Nevada is one of 13 states in which the FAA provides an increased federal share due to a large percentage of the state's land being owned by the federal government. Outside of an AIP grant, the remainder of a project's cost must be provided through a combination of airport sponsor, state, and private funding. Related to the funds distributed under the AIP are the AIP Supplemental Appropriation grants awarded to airports between FY 2020 and 2022. These Supplemental funds were made available under the FY 2020 Appropriations Act and included $400 million in funding that was distributed to airports based on the parameters of the Airport Capital Improvement Plan (ACIP) process.[7]

It can be challenging for NPIAS GA airports to complete larger capital projects even with an AIP grant due to the limited amount typically received each year from the FAA (currently $150,000 per year through the non-primary entitlement program) and the hardship to provide the local match to the AIP grant. In many cases, an airport will need to defer a project for multiple years to save enough AIP grant funding and local funds to pay for the project or phase the project over many years, which can increase total project costs.

The FAA does provide grants for certain projects depending upon available funds. This can include pilot programs on newer topics, sustainability improvements, and others. A recent example was the 2020 CARES Act, which provided approximately $10 billion in funds as economic relief to airports across the U.S. that were affected by the prevention of, preparation for, and response to the COVID-19 pandemic. Within the State of Nevada, 30 airports received a total of $231,448,014 in CARES Act funding that was made available by the FAA in April 2020.[8] After the CARES Act, the Coronavirus Response and Relief Supplemental Appropriation Act (CRRSA Act) was signed into law in December 2020 and provided a total of $49,627,830 to 29 airports. Subsequent to the CRRSA Act, the American Rescue Plan Act of 2021 (ARP Act) was signed into law in March 2021 and provided a total of $191,919,576 to 29 airports. Note that Boulder City Municipal Airport (BVU) received CARES Act funding but did not receive funding from either the CRRSA Act or the ARP Act. Recently, the Senate passed the Biden administration's bipartisan Infrastructure Investment and Jobs Act, which is a once-in-a-generation investment in U.S. infrastructure

[7] FAA AIP 2020-2022 Supplemental Appropriation https://www.faa.gov/airports/aip/aip_supplemental_appropriation/

[8] Amodei, Mark. Nevada Airports Receive More than $230 Million in Cares Act Funding, https://amodei.house.gov/news-releases/amodei-nevada-airports-receive-more-230-million-cares-act-funding, April 2020.

assets that includes a $25 billion investment in airports to address repair and maintenance backlogs, reduce congestions and emissions near airports, and to support electrification and other low-carbon technologies.[9] The bill passed in late 2021 and Bipartisan Infrastructure Law (BIL) funding will be made available for Nevada airports starting in Fiscal Year 2022.

Additional federal-level funding options include Passenger Facility Charge (PFC) funds as well as Customer Facility Charge (CFC) funds. PFCs are fees paid by commercial airline passengers and included in their ticket purchase. These user fees cannot exceed $4.50 per enplaned passenger and the funds must be used by the airport to maintain and enhance airport facilities. CFCs are imposed on those that rent cars at airports and are used to help pay for airport rental car facilities.

State: The State of Nevada maintains the Nevada Fund for Aviation, also known as the Aviation Trust Fund. Signed into law in 2001, the Fund for Aviation provides matching funds for FAA AIP grants and other safety-critical airport projects, up to $50,000 per disbursement per year per airport.[10] The program is intended to assist only rural GA airports and funding from the trust is not available to any aviation facility located in a county with a population greater than or equal to 700,000, which effectively excludes the Reno-Tahoe Airport Authority (RTAA) and Clark County Department of Aviation (CCDOA) airports. Overall, only NPIAS airports are able to take advantage of the Nevada Fund for Aviation as Section 25 of Senate Bill 526 states that money appropriated for this fund must be used to match money that is available from the FAA, which only provides funds to airports included in the NPIAS.

Airports that accept grant funds from this program must keep their facilities accessible and open to the public throughout the entire life of the grant-funded improvement. If an airport is unable to comply with this requirement, the sponsor is required to reimburse the Fund for Aviation for any unexpired useful life of the improvements, on a pro-rata basis.

An additional source of State-level funding that may become available to airports in the near future is the State Infrastructure Bank (SIB). While the SIB was established by the State Legislature in 2017, it was not funded until May 2021, when $75 million was appropriated for the SIB through the passage of the Capital Improvement Projects Bill (AB492) in the Nevada Senate. In addition, Senate Bill 430 was signed into law in June 2021 and expanded the types of projects that can be funded by the SIB. The infrastructure bank provides loans and other financial assistance for the development of infrastructure related to economic development, including transportation facilities.

Local: Many airports are able to generate at least a portion of their sponsor share to match grant funding, as well as pay for maintenance and other projects, through internal revenue sources such as fuel sales, hangar rentals, landing/tie-down fees, and land leases. An airport's financial self-sufficiency can be partially attributed to being located in a high traffic volume area, having a large number of based aircraft, and/or diversification of revenue streams. It can be a significant challenge for airports in rural areas to produce the same level of revenue as other airports in more populous areas. In some cases, municipal funding is dedicated to financially supplement the day-to-day operation of the airport as well as for

[9] https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/02/updated-fact-sheet-bipartisan-infrastructure-investment-and-jobs-act/
[10] Nevada Fund for Aviation Grant Program – Policy and Procedures Manual, 2015.

supporting capital improvement projects. These subsidies can be in the form of general funds, loans, municipal bonds, and other sources.

Depending on the activity at the airport, other strategies for generating revenue locally can be found by providing parking and concession fees from ground transportation, rental cars, advertising, and other retail opportunities. Leasing of certain portions of airport property not needed for aviation purposes for non-aeronautical purposes can be a significant resource to diversify an airport's revenue stream. Examples include leasing land for compatible commercial development such as office buildings, warehouses, hotels, renewable energy production, agriculture, business parks, and hotels. This is only an opportunity where an airport has a large land envelope and that land is not needed to serve aviation needs. Additionally, airports in Nevada have the unique opportunity to generate revenues from gaming concessions as well.

The viability of these strategies can be highly dependent on demand, with more opportunities generally available to urban airports and those located within close proximity to tourism destinations (e.g., ski areas).

Private-Public Partnerships: Financial self-sufficiency should always be one of the main goals for an airport but for many, opportunities to enhance revenues through the development of revenue-generating facilities internally continues to prove to be a challenge. In some cases, funding revenue-generating airport development can be done through third parties as a public-private partnership. It is a common practice for the airport to enter into a long-term ground lease with a private sector partner who designs, builds, operates, and maintains the facility for their own use. This approach can be applied to both aeronautical uses such as fuel storage facilities and hangars as well as non-aeronautical development.

4.4.2. Increasing Costs

In an effort to provide an effective, efficient, and safe airport environment, airports rely on having the most up-to-date technology, pavement in good condition, and amenities accommodating the common aviation activities. The largest issue that hinders airports pertains to the prices to construct and maintain these amenities. This is especially apparent for airports not included in the NPIAS, as they do not have access to FAA AIP funds for their capital projects.

Hangar development has become increasingly difficult in recent years due to higher labor and materials costs, more extensive regulations, and the competitiveness and demand for low monthly rates. As a result, an airport may have high demand for new hangars but encounter challenges in implementing the project when the potential users discover the true cost of the intended development and the owners, whether public or private, understand the potential rate of return on the hangar investment. Furthermore, an airport needs to also be prepared to construct the associated infrastructure to accommodate aircraft storage such as utility extensions, taxilanes, apron space, and vehicle access and parking. Airports noted that they are seeing increases in construction costs from the bidders year after year. Airport equipment has also become more challenging for certain airports to afford with increasing costs. The maintenance and replacement of vehicles and equipment for airport operations as well as weather equipment represent some of the more expensive items. These projects can prove challenging for a non-NPIAS airport as they are unable to utilize AIP funding.

Since the pandemic's start, costs for construction, in terms of labor and materials, has skyrocketed beyond a level ever anticipated. Issues with international materials production and delivery and dealing with COVID-related requirements for social distancing, masking, and limits on the number of people gathering together increased costs significantly. Lumber, paint, microchips, and other materials have been identified as being hard to obtain and extraordinarily expensive, especially compared to budget estimates prepared prior to 2020.

4.5. Weather Reporting

Weather reporting is important to many aviation users that rely on accurate, real-time weather reporting to conduct critical operations. For example, if an airport does not have sufficient weather reporting equipment, medical operators may be unable to operate at that airport, even if it is the closest to a patient, which can lead to delays in treatment. Medical flights may be forced to turn back if inclement weather is discovered enroute due to insufficient weather reporting along the way, a particular issue at night and during winter conditions.

In general, many Nevada stakeholders noted that accurate weather reporting is a high priority in terms of desired infrastructure in order to facilitate their operations in a safe manner. Weather reporting can be challenging to install and utilize due to a lack of broadband connectivity in parts of the state and the requirement for electrical service to be present both at the airport and from the airport to the weather reporting station. In addition, the increased utility cost that comes with these systems can be a challenge for airports located in communities that are unable or unwilling to provide funds for these utility costs. To assist with these issues, NDOT has been working in recent years to utilize existing highway cameras for weather reporting and expand the broadband network to rural areas to provide better connections to report out available weather data.

4.6. Federal Land Ownership and Designations

According to the Congressional Research Service in their February 2020 Report, *Federal Land Ownership: Overview and Data*, the federal government owns roughly 640 million acres of land, which is approximately 28 percent of all land in the U.S. This land can be found in most U.S. states but is concentrated in Alaska and western states such as Nevada, as 45.9 percent of the land in 11 coterminous western states and 60.9 percent of the land in Alaska is owned by the federal government.

4.6.1. Federal Ownership

The federal government currently owns and maintains almost 82 percent of the land in the State of Nevada through various departments such as the U.S. Forest Service (USFS), U.S. National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Land Management (BLM), and Department of Defense (DOD). Much of the federal land is managed for conservation and development of natural resources, grazing, and recreation. The various land ownership types are displayed on **Figure 4-2**.

The BLM, part of the United States Department of the Interior, manages almost 84 percent of the federal land in the State of Nevada. Several airports are located on BLM-owned property and must maintain an appropriate leasehold with the agency and renew the agreement periodically. In the past decade, many of these leases have expired due to abandonment by the prior owner or confusion over the process. When local communities and municipalities try to take over an airport to maintain and preserve the facility,

delays in the federal real estate process present a roadblock to their efforts. These airports serve valuable roles in their communities by facilitating access to other markets, allowing firefighting operations to utilize their facilities to combat local fires, and providing emergency access for life-saving medical flights. The aviation community, including NDOT, has expressed an interest in working with BLM to develop an expedited process to transfer ownership of existing airport property to public agencies (e.g., state, county, city, tribal, etc.) and phase out long-term land leases.

4.6.2. Wilderness Area

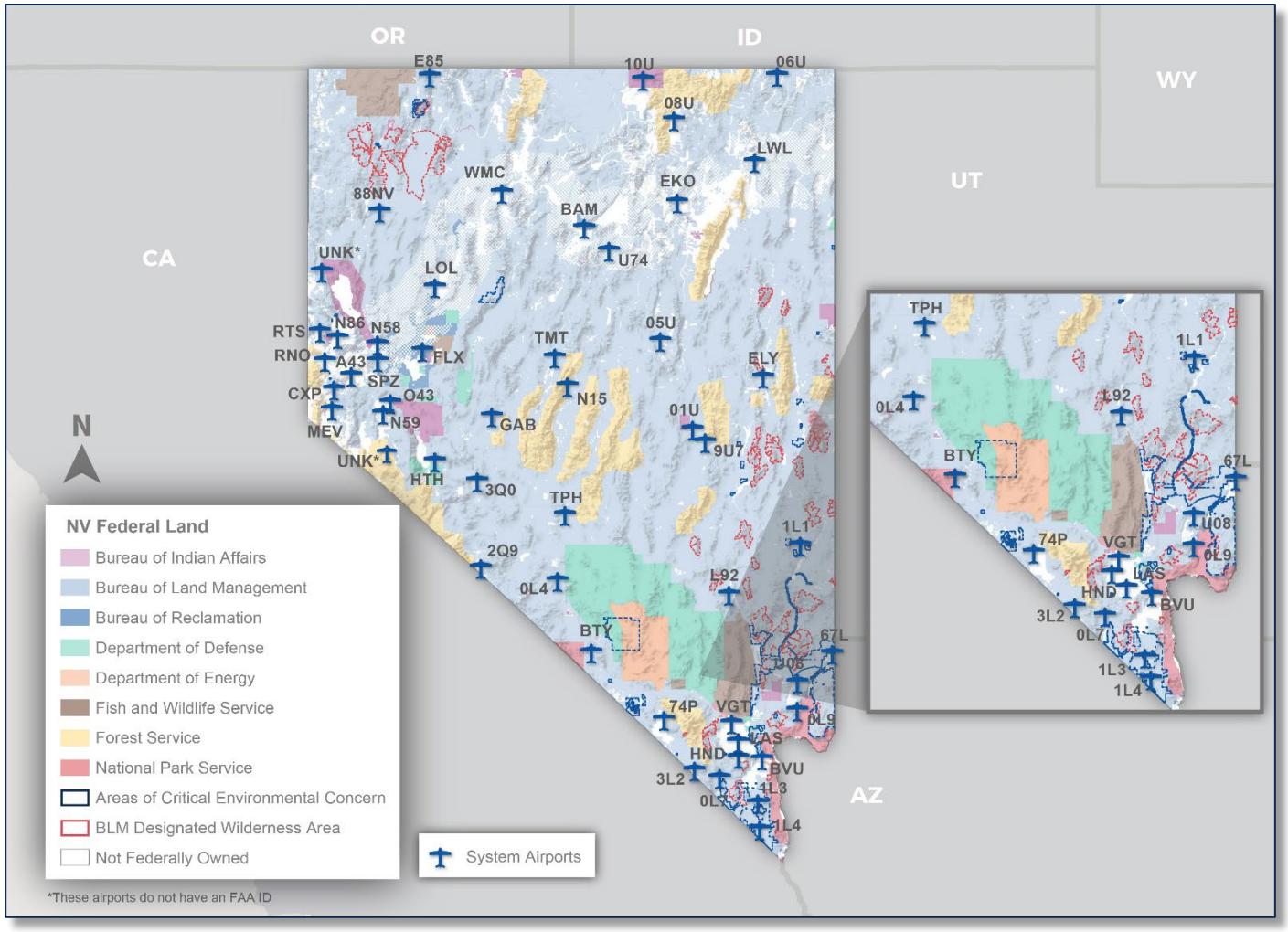
Wilderness areas are the most protected public lands in America.[11] The term is a federal designation given by an act of Congress that permanently classifies a particular area of federal public lands such as national parks and forests, as well as land managed by BLM and USFWS. Restrictions that apply to wilderness areas under 16 U.S.C. 1131-1136 include bans on mechanized and motorized vehicles, new grazing or mining activity, timber harvest, or any kind of permanent development. Additionally, the Clean Air Act (*42 U.S.C. 7472)* designates wildernesses larger than 5,000 acres as Class I areas that are to be kept free of adverse impacts from new pollution sources. Any new airport development near these areas faces significant regulatory challenges to remain in compliance. Wilderness areas within the State of Nevada are marked on **Figure 4-2**.

4.6.3. Areas of Critical Environmental Concern

An Area of Critical Environmental Concern (ACEC) is an administrative designation applied by the BLM that is defined in 43 CFR Part 1610 as an area “within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.” It is important to note that this designation does not automatically preclude or restrict other uses in the area like a wilderness area. Each area has its own restrictions and permissible uses, which can cause varied challenges on airport development in applicable portions of Nevada. Critical Environmental Areas within the State of Nevada are marked on **Figure 4-2**.

[11] Wilderness Connect, Learn About Wilderness, https://wilderness.net/learn-about-wilderness/default.php (accessed April 2021).

Figure 4-2: Federal Lands in the State of Nevada



Sources: ArcGIS, 2020; U.S. Department of the Interior (U.S. DOI), Bureau of Land Management (BLM), Surface Management Agency, 2020; U.S. DOI, BLM, National Landscape Conservation System (NCLS) Wilderness Area, 2017; U.S. DOI, BLM, Designated Areas of Critical Environmental Concern (ACEC), 2019; Kimley-Horn 2021

4.7. Special Use Airspace

Special Use Airspace (SUA) limits certain flight activities, restricts entry, or cautions other aircraft operating within specific boundaries. These areas are depicted on Visual Flight Rule (VFR) charts for reference by pilots. SUA areas are identified by type and identifying name or number and include the following for the purposes of this study: Alert (A), Military Operations Area (MOA), and Restricted (R). It is important to note that the location of an SUA does not automatically indicate that the airspace extends to ground level. For example, the airspace could start at an altitude of several hundred feet above the ground. SUA covers 25,860,454 acres (37 percent) of land in Nevada and 26 airports (public and private) are within or below SUA. SUAs in Nevada are shown in **Figure 4-3.**

Each type of SUA poses its own challenges, but all create similar issues for airports and aircraft operators in Nevada. With respect to restricted areas, pilots must take the time to either navigate around the airspace or contact the controlling agency for approval beforehand, which may not always be a quick process depending on the agency involved. Alert and Military Operating Areas do not require permissions; however, prudent flight planning suggests that these areas should be avoided if there is activity (e.g., “Fallon South MOA 1 is hot”). There are often inconsistencies among the various agencies about how these areas are controlled. As a result, the pilots’ experience of navigating through them can vary.

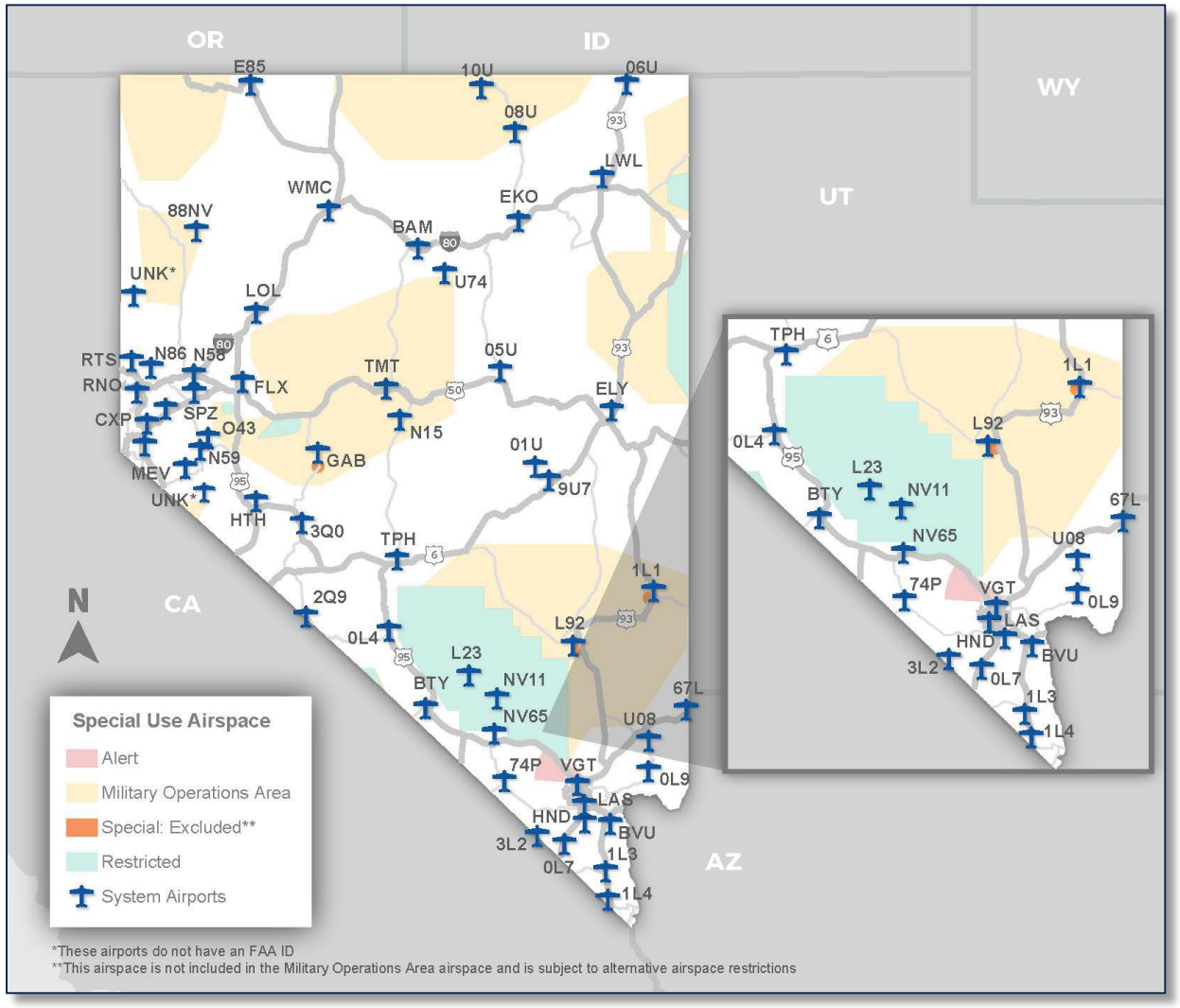
There are eight airports in Nevada that are under SUA and another eight within 10 miles of an SUA. Note that three of the eight airports are located within a MOA but have a small section of airspace immediately above their facility that is excluded from that airspace. These facilities are still subject to alternative airspace restrictions. This includes Gabbs Airport (GAB), Alamo Landing Field (L92), and Lincoln County Airport (1L1). Each circular section of MOA-excluded airspace is centered over the airport and extends up to 1,500 feet or 2,000 feet above ground level (AGL), at which point the airspace is part of the MOA. These areas are designated as “Special: Excluded” in Figure 4-3.

The military is always seeking to expand their SUAs, which creates additional challenges for the Nevada system airports that are located within the SUA. This issue has recently come up again related to the military’s desire to increase SUA for their use from two facilities: Mountain Home Air Force Base (AFB) in Idaho and Naval Air Station Fallon (Nevada). The Mountain Home AFB began an Environmental Impact Statement (EIS) in 2019 for Airspace Optimization which included airspace in northern Nevada (in addition to Idaho and Oregon). The proposed changes to the SUAs would impact nine airports and one hospital heliport, as well other non-aviation Nevada resources. During the initial EIS process NDOT expressed concerns over the ability for non-military aircraft operations to transition through the proposed airspace, the impacts to the use of underlying property and how that may impact property tax revenues to local municipalities, impact to tribal areas, and the responsibility for wildland fire fighting. As of summer 2021, the Draft EIS comment period is underway, with the Final EIS expected to be released in Spring 2022.

The U.S. Navy completed an EIS to assess the potential environmental impacts of modernizing the Fallon Range Training Complex, which included expansion and modifications to the airspace around Naval Air Station Fallon. A Record of Decision was issued in March 2020, which allowed the FAA to expand and reconfigure the existing SUA to accommodate the expanded ranges.

These challenges affect all air traffic in their vicinity and are particularly significant for emergency flights like aerial firefighting and medical evacuation. Every minute counts when transporting a severely injured patient or navigating to a fire scene, and the time spent taking a longer flight path to avoid a SUA or make contact with a controlling agency can have a severe impact on the successful outcome of these special flights. Heavily populated areas of the state experience these issues more acutely.

Figure 4-3: Special Use Airspace in the State of Nevada



Source: ArcGIS, 2020; Federal Aviation Administration (FAA) U.S. Special Use Airspace, 2021; Kimley-Horn 2021

4.8. Compatible Land Use and Encroachment

Population and industry growth drives demand for residential and commercial land development, which tends to sprawl outward from the central business district, usually along major highways and open lands that can be easily developed. As new residential areas are constructed to accommodate population growth, schools, medical facilities, and service-related establishments follow to meet the local needs of the expanding population.

Land use regulations are generally designed to ensure that new development is compatible with existing development and activity. The applicable authority, whether a city, county, or other jurisdictional body, is responsible for ensuring that activities on one parcel of land do not negatively impact nearby activities from a safety, congestion, or nuisance perspective.

An airport's land use compatibility practices are meant to promote safety and to prevent or mitigate the potential nuisance of overhead aircraft operations. FAA guidelines on airport compatible land use consider the unique safety and noise issues that apply to incompatible development in the vicinity of an airport. Airport land use compatibility guidelines are well-established, although their enforcement relies on local enforcement which may not always result in compatible development especially along the approach and departure paths of the runways.

Land use incompatibility generally manifests itself as complaints from nearby residents and the establishment of noise sensitive areas. It may also impact airport operations by the implementation of noise abatement procedures, voluntary curfews, and other measures that attempt to mitigate aircraft noise.

It is important to note that airport operations over or near areas of incompatibility are not always uniform. For example, jets usually follow a straight in/straight out flight path at altitudes higher than helicopters, which may fly a different pattern. Helicopter tour operations are especially important to consider during development particularly since their popularity may generate a large volume of traffic. Flight training activity where aircraft stay in the traffic pattern and fly repetitive practice takeoffs and landings (touch and go) can be another concern for neighborhoods off to the side of the runway.

Airports in Nevada reporting that encroachment from residential and commercial properties is rising. Rapid growth in populations and businesses across many regions has driven significant development at rates faster than land use regulations can be updated. This has caused airspace issues and limited development potential. As a result, there has been an increase in noise complaints and increasingly negative community sentiment in certain airport vicinities. Simultaneously, overall aviation demand has been increasing in Nevada, and some airports are facing challenges in expanding while commercial and residential development is being rapidly implemented.

4.9. New Technologies

Innovations in aviation have led to many improvements throughout the industry and have the potential to transform the industry and economy in Nevada. While there are many opportunities with new technologies and procedures, it is also important to consider the challenges that may accompany such advancements.

4.9.1. Electric Aircraft

The emergence of electric aircraft and the continued popularity of experimental aircraft present potential future opportunities for growth throughout the world and in the State of Nevada. Although electric aircraft have existed for more than five decades, recent developments in battery technology have enabled more aircraft manufacturers to develop electric propulsion systems. The number of electrically propelled aircraft in development has grown by more than 50 percent since 2016, reaching 215 aircraft in development worldwide[12]. Given existing limitations in battery technologies, most of the aircraft being developed are meant to compete with light-sport, general aviation, and small air taxi aircraft. Currently, the United States does not have any regulations to guide manufacturers or airports. The FAA Aerospace Forecasts 2020-2040 does not forecast the outlook of the electric aircraft segment; however, other industry organizations, including the International Civil Aviation Organization (ICAO), anticipate electric aircraft development to continue to grow, first in the small general aviation aircraft category and eventually moving to larger airliner-type aircraft.

Airports will face unique challenges related to electric aircraft, particularly in terms of infrastructure and funding. Electric aircraft will require the installation of charging stations with numerous adapters, as well as robust electrical capacity to handle the additional load placed on the utility system. The charging system may also require a significant number of batteries to store electricity for operational consistency during power outages. These considerations could also pose funding challenges as airports would not be able to charge typical fuel flowage fees for electric power from municipal utility companies under current State regulations.

Additionally, electric aircraft are likely to remain on the apron for longer periods of time while using airport charging facilities due to slower charging speeds relative to the fueling rate of a conventional aircraft. Changing out spent batteries for charged ones is an option but would require changes to FAA regulations before this solution could be implemented. In short, the technology for wide-scale use of electric powered aircraft is still in its early infancy and may not emerge for perhaps 10 years or longer.

4.9.2. Unmanned Aerial Systems (UAS)

While UAS technology has matured under military applications overseas, the use of UAS is relatively new to the U.S. airspace system. With varying scales (size, speed, payloads, etc.), they are becoming immensely popular for recreational, commercial, and governmental use. The FAA has established regulations governing the use of drones including a mandate for recreational users to fly at or below 400 feet when in uncontrolled (i.e., Class G) airspace and restrictions regarding flights near airports and sensitive areas.

In May 2019, the FAA implemented a new rule that requires drone operators to obtain preauthorization before flying in controlled airspace around airports. This new requirement replaces an old requirement that simply mandated that drone operators notify the airport operator and air traffic control tower (ATCT)

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[12] Thompson, R. (January 2020). “The number of electrically propelled aircraft developments grew by ~30% in 2019.” Available online at: https://www.rolandberger.com/en/Insights/Publications/Electric-propulsion-is-finally-on-the-map.html. (Accessed January 2021).

prior to flying within five miles. Preauthorization is available through the Low Altitude Authorization and Notification Capability (LAANC) system. As of June 2021, LAANC is available at 541 LAANC Enabled Facilities and 732 airports nationwide, which includes the following Nevada airports:

- Battle Mountain Airport (BAM)
- Henderson Executive Airport (HND)
- Las Vegas Harry Reid International Airport (LAS)
- Reno-Tahoe International Airport (RNO)
- Tonopah Airport (TPH)
- North Las Vegas Airport (VGT)

LAANC is available to pilots operating under the Small UAS Rule Part 107 or under the exception for Recreational Flyers.

Part 107 is a set of federal regulations that apply to the operation of civil unmanned aircraft within the U.S. that weigh less than 55 pounds. Business, commercial enterprise, or non-profit uses are the only types of operations that qualify under these regulations. Certain operations under Part 107 require a waiver to be granted by the FAA and include operations without visual line of sight and operations from a moving vehicle or aircraft. As of April 21, 2021, the Operations Over People Rule became effective and allows pilots operating under Part 107 to fly over people and moving vehicles and at night without a waiver as long as the rule's requirements are met. Part 107 also applies to UAS operations conducted for recreational and educational and research purposes through a limited statutory exception (USC 44809) that requires applicable users to take the Recreational UAS Safety Test (TRUST), register their UAS, and only fly for specific, recreational purposes. Drones are also barred from operating in lands and waters administered by the National Park Service as instituted by Policy Memorandum 14-05[13] and are prohibited from operating in security sensitive airspace such as military bases and critical infrastructure. BLM lands do not universally prohibit drone operations, though each area is subject to applicable local restrictions. Some local municipalities have developed ordinances for how drones may be operated in certain areas. Despite these steps, some aviation stakeholders believe that current rules are insufficient and UAS operators are either unaware of or noncompliant with them.

UAS operations are particularly significant to the State of Nevada due to its FAA designation as a UAS Test Site. This designation provides the State with the authority to conduct research and verify UAS safety and procedures to integrate UAS into the National Airspace System (NAS).[14] As a result, the state experiences a large amount of general UAS operations in addition to research operations at its testing ranges located at Reno-Stead Airport (RTS), Silver Springs Airport (SPZ), Hawthorne Industrial Airport (HTH), the Henderson Unmanned Vehicle Range (HUVR) at Nevada State College, and in the Town of Laughlin.[15] These test sites and associated air corridors are managed by the Nevada Institute for Autonomous Systems (NIAS), a non-profit corporation that supports the Autonomous Aerial Vehicle

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[13] PM 14-05, Unmanned Aircraft – Interim Policy, http://www.nps.gov/subjects/policy/upload/PM_14-05.pdf

[14] Nevada Institute for Autonomous Systems (NIAS), "FAA-designated State of Nevada UAS Test Site", 2019, https://www.leg.state.nv.us/App/NELIS/REL/80th2019/ExhibitDocument/OpenExhibitDocument?exhibitId=41604&fileDownloadName=SB421_NIAS%20Presentation_Dr%20Walach.pdf (accessed April 2021).

[15] Drone tests to rise in Nevada skies under pilot FAA program, 2019, https://apnews.com/article/2b76cdcce10b4ba8869980ecf18c2f0c (accessed April 2021).

Industry through collaboration with business and educational organizations. As an economic driver for the State, limitations on drone operations would likely have an impact on the State's UAS research capabilities.

Several airports in Nevada continue to accommodate extensive UAS operations from a variety of different users. One example is the Searchlight Airport (1L3), which primarily focuses on UAS activity and features a 125-mile UAS corridor around the airport in addition to two areas that allow UAS operations beyond line of sight. Another example is RTS, which hosts the FAA and NASA UAS flight test location that conducted the first-ever test of NASA's air traffic management platform concepts for UAS.[16] Statewide, other UAS opportunities made possible by Nevada airports have included cloud-seeding tests, land surveying, and an international partnership with the Korean Civil UAS Research Consortium (K-CURC).[17] Airports and opportunities such as these demonstrate the significance of Nevada's FAA designation as a UAS Test Site and the State's dedication towards helping the industry succeed.

4.10. Aviation Staffing Shortage

A current problem that the entire aviation industry is facing is a growing shortage within the workforce. While staffing is a national issue in 2021 with the relaxation of rules regarding COVID-19, airports and aviation as an industry has had shortages since prior to the pandemic. The pilot shortage has been widely publicized for several years and is influenced by factors such as the high cost of flight training, the minimum requirement of 1,500 hours for a new commercial airline pilot, and the mandatory retirement age of 65 for airline pilots. This trend is especially acute for regional and essential air service (EAS) carriers that operate smaller aircraft and provide air access to rural airports across the State of Nevada. When smaller operators are unable to source pilots, it affects the level of service they can provide to rural communities and could also have impacts on medical flight operations for areas dependent on aircraft for certain medical situations. The COVID-19 pandemic alleviated the need for new personnel temporarily; however, as travel started to recover and continues its robust return in the summer of 2021, many commercial pilots who had been laid off are electing to not return to work, which has accelerated the demand for new pilots to fill the void.

Shortages in aviation maintenance technicians, air traffic controllers, and other aviation and aerospace related specialties are being experienced as a result of attrition by the demographics of the boomer generation (i.e., those born between 1947-1964) reaching retirement age. As air travel returns to and even surpasses pre-COVID levels, aviation workforce shortages will continue to have an impact on the ability to serve the travelling public. It is important to note that individuals employed at airport concessions, as well as rental car facilities and other on-airport businesses, are included in the aviation workforce impacted by COVID-19.

Recent developments in autonomous flight technology have enabled aerospace manufacturers to conduct test flights with reduced pilot input. For example, Airbus concluded its Autonomous Taxi, Take-

[16] Nevada Today, "Multiple drones flying beyond line of sight perform in first-ever tests by NASA", 2016. https://www.unr.edu/nevada-today/news/2016/drone-air-traffic-research (accessed July 2021).
[17] Nevada Institute for Autonomous Systems, July 2016 Activity Plan Update, 2016, https://www.diversifynevada.com/wp-content/uploads/2018/12/NIAS_Agenda_Item_13_-_ActivityPlanUpdate.pdf

Off and Landing Project (ATTOL) after more than 500 test flights with a widebody Airbus A350 aircraft that conducted the taxi, take-off, and landing phases of a flight without any pilot involvement.[18] Another example involves research being conducted by NASA and Boeing regarding single pilot operations of commercial aircraft. The concept involves a single pilot aloft supported by a first officer/dispatcher on the ground monitoring the flight who can provide weather and routing updates and could intervene by flying the aircraft remotely if necessary. It is anticipated that this concept could be implemented first with cargo aircraft and expanded to passenger aircraft after the technology applications and experience matures.

The economic benefits for aviation operators are obvious. However, similar to how air mail was used to develop early aviation technology, these concepts must be tested to ensure the safety of the aircraft and people on the ground before they can be applied.

4.11. Aerial Firefighting

Extensive and highly variable resources are often required to suppress fires, which makes the emergency firefighting response system highly organized and reliant on interagency effort. Organizations involved in the State's firefighting system include the USFS, the BLM, the Bureau of Indian Affairs, the Army National Guard, the Air National Guard, the Nevada Division of Forestry (NDF), and local firefighting units. To complete their missions, firefighters and search and rescue (SAR) teams often rely on fixed-wing aircraft and helicopters operating at local airports for a timely response to an emergency. As such, airports and heliports and associated infrastructure are essential in the support of emergency evacuations, aerial inspections, aerial wildland firefighting, and medical airlift of responders and patients.

Nevada experiences hundreds of wildfires each year. In 2018 alone, the state experienced the Martin and Sugarloaf wildfires, which burned nearly one million acres of land in the northeast portion of the state. In 2020, there were over 800 fires throughout the state with more than 300,000 acres burned. Persistent drought conditions combined with intermittent wet years and the spread of invasive plants like cheatgrass has led to increasingly dangerous fire seasons. Wet years create plant growth that becomes fuel for wildfires during drought years. These conditions result in a high level of need for aerial firefighting in Nevada, particularly in more rural portions of the state.

Wildfires can have a significant impact on local and state economies from the high cost of fighting fires and costs associated with lost structures and burned agricultural lands. As described by the Research Division of Nevada's Legislative Counsel Bureau in their 2020 document "Wildfires in Nevada: an Overview," rural communities can experience tens of millions of dollars in wildfire-related costs each year.[19] Federal Emergency Management Agency (FEMA) fire management assistance grants are available to repay up to 75 percent of state costs for suppression of large fires, with remaining costs covered by the State's Wildland Fire Protection Program and local funds.

During the fire season, medium- to heavy-lift military and civilian aircraft such as C-130s, DC-9s, and DC-10s, which serve as aerial firefighting aircraft, are contracted by the USFS and the BLM. On average, the

[18] Airbus, "Airbus concludes ATTOL with fully autonomous flight tests", 2020. https://www.airbus.com/newsroom/press-releases/en/2020/06/airbus-concludes-attol-with-fully-autonomous-flight-tests.html (accessed April 2021).
[19] Research Division, Legislative Counsel Bureau, Wildfires in Nevada: an Overview, https://www.leg.state.nv.us/Division/Research/Documents/Wildfires-in-Nevada-2020-FINAL.pdf

BLM utilizes three helicopters, seven single engine air tankers (SEAT), and two air attack aircraft for firefighting purposes across six District Offices: Elko, Winnemucca, Carson City, Ely, Las Vegas, and Battle Mountain.[20] Additionally, the NDF bases three helicopters at the Minden-Tahoe Airport (MEV) to respond to fires throughout the eastern front of the Sierra Nevada mountain range, and manages an airtanker base at the BAM.[21] Additionally, Reno-Stead Airport (RTS) operates a seasonal tanker base for northern Nevada and northeast California. This BLM fire tanker base was extremely active during the 2021 fire season. Other NDF support includes an air operations program with access to Nevada National Guard helicopters, specialized equipment, and firefighting crews.[22] Interviews with BLM officials revealed a desire for the integration of UAS into their firefighting fleet and for regulations to allow the use of a surveillance drone up to 500 feet above ground level (AGL), above the standard height restriction of up to 400 feet AGL.

4.12. Tourism

Airports in Nevada play a direct role in aviation-related tourism in addition to their general tourism impacts. While the state's commercial airports provide a principal form of access for visitors to the state, the entire airport system also provides a venue for tourism, including helicopter tours, aviation-related conferences and events, and opportunities for tourism using general aviation.

Helicopter tours primarily focus on flying tourists over Grand Canyon and the Las Vegas Strip. According to the Grand Canyon Visitor Center website, a single helicopter tour operator typically flies approximately 600,000 passengers annually over the Grand Canyon.[23] In recent years, helicopter flights over the Las Vegas strip at night have become more prevalent and attract a greater share of domestic tourists compared to other types of tours. The COVID-19 pandemic caused a sharp decline in visitors in 2020, and while the momentum in domestic travel is increasing, international travel has yet to show a similar pattern in early 2021. As a result, the Grand Canyon helicopter tours that catered to a large percentage of international tourists remain substantially diminished. As a result, area helicopter tour operators have diversified by pivoting towards offering twilight Las Vegas strip tours targeting domestic visitors and operations have increased in 2021.

Nevada is home to numerous conferences and conventions in Las Vegas that play a key role in the millions of visitors that the state welcomes annually. According to the Las Vegas Convention and Visitors Authority, Las Vegas saw a record number of over 6.6 million convention attendees in 2019, contributing to the total number of over 42.5 million visitors hosted by the city throughout the year.[24] Some of the largest conferences that occur in Las Vegas are the Consumer Electronics Show (CES), ConExpo-

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[20] Bureau of Land Management, Nevada Fire Information, https://www.blm.gov/programs/public-safety-and-fire/fire-and-aviation/state-information/nevada (accessed July 2021).
[21] Nevada Division of Forestry, Aviation, http://forestry.nv.gov/fire-program/aviation/ (accessed April 2021).
[22] Nevada Division of Forestry, Fire Management, http://forestry.nv.gov/fire-program/ (accessed April 2021).
[23] Grand Canyon Visitor Center, Grand Canyon Helicopter Tours, https://explorethecanyon.com/tour-types/grand-canyon-helicopter-airplane-tours/ (accessed April 2021).
[24] LCVA Executive Summary of Las Vegas, Laughlin & Mesquite, NV Tourism Indicators, December 2019, https://assets.simpleviewcms.com/simpleview/image/upload/v1/clients/lasvegas/ES_Dec_2019_b203a4d3-49c6-4d50-835b-88442937d2d9.pdf

ConAgg, and the Specialty Equipment Market Association (SEMA). In some cases, large conferences in Las Vegas will create such high demand for air travel to the city that airlines will add new flights to the city in order to accommodate the increased demand from these events. Air travel for major conventions combined with consistently high demand throughout the year for attractions in the city contributed to a record level of 51.5 million passengers throughout 2019.[25]

Aviation tourism in Nevada also includes aviation-focused conferences. One of the largest examples is the Business Aviation Convention & Exhibition (BACE), which is a popular venue for showcasing new business aircraft and services hosted by the National Business Aviation Association (NBAA) in Las Vegas every two years. Between HND and the Las Vegas Convention Center, NBAA-BACE featured over 1,000 exhibits and more than 100 aircraft on static display in 2019.[26] In the same year, over 25,000 attendees generated $40.5 million for the Las Vegas economy during the four-day conference.[27]

Nevada hosts multiple nationally recognized events each year that draw thousands of attendees and aircraft to the state. These events are the National Championship Air Races (commonly known as the Reno Air Races), the High Sierra Fly-In, and Burning Man. The Reno Air Races take place at RTS in September and feature six racing classes, military and civil flight demonstrations, and static aircraft displays. The High Sierra Fly-In takes place in October at the Dead Cow Lakebed and features backcountry aviation events such as the Short Take Off and Landing (STOL) Drag Racing Event. Finally, Burning Man takes place in Black Rock Desert around Labor Day and is centered around community, self-reliance, and art. As part of the Burning Man experience, an airport (Black Rock City Municipal Airport) is created each year and then torn down after the conclusion of Burning Man for the year.

4.13. Rural and Tribal Communities

Rural and tribal communities often have limited medical facilities, equipment, and staff capacity. As a result, these communities tend to rely on medical evacuation flights for urgent or specialized medical care. However, airports that support these communities often face challenges in pursuing federal and/or state funding or to implement improvements to meet even the minimum design criteria. In some cases, deferred maintenance and airfield development needs are hindered, which could restrict the accessibility for critical medical flights.

Some economically disadvantaged areas of the state, often rural, face challenges in setting aside money for the local match component of an AIP grant for an airport project, much less cover operational expenses. Additionally, without State funding for non-NPIAS airports, rural and tribal communities are often competing with each other for a small share of funds. As airport sponsors struggle to balance limited funds for meeting their operational needs, there is very little left of their own revenue for projects. Overall,

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[25] Las Vegas Review-Journal, McCarran sets 3rd Straight Annual Record with 51.5M Travelers in 2019, https://www.reviewjournal.com/business/tourism/mccarran-sets-3rd-straight-annual-record-with-51-5m-travelers-in-2019-1945837/

[26] NBAA, NBAA-BACE Report – Aug. 21, 2019, https://nbaa.org/events/2019-business-aviation-convention-exhibition/news/nbaa-bace-report/aug-21-2019/#:~:text=NBAA%2DBACE%20Offers%20a%20World,the%20Las%20Vegas%20Convention%20Center. (accessed April 2021).

[27] 8 News Now Las Vegas, Business aviation trade show bringing 25,000 attendees to the valley, https://www.8newsnow.com/news/local-news/business-aviation-trade-show-bringing-25000-attendees-to-the-valley/ (accessed April 2021).

airports in rural and tribal communities face financial challenges in keeping pace with the community's need for access to the national air transportation system while providing a facility that can accommodate demand.

These airports also encounter difficulties in adapting to changing technologies, such as those of the FAA's NextGen plan. NextGen is rapidly shifting air navigation from ground-based legacy equipment to a satellite-based system using global positioning for communications, aircraft tracking, and weather systems. Ultimately, the NextGen system will eventually force all aircraft operating in certain airspace classifications to have the necessary equipment to operate in the airspace. Rural and tribal airports tend to have fewer resources and broadband availability to install such technology, and airports in these areas may see a decline in medical evacuation access and GA operations if nearby airspace restrictions limit their appeal.

As previously discussed, rural and tribal communities can face challenges in providing specialized medical care and rely on medical evacuation flights for such situations, particularly if limited municipal medical equipment precludes a direct transfer by a city itself. Medical evacuation operators like CareFlight and REACH provide a valuable service to many areas in Nevada by transferring patients to hospitals that best suit the patient's needs. Their operations benefit from having access to as many airports as possible, as do the communities around those facilities. However, if an airport cannot maintain its facilities, medical flights may experience delays or become unable to operate to a particular community. As a result, lack of resources to maintain airport facilities and weather reporting equipment can make a significant difference in a patient's outcome.

4.14. Summary

Future airport needs can be substantially impacted by the rapidly changing aviation industry and sponsors need to be aware of these developments. Many issues at the national, state, and regional levels impact Nevada's airports, including new technologies, growing infrastructure needs, decreased funding combined with increasing costs, and uncertainty around land ownership.

When assessing the historical, current, and future performance of the aviation system, it is important to understand the major issues affecting Nevada's airports. Many sources provided information on these issues, including the PAC, NDOT, as well as interviews with airport managers, aviation stakeholders, and aviation use groups.

Outreach to a variety of sources revealed common issues and trends as well as themes unique to specific groups. Funding was important to each airport and identified as a high priority issue for many, a factor highlighted by the COVID-19 pandemic, though some rural and tribal facilities may not have the capacity to provide matching funds for certain federal grants in general. Additionally, medical and firefighting flights are important aviation use cases in Nevada and these groups rely on accurate, real-time weather information from weather reporting equipment to conduct their operations without incurring delays. These users are also affected by the large amount of special use airspace caused by the extensive military presence in Nevada. An individual airport may also encounter difficulties from encroachment and from restrictions driven by federally protected land. Finally, aviation in Nevada is driven by the state's strong tourism industry and its designation by the FAA as a UAS Test Site.

Chapter 5. Airport Regional Value Methodology

5.1. Introduction

The traditional approach of identifying an airport's contribution to its state aviation system describes only a portion of its value to its community and larger region. An airport provides services to aircraft and their users as well as access to the larger transportation and emergency service networks. Additionally, the types of demand that a facility accommodates may increase the significance of certain characteristics and infrastructure relative to another nearby airport. These factors can be difficult to quantify and/or compare.

To acknowledge these confines, the Airport Regional Value (ARV) metric was developed to provide a methodology for assessing specific characteristics that affect an airport's attractiveness and ability to support demand in a region. ARV establishes a series of attributes common to all facilities and assigns a value for each variable based on typical needs for similar facilities. This specific guidance helps each facility to effectively perform its role at the federal, state, regional, and/or local levels, which enhances the statewide aviation system. ARV accomplishes this by providing a benchmarking tool that can be adapted for the different roles that airport facilities play within a state and a better understanding of future projects that would benefit an airport in serving its function in the system. Specific factors that influenced development of an ARV process to evaluate Nevada's aviation system included:

- Comparison Equivalencies – comparing the significance of each airport within the context of their role in the system
- Community Relevance – demonstrating the airport's value to the community as it relates to the existing and future operation and development
- Investment Relevance – evaluating capital investment and decision-making tools (such as return on investment, cost-benefit analysis, though these are not calculated in the Nevada Airport and Heliport System Plan [NAHSP]) as a value-added impact
- Existing Property/Facility Value – identifying the value of existing property and facilities as a depreciated asset, insurance coverages, and estimating replacement costs
- Economic Impacts – incorporating traditional economic impact characteristics into a broader perspective for identifying the value of the airport to the community such as employment, payroll, and local commerce generated by airport tenants.

5.2. ARV Methodology

ARV comprises several components or variables as described in the subsequent **Section 5.3**, each of which contribute to the overall representation of an aviation facility. Value Rating Variables (VRVs) are the foundation for the ARV and allow a facility to be quantitatively compared against a specific set of objectives or other benchmarks, allowing for the differences between the NAHSP airport roles. In the end, each aviation facility in the NAHSP will be provided a Report Card that outlines the total VRV score including the basis for how each factor was rated, and recommended action items to improve the ARV score, thus enhancing the airport's ability to fulfill its function in the statewide system. It should be noted that ARV was completed for only the airports within the NPIAS. **Section 5.5** outlines how non-NPIAS airports were evaluated for the NAHSP.

5.2.1. Value Rating Variables (VRVs)

VRVs provide an index for comparison against an established set of criteria. These values are scored based on a scale that may represent best case/worst case conditions or other situations. The VRVs serve to quantify a facility's assets and opportunities and generally follow the context of a classic Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. Elements of the SWOT analysis include:

- Strengths – assets such as facilities and services that are in place and internally controlled
- Weaknesses – assets perceived as deficient but can be improved
- Opportunities – advantages that are not controllable yet contribute to benefit the facility
- Threats – uncontrollable disadvantages that inhibit the ability to provide services

The VRVs are broadly categorized as an asset value (strength or weakness) or as an opportunity value (opportunity or threat) which allows for a quick assessment of each facility's particular set of circumstances. Detailed components of the various assets and opportunities are organized to fall within one of seven major focus areas to represent key features that can be used to evaluate each characteristic and to provide a format that allows an assessment of the sensitivity of values against specific conditions and comparison with other peer facilities. The VRV categories are aligned to various focus areas including:

- Regional Significance (VRS) – the importance that a facility has within its area and community given other nearby aviation facilities and its ability to serve expected aviation demand through its infrastructure and services
- Airport Facilities (VAF) – the type and condition of a facility's pavements, buildings, services, and equipment for navigation and weather reporting
- Airport Protection (VAP) – the safety areas and airspace around a facility that identify existing and potential for new penetrations, obstructions, and restrictions that could impact the safety of aircraft operations
- Airport Access (VAA) – the ability for users to travel to and from a given facility using several types of roadways and local transportation methods, as well as the proximity of the closest downtown area
- Airport Expandability (VAE) – the ability for a facility to expand given its existing aviation and non-aviation uses
- Community Commitment (VCC) – the extent that a facility receives political, financial, and social support from its governing authority and community

It is important to note that these VRVs are not requirements or mandates but serve as a mechanism to assess how specific airports that are part of the Nevada Department of Transportation (NDOT) system are contributing to the national and state air transportation system and for identifying the potential for enhancing their functionality and usage. While facility sponsors should consider the VRVs when planning for future development, specific needs should be evaluated within the context of each airport's master plan or ALP update to develop plans for maintaining and improving their existing and anticipated future requirements.

5.2.2. ARV Scoring

As noted previously, the VRVs were developed primarily based on factors that are either identified as a controllable asset of the airport or as an opportunity within an airport's environment. To apply VRVs while accounting for a facility's unique needs depending on its role within the state aviation system, as identified in **Chapter 3**, different types of scoring methodologies were developed. The primary metrics for rating each VRV were established by a set of objectives by airport role including the infrastructure, facilities, and services

required to optimally support the type and volume of aviation activity typified by that role. In some cases, the scoring was tied to the expectations for varying levels of service based on the NAHSP role identified within **Chapter 3**.

Scoring for VRVs are based on four methods:

- Scale – based on the degree to which the recommended condition is met, this scoring methodology gives 5 points for meeting the best-case criteria down to 0 points where conditions are wholly deficient.
- Binary – based on whether an airport meets the objective set for its specific airport role and accounts for conditions that do not provide significantly greater value if the objective is exceeded.
- Binary Hybrid– modified binary score where points are given for having satisfied partial components of the objective.
- Additive – points are assigned for each item the airport provides from a list of components, so the objective is fulfilled. These items benefit an airport if present, but their absence is not detrimental to the overall airport service role.

Each VRV factor has a maximum score of 5 points. An airport that meets or exceeds an objective is assumed to be fulfilling its established role within the NAHSP system and the maximum of 5 points allotted. However, in cases where deficiencies or other factors are identified, points less than the maximum are assigned and opportunities to improve the condition may be recommended. In some cases, it may be a sign for an airport to change its role within the state classification system.

Each of the specific VRVs is defined and discussed in the context of how each airport is assessed in **Sections 5.3.1** through **5.3.6**.

To determine the final ARV score, the airport's points from the various VRVs are summed. Among the six objectives there are a total of 40 VRVs and at 5 points each, a total of 200 maximum points.[1] Collectively, the VRVs provide a cumulative score that allows a snapshot of individual airport performance and also provides a means to compare to peer airports in the NAHSP system. As part of the NAHSP, a Report Card is developed for each NPIAS airport that outlines the score for each factor.

Table 5-1 presents a summary of score system of the VRVs.

[1] There are two bonus points available for runway surface type of concrete.

Table 5-1: Summary of VRVs

VRV	Value Rating Variable Categories	No. of Factors	Max Score
V_{RS}	Regional Significance	9	45
V_{AF}	Airport Facilities	11	55
V_{AP}	Airport Protection	5	25
V_{AA}	Airport Access	4	20
V_{AE}	Airport Expandability	4	20
V_{CC}	Community Commitment	7	35
ARV	**Total ARV Score**	40	**200**

Sources: Kimley-Horn, Quadrex 2021

5.3. Individual Value Rating Variables (VRV)

The VRVs of the six VRV categories that comprise the ARV, the objectives that comprise the variables, and basis for the scoring of each are described below.

5.3.1. Regional Significance (V_{RS})

Airports have a regional significance and serve areas beyond their sponsoring community's immediate political boundary. As a regional resource, the airport can be considered as the "on- and off-ramps" to the national air transportation system. A loss of the airport's ability to serve this function not only deprives the region of access, but also reduces the overall service level of the national, state, and regional systems. The community should think of the airport as a resource worthy of protection and value its ongoing activity and consider allowing for expansion of the airport. The Regional Significance (V_{RS}) factor can be estimated at a system level using geographic coverage to determine the airport's utility as a resource for users while acknowledging the proximity of alternative airports. Nine specific variables were chosen to identify the regional significance of an airport.

5.3.1.1. Airport Ownership

Airport ownership conveys a sense of the long-term viability of the airport. Publicly owned airports included in the FAA's National Plan of Integrated Airport Systems (NPIAS) generally receive federal funding for eligible infrastructure improvements. Airports that accept FAA funding also agree to abide by grant assurances requiring the airport sponsor to maintain the airport for a minimum of 20 years. Privately owned airports, whether available for public use but have never accepted federal grant funding or only for private use, do not have such restrictions and could be sold and/or closed without notice. Airports that are under contract or leased for public use accessibility are dependent on the terms of their agreement. The Airport Ownership VRV has a scaled score: public (5), private (3), or contract/leased, whether publicly or privately owned (3).

5.3.1.2. Airport Use

Airports accommodate a variety of uses, starting with providing the community access to national air transportation. Aviation users may be attracted to an airport for a wide range of reasons from available facilities to strategic location or onsite services. Some potential uses and related users may include:

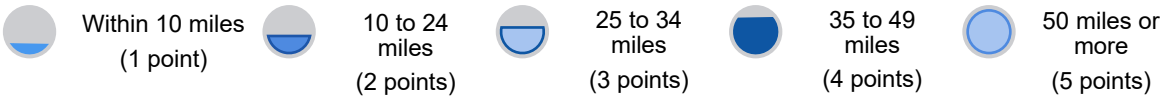
- Emergency Medical Services (EMS) – helicopter or fixed-wing medical transportation
- Aerial Firefighting – air tanker staging, refueling, and retardant loading
- Federal/State/Local Law Enforcement and Other Agencies – transport, monitoring, or enforcement
- Tourism – aerial tours of scenic locations
- Gliders – towing, landing, and aircraft storage
- Skydiving – flights and drop zones
- Special Events – seasonal venues and other attractions

The Airport Use VRV is an additive score with 1 point for each specific use up to a maximum of 5 points.

5.3.1.3. Nearest Airport

Airports generally enjoy a monopoly as the only air transportation facility serving the community, though this can vary depending on the location of other airports in the region or vicinity. The Nearest Airport VRV is assigned a scaled score based on the driving distance from an airport to the nearest airport included in the NPIAS, as shown in **Figure 5-1**.

Figure 5-1: Nearest Airport VRV Scoring Methodology



Sources: Kimley-Horn, Quadrex 2021

5.3.1.4. Longest Runway

Runway length is a principal indicator of an airport's ability to serve various sized aircrafts. The runway length needed at an airport depends on its current or future role and the type of aircraft that are currently or are anticipated to use the airport on a regular basis. Runway length by itself does not provide the complete picture but offers a way to understand what aircraft types are able to operate at the airport. For regional and general airports the runway length was evaluated on whether it can accommodate 100% or 95% of small aircraft fleets. To evaluate this, the existing airport elevation and maximum annual temperature experienced were graphed using Figure 2-1 in AC 150/5325-4B where the minimum runway length was determined. If the airport met this criterion or exceeded it, then the runway length is considered sufficient to accommodate the small aircrafts of 10 passenger seats or less.

The Longest Runway VRV is a binary metric based on an airport's role, and an airport whose longest runway meets or exceeds the objective runway length noted in **Table 5-2** receives 5 points. Airports that do not meet the objective lengths are given no points for the Longest Runway VRV. Since this variable is controllable, an identified deficiency may lead to runway improvement recommendations to properly accommodate existing or projected airport traffic.

Table 5-2: Longest Runway VRV

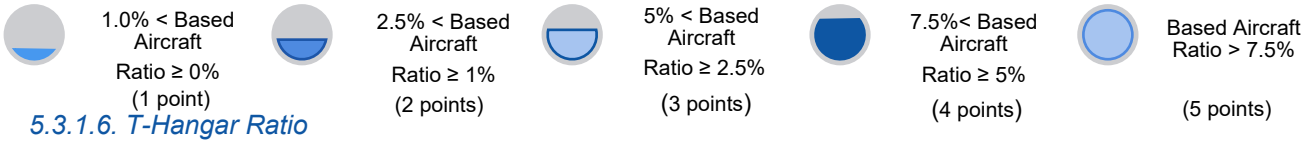
Airport Role	Runway Length
Primary	Future Runway Length from Airport Plans
National	Future Runway Length from Airport Plans
Regional	To accommodate 100 percent of small aircraft fleet
General	To accommodate 95 percent of small aircraft fleet
Access	Maintain Existing
Backcountry	>3,000 Feet
Special Event	>3,000 Feet / As Appropriate

Sources: Kimley-Horn, Quadrex 2021

5.3.1.5. Based Aircraft Ratio

Most airports have aircraft that are operated and stored on the property long-term; these are considered based aircraft. An airport's number of based aircraft can be compared to total based aircraft in the state to determine its share of the market. The Based Aircraft Ratio VRV is a scaled score indexed based on the market share percentages to the following ranges shown in **Figure 5-2**.

Figure 5-2: Based Aircraft Ratio VRV Scoring Methodology



5.3.1.6. T-Hangar Ratio

Sources: Kimley-Horn, Quadrex 2021

The availability of T-hangars represents a portion of the airport's capacity in accommodating the long-term storage of aircraft based in the vicinity. While the number of vacancies or those on a waiting list may be more direct and immediate measures of unmet demand, the T-hangar ratio provides a broader view of an airport sponsor's ability and/or willingness to serve the based aircraft market. The availability of T-hangars is controllable, in that additional hangar development could come directly from the sponsor or through a public-private partnership where the private sector provides the funding for site preparation and hangar construction and the sponsor offers a ground lease.

The T-hangar ratio divides the number of based aircraft by the total number of T-hangars with the assumption that a higher ratio is an indication of a market well-served while a lower ratio may infer a deficiency and that aircraft storage needs are being met at another airport. T-hangars operated privately were included in the total number of units. The T-hangar Ratio VRV is a binary score based on an airport's NAHSP role and is 5 points if the objectives listed in **Table 5-3** are met, and 0 points if not.

Airports with no based aircraft and no T-hangars are considered to have met the demand. As Primary airports primarily serve aircraft not typically housed in T-hangars, airports within this role were given a score of 5. Additionally, if an airport cannot meet the objective with T-hangars alone, the availability and use of conventional hangars should be reviewed. In cases where conventional hangars are currently utilized for long-term based aircraft storage, the conventional hangars should be factored into the hangar ratio calculation to better determine if available hangar facilities are meeting demand.

Table 5-3: T- Hangar Ratio VRV

Airport Role	T-Hangar Ratio
Primary	> 0.90
National	0.70 – 0.80
Regional	0.60 – 0.70
General	0.50 – 0.60
Access	> 0.25
Backcountry	> 0.25
Special Event	None

Sources: Kimley-Horn, Quadrex 2021

5.3.1.7. Fuel Availability

The availability of aircraft fuel is a vital service for aircraft operators both for those based at the airport and for visitors. Jets, turboprops, and turbine-powered helicopters require Jet A fuel while aircraft powered by reciprocating (piston) engines use 100 octane low lead aviation gasoline (100LL or "AvGas"). Some airports may have one or more fixed-base operators (FBO) that offer attended full-service fueling for both Jet A and/or AvGas. Others may not have an FBO but offer a self-service fuel facility that includes a 24-hour credit card transaction kiosk, usually just for AvGas. For larger airports in the NAHSP system, full-service (FS) Jet A and AvGas in addition to self-service (SS) AvGas are required to achieve the recommended fuel services objective. Smaller airports are only required to have some form of fuel available. Since this variable is controllable, it may serve to encourage airport sponsors to provide or attract fuel services if deficient based on the level and type of demand at the airport.

The Fuel Availability VRV has a binary hybrid score based on the airport's role as shown in **Table 5-4**. If the objectives of the airport role are met**,** it would receive 5 points; if it has at least one type of fuel, it would receive 3 points; and if no fuel is available, the airport receives 0 points. The availability of self-service fuel assumes that that the facility has an unattended credit card reader.

Table 5-4: Fuel Availability VRV

Airport Role	Fuel Availability	Fuel Service
Primary	Jet A & 100LL	Full Service and Self Service with Credit Card Reader
National	Jet A & 100LL	Full Service and Self Service with Credit Card Reader
Regional	Jet A & 100LL	Full Service and Self Service with Credit Card Reader
General	Jet A or 100LL	Self Service with Credit Card Reader
Access	Jet A or 100LL	Self Service with Credit Card Reader
Backcountry	No Fuel Service	
Special Event	As Appropriate	

Sources: Kimley-Horn, Quadrex 2021

5.3.1.8. Aircraft Maintenance

Like fuel, the availability of aircraft maintenance services can strengthen an airport's attractiveness to based and transient aircraft operators. Services can include major or minor maintenance and repair of aircraft structures and engines. These can be offered by the same FBO that provides aircraft fueling, although shops that specialize in aircraft maintenance are becoming more common.

Like the Fuel Availability VRV, the accessibility of aircraft maintenance is somewhat controllable by the sponsor, who can recruit shops to locate at an airport. The presence of aircraft maintenance is identified in the FAA 5010 facilities database. As an element of the VRVs for the Regional Significance, Aircraft Maintenance is a binary score shown in **Table 5-5**, based on the role of the airport. For larger airports, 5 points are given for the presence of major maintenance services for either aircraft airframes or powerplants while at smaller airports, 5 points are given for the presence of minor maintenance in either category. No points are given for airports that do not have any aircraft maintenance capabilities on-airport.

Table 5-5: Aircraft Maintenance VRV

Airport Role	Aircraft Maintenance
Primary	Major
National	Major
Regional	Minor
General	Minor
Access	None
Backcountry	None
Special Event	None

Sources: Kimley-Horn, Quadrex 2021

5.3.1.9. Instrument Approach

The ability to use an airport during inclement weather conditions is facilitated by the availability of an instrument approach procedure. Historically, these procedures were developed using on-airport or nearby navigation aids or specialized ground-based equipment which was expensive to install and maintain. The advent of instrument approach procedures using satellite-based global positioning system (GPS) has allowed new procedures to be developed inexpensively for most airports. While the weather in Nevada is characterized as sunny or partially sunny 65 to 80 percent of the time, the availability of an instrument procedure provides the flexibility for users to operate into an airport during inclement weather conditions.

The Instrument Approach VRV is a binary hybrid score of 5 points for an airport that meets its role-based objectives for its most precise approach type and lowest objectives, shown in **Table 5-6**. Note that the class and objectives shown were not used in evaluating the instrument approach itself. If an airport does not meet the criteria, one point is removed for each level below the objective that should be met.

Table 5-6: Instrument Approach VRV

Role	Class	Approach Type	Additional Considerations*
Primary	C	Precision	200'- 300' AGL / ½ mile
National	D	LPV	200'- 300' AGL / ½ mile
Regional	D/E	Non-Precision/VNAV	300'- 350' / ¾ mile
General	E	Non-Precision/LNAV	400'+ / 1 mile
Access	G	Visual	Clear of clouds / 1+ mile
Backcountry/Special Event	G	Visual	Clear of clouds / 1+ mile
*Note: Localizer Precision with Vertical Guidance (LPV) Lateral Navigation/Vertical Navigation (LNAV/VNAV); *Not scored as part of ARV and just for additional consideration*			

Sources: Kimley-Horn, Quadrex 2021

5.3.1.10. Summary – Regional Significance VRVs (V_{RS})

The V_{RS} category provides a quantitative illustration of how an airport serves its community, users, and the national/state air transportation system. **Table 5-7** summarizes this VRV with a maximum score of 45 points.

Table 5-7: Summary – Regional Significance VRVs (V_{RS})

VRV Code	Variable	VRV Basis	VRV Score
RAO	Airport Ownership	Scale	5
RAU	Airport Use	Additive	5
RNA	Nearest Airport	Scale	5
RLR	Longest Runway	Binary	5
RBA	Based Aircraft Ratio	Scale	5
RTH	T-Hangar Ratio	Binary	5
RFA	Fuel Availability	Binary Hybrid	5
RAM	Aircraft Maintenance	Binary	5
RIA	Instrument Approach	Binary Hybrid	5
Total Maximum V_{RS}			**45**

Sources: Kimley-Horn, Quadrex 2021

5.3.2. Airport Facilities Value (V_{AF})

Similar to the Regional Significance Value (V_{RS}), the Airport Facilities Value (V_{AF}) can be used to compare the availability of resources that allow an airport to accommodate the range of aircraft relevant to its service role. Larger airports may have assets such as airfield pavement that support business aviation activity (i.e., primarily jets) while others may just provide basic facilities and services. All the various VRVs comprising the Airport Facilities Value can be controlled by the sponsor primarily by development as a capital improvement project. In many cases, these projects may be eligible for federal funding at NPIAS airports.

5.3.2.1. Airport ARC Category

In FAA Advisory Circular (AC) 150/5300-13A – *Airport Design*, the Airport Reference Code (ARC) is defined as an airport's highest Runway Design Code (RDC) less the visibility component, as discussed in Chapter 2. The combination of the Aircraft Approach Category (AAC) and Airplane Design Group (ADG) comprise the ARC, which is usually identified on the airport layout plan (ALP). The Airport ARC Category VRV serves to identify an airport's recommended airfield design standards compared to the most demanding aircraft currently using or expected to use the airfield. The ARC VRV depends on an airport's role and receives a binary score of 5 points if the airport meets the FAA's recommended ARC and 0 points if an airport does not meet the ARC. Roles and their recommended ARCs are shown in **Table 5-8**.

Table 5-8: Airport ARC Category VRV

Role	ARC
Primary	C-II
National	C-II
Regional	B-II
General	B-II
Access	B-I
Backcountry	A-I
Special Event	As Appropriate
Note: For instances in which ARC classified as small, partial points are awarded.	

Sources: Kimley-Horn, Quadrex 2021

5.3.2.2. FAA Design Standards

While the Airport ARC Category VRV provides the basis for the airfield design criteria, the FAA Design Standards VRV evaluates whether the existing characteristics of specific airfield components (e.g., runway or taxiway widths, separations, runway protection zones, etc.) meet the recommended design standards. These design standards are based on the typical characteristics of the airport's respective aircraft design group in FAA AC150/5300-13A.

The Design Standards VRV is a binary hybrid score with 5 points given to airports that meet all the standards. For any airfield component identified that does not meet the standards, 3 points are awarded if the deficiency has been recognized by a proposed project to address the issue. Otherwise, no points are given if a deficiency is not noted for subsequent action. The significance of this VRV is to identify the need for projects to help airports meet the design standards to accommodate users.

5.3.2.3. Runway Surface Type/Condition

The Runway Surface Type/Condition VRV is a considerable factor in identifying whether the surface type and condition of the runway can continue to serve its aircraft demands. The runway surface and condition of the pavement are based on observations during airport inspections and published as part of the FAA's Airport Master Record (Form 5010). Additionally, a select few airports within the NPIAS undergo further pavement inspections that might confirm the existing pavement condition; this information was utilized in the evaluation of the airports based on their role. The condition levels range from Excellent (E) to Failed (L), as discussed in more detail in **Chapter 2**. These conditions provide critical information on the remaining longevity of the pavement. Unpaved runways may have an engineered surface (graded, gravel, etc.) but based on traffic levels, may be reaching the point where runway paving should be considered.

This valuable information can assist in identifying where a reconstruction or rehabilitation project should be planned to preserve the integrity of the runway pavement. Per the airport's NAHSP role, most airports are given 5 points if the runway is paved. Exceptions include Access and Backcountry airports, which are not expected to have paved runways. The Runway Surface Type/Condition VRV is a binary hybrid score based on the airport's role in either meeting the objectives (5 points), meets one of the objectives for the airport's role (3 points), or not meeting (0 points) the objectives shown in **Table 5-9**.

Table 5-9: Runway Surface Type/Condition VRV

Role	Runway Surface	Runway Condition
Primary	Paved	Excellent, PCI > 86
National	Paved	Excellent, PCI > 86
Regional	Paved	Good, PCI >71
General	Paved	Good, PCI >71
Access	Non-Paved**	Fair, PCI > 56
Backcountry	Non-Paved**	Fair, PCI > 56
Special Event	As Appropriate	Fair, PCI >56
*Notes: **Non-Paved runway surfaces exclude the PCI*		

Sources: Kimley-Horn, Quadrex 2021

5.3.2.4. Runway Lighting

The Runway Lighting VRV is another element among the airport facility objectives and identifies the ability to use the airfield at night or during low visibility weather. The Runway Lighting VRV score is binary with 5 points awarded based on the following objectives in **Table 5-10**. A score of 5 points for the Runway Lighting VRV indicates that the airport has the minimum level of airfield lighting appropriate for its role, otherwise no points are allocated, which serves to identify the need for airfield lighting improvements.

Table 5-10: Runway Lighting VRV

Role	Runway Lighting	Remarks
Primary	MIRL	HIRL desired
National	MIRL	HIRL desired
Regional	MIRL	
General	LIRL	
Access	Reflectors	LIRL desired
Backcountry	None	
Special Event	As Appropriate	
Notes: HIRL – High intensity; MIRL – Medium intensity; LIRL – Low level		

Sources: Kimley-Horn, Quadrex 2021

5.3.2.5. Taxiway

The Taxiway VRV is based on existing taxiway facilities associated with the primary runway. A full-length parallel taxiway is preferable especially for busier airports since it provides the opportunity for accessing the runway for immediate departure and exiting the runway upon arrival. FAA considers a full parallel taxiway a fundamental component of the airfield. While partial parallel taxiways, turnarounds, and holding aprons provide some enhancement of runway capacity by providing access and egress opportunities when a full parallel taxiway is not available, it still falls short of the minimum criteria for NPIAS airports.

The Taxiway VRV is a binary score identifying if an airport meets the criteria appropriate for its role objectives per role listed in **Table 5-11**. A score of 5 points identifies that the airport has sufficient airfield to serve the air traffic, while 0 points for the Taxiway VRV identifies the need for taxiway improvement projects to aid the capability of the runway to meet air traffic demand.

Table 5-11: Taxiway VRV

Role	Taxiway Type
Primary	Full Parallel to all Runways
National	Full Parallel to all Runways
Regional	Full Parallel to Primary Runway
General	Partial Parallel to Primary Runway
Access	Turnarounds
Backcountry	Turnarounds or Holding pads
Special Event	As Appropriate

Sources: Kimley-Horn, Quadrex 2021

5.3.2.6. Visual Aids

Visual Aids VRV is based on the existing visual aid systems that provide information and guidance or assistance to pilots when utilizing the airport. The visual aids considered and evaluated included Runway End Identifier Lights (REILs), Visual Approach Slope Indicator or Precision Approach Path Indicator (VASI/PAPI), Approach Light Systems (ALS), Rotating Beacon, and Lighted Wind Cone/Wind Cone. Each form of visual aids has different performance requirements in whether it provides lighting guidance, wind indicator, or assistance with air traffic. These various instruments are crucial infrastructure to each airport in serving the air traffic demand.

The Visual Aids VRV is a binary hybrid score in which an airport has all the objective visual aids or more than listed in **Table 5-12** receive 5 points. If an airport does not meet the criteria, one point is removed for each visual aid objective deficiency.

Table 5-12: Visual Aids VRV

Role	Visual Aids Objective
Primary	Rotating Beacon, Lighted Wind Cone, PAPI/VASIs, and ALS/REILs
National	Rotating Beacon, Lighted Wind Cone, PAPI/VASIs, and ALS/REILs
Regional	Rotating Beacon, Wind Cone, REILs, and PAPI/VASIs
General	Rotating Beacon and Wind Cone
Access/Backcountry	Wind Cone
Special Event	As Appropriate

Sources: Kimley-Horn, Quadrex 2021

5.3.2.7. Weather Reporting

The Weather Reporting VRV identifies the availability of a weather reporting system at an airport. The objective for this metric is measured by the presence of an Automated Surface Observing System (ASOS) which is owned and operated by the federal government (FAA or National Weather Service) or an Automated Weather Observing System (AWOS) which is owned and operated by the airport sponsor. For AWOS systems, there may be distinctions as to whether the unit is an AWOS I, II, or III, which indicates the presence of various sensors that report weather conditions beyond basic weather information. Examples of observations include the altimeter setting, wind direction and velocity, and temperature/dew point information.

An ASOS or AWOS is the objective for all airports except for the Access category, which may have an automated UNICOM or other reporting system. Backcountry airports have no criteria for weather reporting. In addition to weather reporting, an additional criterion for Primary airports is the presence of an Air Traffic Control Tower (ATCT). For evaluating the airport's Weather Reporting VRV, scoring is based upon a binary score (5 points) for meeting the objectives listed in **Table 5-13**.

Table 5-13: Weather Reporting VRV

Role	Weather Reporting
Primary	ATCT, AWOS/ASOS
National	AWOS/ASOS
Regional	AWOS/ASOS
General	AWOS/ASOS

Role	Weather Reporting
Access	UNICOM
Backcountry	None
Special Event	As Appropriate

Sources: Kimley-Horn, Quadrex 2021

5.3.2.8. GA Terminal

At a minimum, an airport's terminal facility provides basic shelter and amenities for users. Besides a public lobby, amenities can include public restrooms, lounge areas, a conference room, and a snack/beverage vending area. Areas designated specifically for pilots will usually include a weather briefing room and in some cases, private lounge/rest area. At commercial service airports, the GA facilities may be co-located or adjoined with commercial passenger services. At larger GA airports, a dedicated terminal will house basic facilities, amenities, an FBO counter, office/operations areas, airport management offices, and even fully equipped workout rooms for pilots, among other spaces.

The GA Terminal VRV assesses the current facilities at an airport and identifies the need to plan and develop improvements to provide basic features to serve the airport's users. The GA Terminal VRV is scored as a binary metric based on the following role of the airport and features shown in **Table 5-14**. If the airport has a GA Terminal and meets or surpasses the recommended features, it receives 5 points. An airport receives no points if it does not meet the criteria based on the airport role.

Table 5-14: GA Terminal VRV

Role	GA Terminal	Features
Primary	Yes*	Public Restrooms/Conference Room/Pilots Lounge
National	Yes	Public Restrooms/Conference Room/Pilots Lounge
Regional	Yes	Public Restrooms/Conference Room/Pilots Lounge
General	No	Public Restrooms
Access	No	Public Restrooms Desired
Backcountry	No	Public Restrooms Desired
Special Event	No	Public Restrooms Desired
*Note: * Features may be combined with Commercial Terminal*		

Sources: Kimley-Horn, Quadrex 2021

5.3.2.9. Utilities

The Utilities VRV is based on an evaluation of an airport's existing basic services for utilities such as electrical, water (or well), and sanitary sewer (or septic) systems. These utilities are necessary to support the airfield (e.g., lighting, visual aids, etc.) as well as for fire protection and the facilities in the GA terminal.

This metric is based on the airport's role and is scored as a binary hybrid, with 5 points given for meeting all of the objectives, 3 points for meeting 50 percent of the objectives, and 1 point for meeting at least one objective for utilities services. **Table 5-15** presents the utilities objectives based on each airport role.

Table 5-15: Utilities VRV

Role	Electric	Water	Sewer (or Septic)
Primary	Yes	Yes	Yes
National	Yes	Yes	Yes
Regional	Yes	Yes	Yes
General	Yes	Yes	No
Access	Yes	Yes	No
Backcountry	Yes	Yes	No
Special Event	Yes	Yes	No

Sources: Kimley-Horn, Quadrex 2021

The Utilities VRV is an indication of an airport's capacity to support and protect the recommended existing facilities in addition to the potential development of new aeronautical and non-aeronautical businesses and other activities.

5.3.2.10. Security/Wildlife Fencing

Fencing around the airfield is recommended for discouraging unauthorized access by people or vehicles and inhibiting wildlife access. While fencing is required for commercial service airports certified under 14 CFR Part 139, the funding eligibility of full perimeter fencing at general aviation airports must be justified based on specific needs. This can include a recommendation from a wildlife hazard management plan or other needs based on prevailing conditions such as an urban setting.

The significance of the Security/Wildlife Fencing VRV is to identify the ability to protect the airport from runway incursion accidents, collisions with wildlife, theft, vandalism, and other unauthorized or unwanted access. This VRV is evaluated by binary scoring, in which the airports meeting the objective for their role receive 5 points as outlined in **Table 5-16**. If the objectives are not met, the airport receives no points.

Table 5-16: Security/Wildlife Fencing VRV

Role	Security Fencing	Wildlife Fencing
Primary	Full	Full
National	Full	Full
Regional	Full	Full
General	Partial	Partial
Access	None	None
Backcountry	None	None
Special Event	None	None

Sources: Kimley-Horn, Quadrex 2021

5.3.2.11. Communications Connectivity

Communications Connectivity as a VRV is meant to measure the airport's existing communications infrastructure to provide users with access to basic telephone access, cellular, and internet services. Public phone access is defined as widespread availability in the terminals of both larger and small airports. The ability to make phone calls for emergency services, ground transportation, or to obtain online weather briefings and filing of flight plans are just a few of the common yet important communication needs.

The Communications Connectivity VRV is a binary hybrid score based on the airport's role meeting the objectives listed in **Table 5-17.** Scores per role are given based on meeting all objectives (5 points), meeting 50 percent of the objectives (3 points), and meeting at least one objective (1 point).

Table 5-17: Communications Connectivity VRV

Role	Public Phone	Cellular (Data/4G)	Free Wi-Fi in Terminal
Primary	Yes	Yes	Yes
National	Yes	Yes	Yes
Regional	Yes	Yes	Yes
General	Yes	Yes	No
Access	Yes*	Yes*	No
Backcountry	None	None	None
Special Event	None	None	None
**For Access, a public phone or cellular is acceptable.*			

Sources: Kimley-Horn, Quadrex 2021

5.3.2.12. Summary – Airport Facilities VRVs (V_{AF})

Table 5-18 presents a summary of the value rating variables that comprise the Airport Facilities VRV component of the ARV. The maximum score for the V_{AF} is 55 points for the Airport Facilities evaluated.

Table 5-18: Summary – Airport Facilities VRVs (V_{AF})

VRV Code	Variable	VRV Basis	VRV Score
FAR	Runway ARC Category	Binary	5
FDS	FAA Design Standards	Binary Hybrid	5
FRS/FRC	Runway Surface Type/Condition	Binary Hybrid	5
FRL	Runway Lighting	Binary	5
FTW	Taxiways	Binary	5
FVA	Visual Aids	Binary Hybrid	5
FWR	Weather Reporting	Binary	5
FTM	GA Terminal	Binary	5
FUT	Utilities	Binary Hybrid	5
FSF	Security/Wildlife Fencing	Binary	5
FCC	Communications Connectivity	Binary Hybrid	5
Total V_{AF}			**55**

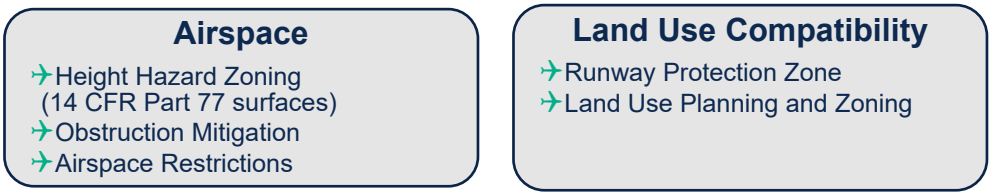
Sources: Kimley-Horn, Quadrex 2021

5.3.3. Airport Protection Value (V_{AP})

Airports need protection from encroachment of their airspace and to have compatible land uses surrounding the airport to maintain its ability to serve its users. The failure to protect the navigable airspace around an airport from new development such as buildings, radio towers, and wind turbines along the runway's approach and departure flight paths can lead to interference with the safe and efficient utility of the runway(s). Additionally, if land use compatibility is not protected, new residential development can create the need to implement aircraft noise abatement procedures and other measures which can also interfere with the usability of the airport. The Airport Protection Value (V_{AP}) VRV category is designed to assess each system airport's current ability to prevent the encroachment of obstructions or incompatible land use.

The variables used as value rating factors for assessing airport protection measures include the following as shown in **Figure 5-3**.

Figure 5-3: Airport Protection Measures Variables



Sources: Kimley-Horn, Quadrex 2021

5.3.3.1. Height Hazard Zoning

Height hazard zoning is often an effective tool for preventing development of vertical structures that could degrade the usability of navigable airspace around the airport. Navigable airspace is identified in 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace* which includes the definitions and dimensions of various areas around the airport that should be protected. The federal government does not have enforcement powers to prevent any development that would encroach into navigable airspace but through grant assurances and other measures, FAA relies on the airport sponsor's governance and the cooperation of neighboring political subdivisions to protect the airport's airspace. Often, this is accomplished through the enactment of height hazard zoning that provides specific requirements for the notification of the intent to develop a structure near the airport, evaluation of potential airspace impacts, and due process for the approval, disapproval, appeal, and enforcement actions.

All system airports that are included in the FAA's NPIAS report, and really all airports regardless of inclusion, should have some form of height hazard zoning or other effective measure for airspace protection to at least comply with FAA Airport Improvement Program (AIP) Grant Assurance 20, *Hazard Removal and Mitigation.* As a VRV element, Height Hazard Zoning is a binary metric with a score of 5 points for having some form of control over preventing obstruction hazards to navigable airspace. If no zoning is in place, the airport receives no points.

5.3.3.2. Obstruction Mitigation

Existing obstructions that penetrate the protected areas outlined in 14 CFR Part 77 are identified by the requirement to be marked and lighted. Sometimes, obstructions located along the flight path require that the runway threshold be displaced to assure that approaching aircraft maintain a safe altitude above the obstruction. Other less permanent obstructions such as trees, vegetation, antennas, or other structures could be mitigated but may require dealing with property interests beyond the immediate control of the sponsor.

The criteria for determining the need to displace or relocate a runway threshold somewhere other than the physical end of usable runway pavement is found in FAA AC 150/5300-13B, *Airport Design*. The Obstruction Mitigation variable identifies the diminished capacity in the full landing distance available (LDA) of the primary runway because of approach path obstruction mitigation. As such, it also serves to recognize opportunities to mitigate non-permanent controlling obstructions and reduce or eliminate the threshold displacement.

The VRV is a binary score based on the airport's role and the presence of existing displaced thresholds resulting from the proximity of objects that penetrate the minimum obstacle clearance surface (OCS)[2]. This binary score metric is based on airports meeting or exceeding the objective OCS per airport role listed in **Table 5-19**. An airport that meets or exceeds the OCS receives 5 points. If the OCS does not meet the minimum, the airport receives no points.

Table 5-19: Obstruction Mitigation VRV

Role	Objective Obstacle Clearance Surface (OCS)
Primary	≥20:1
National	≥20:1
Regional	18:1 to 20:1
General	15:1 to 18:1
Access	≤15:1
Backcountry	≤15:1
Special Event	≤15:1

Sources: Kimley-Horn, Quadrex 2021

[2] The OCS slope extends from physical end of runway pavement outwards.

5.3.3.3. Airspace Restrictions

Airspace restrictions above or otherwise in the vicinity of the airport can diminish its utility. Restrictions can result from overlying the Class B, C, or D airspace of other nearby airports or from overlying designated Warning or Alert Areas or Military Operating Areas (MOAs). The Airspace Restrictions VRV serves to identify any of these types of areas in proximity of the airport. While the existence of an airspace restriction may not be controllable in most cases, identifying the limitations imposed by the restriction clarifies the complexity that users face when approaching or departing the airport. The Airspace Restrictions VRV is a 5-point scaled metric per **Table 5-20** based on the existence of an airspace restriction overhead and/or in vicinity of the airport.

Table 5-20: Airspace Restrictions Objective and Scoring

Airspace Restriction	Overhead?	or	Adjacent?	Distance	VRV Score
No	N/A				5
Yes	Yes		Yes	> 5 miles	3
Yes	Yes		Yes	< 5 miles	1

Sources: Kimley-Horn, Quadrex 2021

The Airspace Restrictions VRV acknowledges that the airspace of each system airport may have constraints that limit its utility and capacity compared to other peer airports. While the designation of airspace is not controllable by the airport sponsor, this variable provides a basis for considering the alteration or adjustment of the restrictions to enhance the efficiency of the airport.

5.3.3.4. Runway Protection Zone

Airports have Runway Protection Zones (RPZs) which are two-dimensional trapezoidal areas that extend beyond the end of each runway. These protection zones are based on the airport's runway design standard criteria in FAA AC 150/5300-13A per the respective Runway Design Code. RPZs correspond to the dimensions of the three-dimensional runway approach zone identified in 14 CFR Part 77 but serve a different purpose. Rather than protecting the airspace from obstacles that would interfere with the use of the runway, RPZs generally identify the boundaries of specific areas that should be protected to "enhance the safety and protection of people and property on the ground." The RPZ should not have any facilities that would accommodate the congregation of people or property. The FAA recommends the sponsor have a controlling interest in the property of the RPZ that allows the relocation of facilities and/or prevents encroachment of such incompatible uses.

The Runway Protection Zone VRV identifies whether the sponsor owns or has controlling interests (e.g., clear zone easement, etc.) in the RPZ property. This VRV, shown in **Table 5-21** is a scaled score based on if the sponsor owns or controls the property and whether that is full, partial, or no control.

Table 5-21: Runway Protection Zone Scoring

Control of RPZ	VRV Score	Remarks
Full	5	Has full control of the RPZ areas
Partial	3	Partial control with plans for full control
None	1	No ownership of the RPZ areas

Sources: Kimley-Horn, Quadrex 2021

The Runway Protection Zone VRV metric demonstrates the sponsor's need to have full control of development within the RPZ. It also acknowledges that the need to relocate existing incompatibilities is a priority for meeting the FAA design standards.

5.3.3.5. Land Use Compatibility

Other land uses around the airport should be protected from encroachment by new residential areas and similar types of developments that are considered incompatible with airport operation. This is especially important for undeveloped land along the runway approach and departure paths. Like height hazard zoning, land use compatibility planning serves to safeguard future aviation development. The sponsor should have the ability to exercise control over proposed new development that would be unsuitable or otherwise sensitive to existing and future aircraft operations.

The Land Use Compatibility VRV serves to identify the need for a sponsor to take action to prevent future non-compatible uses from occurring near the airport, especially along the approaches to the runway. It also recognizes whether the sponsor has considered or may need to consider measures to control development in areas where incompatibilities may occur if unchecked. As shown in the scaled score in **Figure 5-4,** the Land Use Compatibility VRV is based on the distances to any incompatibilities within three miles of the runway end.

Figure 5-4: Land Use Compatibility VRV Scoring Methodology

Sources: Kimley-Horn, Quadrex 2021

5.3.3.6. Summary – Airport Protection VRVs (V_{AP})

Table 5-22 presents a summary of the VRVs that comprise the Airport Protection category component of the ARV. The maximum score for the V_{AP} is 25 points.

Table 5-22: Summary – Airport Protection VRVs (V_{AP})

VRV Code	Variable	VRV Basis	VRV Score
PHZ	Height Hazard Zoning	Binary	5
POM	Obstruction Mitigation	Scaled	5
PAR	Airspace Restrictions	Binary Hybrid	5
PPZ	Runway Protection Zone	Binary Hybrid	5
PLU	Land Use Compatibility	Scaled	5
Total V_{AP}			**25**

Sources: Kimley-Horn, Quadrex 2021

5.3.4. Airport Access Value (V_{AA})

Another factor that should be considered when assessing the value of the airport to the community and to those who use the airport is ground access and ground transportation. The Airport Access V_{RV} is measured primarily by the proximity of the airport to the central business district, the quality and capacity of the road network, and the availability of ground transportation that provides “last mile” capabilities for visitors.

5.3.4.1. Community Access

The Community Access VRV is determined by the distance between the airport and central business district (CBD) of the community it serves. This metric is a scaled score based on the mileage of the most traveled route from the CBD to the airport per **Table 5-23**. The closer the airport is to a CBD, the higher the score the airport receives.

Table 5-23: Community Access Scoring

Distance Between Airport & CBD	VRV Score
< 2 miles	5
≥ 2 miles but < 5 miles	4
≥ 5 miles but < 10 miles	3
≥ 10 miles but < 20 miles	2
≥ 20 miles	1

Sources: Kimley-Horn, Quadrex 2021

While the distance between the airport and the CBD is not controllable, the Community Access VRV offers a sense of the relative ease or difficulty of providing ground access and ground transportation.

5.3.4.2. Regional Access

The Regional Access VRV considers airport access as a function of its connection with the national, state, regional, and local network of highways, streets, and roads. Regional access is measured by the distance to the interchange of the closest principal arterial highway (e.g., Interstate or US Highway interchange). Airports with a short distance to a major highway may have the advantage of greater mobility and accessibility to and

from major population centers compared to those with longer distances. The Regional Access VRV is a scaled metric similar to the Community Access VRV and is scored as depicted in **Table 5-24**.

Table 5-24: Regional Access Scoring

Distance Between Airport & Major Highway	VRV Score
< 5 miles	5
≥ 5 miles but < 10 miles	4
≥ 10 miles but < 15 miles	3
≥ 15 miles but < 20 miles	2
≥ 20 miles	1

Sources: Kimley-Horn, Quadrex 2021

While not always controllable by the airport sponsor, the Regional Access VRV quantifies the connectivity of the system airport to the national and state system of highways, which helps to identify the need and opportunity for improving the mobility and access of users.

5.3.4.3. Local Access

The capacity of the road connecting the community to the airport is another metric in assessing the quality of an airport's accessibility. While most all airports need nothing more than a paved two-lane road as a connection, some system airports may be in more populated areas that are busy enough to require additional features such as a dedicated turning lane, signalization, signage, etc. The Federal Highway Administration (FHWA) classifies roads based on their function. These include:

- Major Arterials – provide service between major urbanized areas with high travel speeds and limited access and offer substantial statewide or interstate mobility and access. Principal major arterials are classified as an interstate, freeway, or expressway, while other major arterials can be identified as a federal or designated state highway.
- Minor Arterials – provide service for trips of moderate length and offer connectivity to the higher arterial system. In urban settings, they interconnect with the higher arterial roads and provide intra-community access and mobility. In rural settings, they provide a connection between developed areas and other arterials and are typically designed to provide higher overall travel speeds with less interference from intersections and other access points.
- Major Collectors – in urban settings, they connect local and minor collector roads leading from populated areas to arterial roads. In rural settings, they provide intra-county mobility in areas not serviced by arterial roads.
- Minor Collectors – provide access and traffic circulation from lower density residential neighborhoods and commercial/industrial areas to major collectors and arterials. In rural settings, they serve to collect traffic from local roads and connect specific developed areas.
- Local Roads – provide direct access between adjacent developed areas, often through residential areas, but are not designed to support through traffic. In rural settings, they provide access over short distances to specific destinations.

Local Access VRV provides an assessment of the connecting roadway as a measure of existing facilities and the capacity to handle traffic. The Local Access VRV is a binary score based on the airport's role and meeting or surpassing the access road objectives (5 points) as shown in **Table 5-25**. Those airports with an access road directly leading to an interstate or other major highway surpass the objectives for each role and receive 5 points as well.

Table 5-25: Local Access Objectives by Role

Role	Access Road	Turn Lane[1]	Signalization
Primary	Arterial (Major)	Yes	Yes*
National	Arterial (Minor)	Yes	Yes*
Regional	Collector (Major)	No	No
General	Collector (Minor)	No	No
Access	Local	No	No
Backcountry	N/A	No	No
Special Event	N/A	No	No

Notes: Turn Lane & Signalization provided additional information but were not used to evaluate the access road type criteria. Interstates or Highways listed as Access Road supersede Arterial (Major)

Sources: NDOT, Kimley-Horn, Quadrex 2021

5.3.4.4. Ground Transportation

The Ground Transportation VRV assesses the availability of ground transportation services as another airport access measure. This VRV represents the “last mile” characteristics of the airport’s utility to its users. Historically, the last mile concept has been used in transportation planning, telecommunications, and supply-chain/logistics industries to describe the issues associated with completing the last leg of the journey. In the context of airports, the last mile challenge is how a traveler can reach their ultimate destination after arriving at or trying to return to the airport.

At most commercial service airports, where regular scheduled passenger air service is the norm, there are several modes of transportation available to provide the means for travelers to reach their destination. However, activity at general aviation airports is intermittent and the volume of travelers may not support regular ground transportation services. In many cases, the decision to offer ground transportation services at an airport is outside the sponsor’s control. However, there may be options available to provide a supportive business environment to encourage such services as needed.

The Ground Transportation VRV is based on the system airport's role and availability of specific ground transportation services shown in **Table 5-26**. The VRV is a binary hybrid score from which all the listed services are met (5 points), 50 percent of the services are present (3 points), and at least one service is present (1 point) based on the role of the airports.

Table 5-26: Ground Transportation Objectives by Role

Role	Mode of Transportation
Primary	Courtesy Car, Bus, Taxi/Ride Share, Rental Car
National	Rental Car or Courtesy Car, Bus, Taxi or Ride Share
Regional	Rental Car or Courtesy Car, Bus, Taxi or Ride Share
General	Rental Car or Courtesy Car, Taxi/Ride Share
Access	Rental Car or Courtesy Car, Taxi/Ride Share
Backcountry	Rental Car or Courtesy Car, Taxi/Ride Share
Special Event	As Appropriate

Sources: Kimley-Horn, Quadrex 2021

5.3.4.5. Summary – Airport Access VRVs (V_{AA})

Table 5-27 presents a summary of the VRVs that comprise the Airport Access VRV component of the ARV. The maximum score for the V_{AA} is 20 points.

Table 5-27: Summary – Airport Access VRVs (V_{AA})

VRV Code	Variable	VRV Basis	VRV Scoring
ACA	Community Access	Scaled	5
ALA	Local Access	Binary Hybrid	5
ARA	Regional Access	Scaled	5
AGT	Ground Transportation	Binary Hybrid	5
Total V_{AA}			**20**

Sources: Kimley-Horn, Quadrex 2021

5.3.5. Airport Expandability Value (V_{AE})

The expansion capability of an airport is another significant factor in estimating the current and future worth of the airport to the community. The primary consideration with the Airport Expandability VRV is identifying the availability of vacant property that can used to develop additional airfield and other types of facilities. For this analysis, the terms used to differentiate amongst the various airport property uses include:

- Airfield – Runways, Taxiways, RPZs and associated object free areas
- Aeronautical – Aprons, FBOs, Hangars
- Non-Aeronautical – Uses that do not have a direct relationship with aviation

This analysis focuses on whether there is adequate property to provide the opportunity to expand airfield facilities, without specific data on whether that is needed to support increased activity. This factor also considers the availability of property for non-aeronautical uses, which represents the potential for generating additional revenues to support the airport's operational and capital development expenses.

5.3.5.1. Total Acreage/Based Aircraft Ratio

The Total Acreage/Based Aircraft Ratio VRV serves to identify the airport's ability to support the airfield, aprons, hangars, and terminal facilities necessary to accommodate current aviation activity as well as the overall potential for the continued development of the airport. This VRV is measured by dividing the total area of airport property in terms of acres by the number of based aircraft. A higher ratio suggests that that there may be an abundance of property available to meet current and future aviation needs and to support aeronautical and non-aeronautical uses compared to a lower ratio.

This metric is based on a generic relationship derived between different characteristics of various airport types. The acreage per based aircraft typically increases as the airport role is increased and vice versa. This is primarily due to the average number of based aircraft declining at a greater rate than the size of the airport (measured in acreage). The Total Acreage per Based Aircraft metric is a scaled VRV based on the system airport's average ratio shown in **Table 5-28**, which compares the total airport acreage to number of based aircraft. This VRV is meant to identify the relationship between the property available to accommodate aviation activity in total acreage compared to the number of based aircraft. In cases where there is no based airport at an airport, the NAHSP assumed one based aircraft was present.

Table 5-28: Total Acreage/Based Aircraft Ratio Scoring

Ratio	VRV Score
> 5.0	5
3.0 to 4.9	4
1.0 to 2.9	3
0.5 to 0.9	2
< 0.5	1

Sources: Kimley-Horn, Quadrex 2021

5.3.5.2. Airfield and Aeronautical Property

The primary concern with the use of an airport's property is the ability to accommodate the facilities necessary to directly support aviation activity. The Airfield and Aeronautical Property VRV is designed to assess the amount of property dedicated for an airport's airfield (i.e., runways, taxiways, RPZs, etc.), as well as approximate the area needed to support aeronautical activity including aircraft parking, storage, fueling, and FBO facilities. The area set aside for the airfield is derived from a formula that references the RDC to identify the specific design criteria for each airfield component and runway. This data is used to estimate the total amount of property needed to fully accommodate the airfield.

The formula used for determining each of the airfield area requirements for a single runway is included in **Table 5-29**.

Table 5-29: Airfield Property Calculation

Airfield Property	Area
Runway Surface Area	(RW Length + 400') x Primary Surface Width (Runway Width)
Taxiway Surface Area	RW Length x TW Object Free Area (OFA)
Runway Protection Zone (RPZ) Surface Area	[RPZ Length x Width (Inner) + (RPZ Length +200') x .05 x Width (Outer)] x 2
Total Aviation Use Area	**Sum of Above + a 20% margin**
Notes: Utilize Runway Design Code of airport to determine this area values, refer to AC 150/5300 – 13B Appendix 7 Runway Design Standards Matrix	

Sources: Kimley-Horn, Quadrex 2021

Property designated for aeronautical uses focuses on:

- Circulation of aircraft on the ground (taxi lanes, etc.)
- Aprons and tie-downs for parking
- Aircraft storage (hangars and T-hangars)
- Full-service and self-service fueling
- FBO terminal (including the lobby, restrooms, waiting lounges, and vehicle parking)

To estimate the area needed for specific facilities, the Airfield and Aeronautical Property VRV first uses a general factor of 0.25 acres (11,000 square feet) per based aircraft to yield the gross area needed to support general uses for aeronautical activity. In ideal situations, the dedicated area for the airfield and aeronautical uses should represent only a fraction of the total available airport property in order to allow for property that can be used for non-aeronautical tenants that can provide additional revenues. For situations in which no based aircraft was recorded or if the total airport property was less than four acres, the airfield property was calculated based on the various segments of the airport property listed in **Table 5-29**.

The metric used for the Airfield and Aeronautical Property VRV is a scaled score based on the percentage of total airport property per **Table 5-30**. The implication of a low Airfield and Aeronautical Property VRV score is that the system may be less able to accommodate future growth.

Table 5-30: Airfield and Aeronautical Property VRV

Airfield and Aeronautical Property vs Total Airport Property	VRV Score
< 50%	5
≥ 50% but < 60%	4
≥ 60% but < 70%	3
≥ 70% but < 80%	2
≥ 80% average	1

Sources: Kimley-Horn, Quadrex 2021

5.3.5.3. Surplus Property

The Surplus Property VRV provides a general assessment of the amount of an airport's excess property after meeting its estimated aviation needs. Future aeronautical and non-aeronautical development is a function of the remaining property available after the airfield and aeronautical needs have been met. Surplus property can and should be used for additional aeronautical facilities (e.g., hangars) as demand grows.

More importantly, non-aeronautical activities on airport property are often important sources of revenue for an airport to support its operating expenses and other financial needs. This is especially important for smaller airports where aeronautical revenue is limited.

The Surplus Property VRV is a scaled scoring metric shown in **Table 5-31** and is based on the remaining airport property that can be marketed to non-aeronautical interests.

Table 5-31: Surplus Property VRV

Surplus Property	VRV Score
> 150 acres	5
≤ 150 acres but > 100 acres	4
≤ 100 acres but > 50 acres	3
≤ 50 acres but > 25 acres	2
≤ 25 acres	1
Note: Available or in use for non-aeronautical purposes	

Sources: Kimley-Horn, Quadrex 2021

5.3.5.4. Airfield Expandability

The ability to provide additional or expanded facilities to support growing levels of aircraft traffic (or larger aircraft) can be measured by the amount of available surplus property. However, the amount of existing airport property available for extending the primary runway may be limited by the current property line or physical boundaries such as roads, railroads, or other features.

The Airfield Expandability VRV is a scaled score metric, shown in **Table 5-32** that identifies the cumulative length of available property beyond the ends of the system airport's primary runway.

Table 5-32: Airfield Expandability VRV

Airfield Expandability *	VRV Score
> 1,000'	5
≤ 1,000' but > 750'	4
≤ 750' but > 500'	3
≤ 500' but > 250'	2
≤ 250'	1
Note: Cumulative length available for extending primary runway	

Sources: Kimley-Horn, Quadrex 2021

The Airfield Expandability factor should not be interpreted as a recommendation or endorsement for extending a system airport's runway. It is simply used to demonstrate the potential capability for providing additional runway length. For airports that do not currently have the property to provide expandability for the runway, there may be opportunities to purchase additional property if the need can be justified through more detailed studies.

5.3.5.5. Summary – Airport Expandability VRVs (V_{AE})

Table 5-33 presents a summary of the VRVs that comprise the Airport Expandability category component of the ARV. The maximum score for the V_{AE} is 20 points.

Table 5-33: Airport Expandability VRVs (V_{AE})

VRV Code	Variable	VRV Basis	VRV Scoring
EAR	Total Acreage Ratio	Scaled	5
EAP	Airfield and Aeronautical Property	Scaled	5
ESP	Surplus Property	Scaled	5
EAE	Airfield Expandability	Scaled	5
Total V_{AE}			**20**

Sources: Kimley-Horn, Quadrex 2021

5.3.6. Community Commitment Value (V_{CC})

The level of community commitment to the airport is one of the most important factors for assessing the perception of the existing and potentially future value of the airport. The Community Commitment Value (V_{CC}) seeks to identify the level of support for an airport. Political support can be measured indirectly by the financial resources that have been provided for the operation and development of the airport. Public airports are operated as an enterprise activity and it is important to assess the level of support that an airport's governance provides. In some cases, financial support in the form of subsidies or loans from the community's general fund may be necessary to supplement an airport's operating revenues when they are insufficient to cover its operating expenses and/or capital development costs. And while the value of goodwill may appear to be intangible, it can be assessed on the basis of the public presence of the airport by supporting events that can bring the public to actually come out and visit. These and other factors identified to establish a value that represents the community's commitment are included in this section.

5.3.6.1. Last Airport Layout Plan (ALP) Update

The ALP demonstrates the ultimate vision for how an airport will be developed. It illustrates the location and size of existing facilities in addition to proposed improvements. For airports in the NPIAS, the FAA requires the sponsor to maintain a current ALP and any proposed future development to be depicted on an airport's approved ALP for it to be eligible for federal funding assistance. FAA recommends that the ALP be updated every 5 to 7 years to maintain its currency and relevancy. Airports outside of the NPIAS may have airport diagrams listing the present facilities; however, it is not equivalent to an ALP.

The Last ALP Update VRV assesses the community's development strategy for the airport and is measured as a binary score of 5 points based on the airport's role and length of time since the last ALP update. If the airport does not meet the objectives listed in **Table 5-34**, it does not receive any points.

Table 5-34: Last ALP Update VRV

Role	Last ALP Update[3]
Primary	< 3 years
National	< 5 years
Regional	< 5 years
General	< 10 years and after 2013
Access	< 10 years and after 2013
Backcountry	< 10 years and after 2013
Special Event	As appropriate

Sources: Kimley-Horn, Quadrex 2021

The ALP is a vital component for determining the eligibility of projects for funding under the FAA AIP. The Last ALP Update VRV provides notice if there is a need to encourage system airports to update their ALPs to assure that the FAA's ever-changing design standards and other criteria are identified and to illustrate the extent of potential development projects. For non-NPIAS airports, the depiction of existing facilities should be kept current as needed.

5.3.6.2. Airport Management

The community's commitment towards providing day-to-day stewardship of the airport is measured through the Airport Management VRV. The commitment of personnel to manage the airport's day-to-day affairs is an important measure of the community's support. It demonstrates a certain minimum level of proactiveness to ensure that the safety, security, and efficiency of the airport is being maintained. For example, the designation of an airport manager to oversee airport activities, provide administration of airport operations, and tend to other airport needs could be evidence of the support by the community.

The Airport Management VRV is a binary metric, scored based on meeting the level of personnel assigned to an airport (5 points) recommended for its role, as shown in **Table 5-35**. If the airport does not meet the objective, no points are awarded.

Table 5-35: Airport Management VRV

Role	Airport Management
Primary	Full-time
National	Full-time
Regional	Full-time
General	Part-time or Staff/FBO
Access	Staff
Backcountry	Staff
Special Event	As Appropriate

Sources: Kimley-Horn, Quadrex 2021

5.3.6.3. Historical Capital Improvement Investment

Capital improvements include projects that were designed and constructed to develop the airport as well as subsequent projects to expand existing facilities. The Historical Capital Improvement Investment VRV is a measure of the amount of the federal, state, and local investment for airport development projects over the last five years. Capital improvements demonstrate a community's past interest in funding airport development. It also establishes the value of these investments as a financial asset on the community's balance sheet.

This VRV is a binary hybrid scored metric, shown in **Table 5-36**, that identifies the level of funded development based on the system airport's role. Points are given based on the airport's role: if the full criteria are met the airport receives 5 points; if past airport funding meets 50 percent of criteria it receives 3 points; and if the airport has had at least some form of funding it receives 1 point.

Table 5-36: Historical Capital Improvement Investment VRV

Role	Capital Improvements
Primary	> $20 million
National	> 5.0 million
Regional	> $1.0 million
General	> $1.0 million
Access	> $500,000
Backcountry	No Funding
Special Event	No Funding

Sources: Kimley-Horn, Quadrex 2021

5.3.6.4. Airport Capital Improvement Program (ACIP)

The ACIP identifies projects proposed for development within the next five to six years. Like an ALP, the FAA requires projects to be listed in the ACIP to establish eligibility for federal AIP funding. The ACIP VRV provides a metric to assess if an airport has a current ACIP (i.e., updated within the past 5 years) and the total amount of anticipated funding in the current ACIP. Note that the funding total analyzed for the NAHSP is inclusive of the total combined federal, state, and local shares.

The presence of a current ACIP with future projects identified is a strong indication of the community's continued interest in the development of the airport. Access to federal funding for simply maintaining the functionality of existing facilities (e.g., overlays to rehabilitate for airfield pavement, etc.) requires that an airport's ACIP be kept current. Additionally, a current ACIP allows NPIAS airports to compete on a regional and national basis for a share of AIP funding that has been appropriated for airport development. The ACIP VRV encourages system airports to maintain a current ACIP to help maintain their airport facilities to meet their aviation demands.

The ACIP VRV has a binary hybrid score based on the objectives per the airport's role listed in **Table 5-37**. An airport receives 5 points if this criterion is met, 3 points if future airport funding meets 50 percent of criteria, 1 point if the airport has some form of funding, and 0 points if an airport has no funding allocated or projected for future capital improvements.

Table 5-37: ACIP VRV

Role	Future Capital Improvements
Primary	> $20 million
National	> $5.0 million
Regional	> $1.0 million
General	> $1.0 million
Access	> $500,000
Backcountry	No Funding
Special Event	No Funding

Sources: Kimley-Horn, Quadrex 2021

5.3.6.5. Economic Development Partnership

There are times when a community may not have the resources (financial or otherwise) to develop aeronautical and non-aeronautical facilities to provide much needed economic benefits (e.g., employment, payroll, goods, and services purchased locally, etc.). Partnering with private sector interests is a way to leverage limited resources to take advantage of opportunities to develop facilities that would bring those benefits to the community. The Economic Development Partnership VRV encourages the proactive strategy of developing a partnership with the local chamber of commerce and with other city or county entities, especially at airports where no such agreements currently exist. Its binary score is based on whether the airport has an established public/private partnership (5 points) or not (0 points).

5.3.6.6. Financial Sustainability

Operating revenues generated by aeronautical sources such as hangar rentals, fuel sales, and charges from non-aeronautical sources are used to offset an airport's operational expenses. When a deficit occurs, the airport sponsor may have the responsibility to subsidize the cost to operate, maintain, and improve the airport. In many cases, the need to dedicate funds to cover the sponsor's local share for a federally funded airport development project can be a sensitive issue for the community, particularly if the allocated public funds result in budget cuts elsewhere. However, it could also be portrayed as an opportunity to enhance the asset value of the airport (and the community's balance sheet) through a highly leveraged capital improvement project.

The Financial Sustainability VRV identifies the ability of airports to generate adequate revenue to cover their expenses. Business planning, economic studies, and other resources can be offered to help airports achieve financial sustainability. Ideally, operating revenues cover both operating and capital expenses, but for many airports it does not. The dependance on operational subsidies in which there is a need for financial support daily, can hinder the ability for the airport to be self-sufficient, in which case is considered a less viable financial aid. Ensuring that support and perception of the airport from a community standpoint is an asset

versus a liability. This VRV is a binary metric, shown in **Table 5-38**, that is scored based on an airport's role and the objective level of stand-alone sustainability for covering either operating and/or capital expenses (5 points). For those airports that do not meet the objectives, 0 points are given. It should be noted that for the NAHSP, receiving a federal or state grant counts as a capital improvement subsidy.

Table 5-38: Financial Sustainability VRV

Role	Objectives
Primary	Capital Improvement Subsidy
National	Capital Improvement Subsidy
Regional	Capital Improvement Subsidy
General	Capital Improvement Subsidy
Access	Capital Improvement & Operations Subsidy
Backcountry	Capital Improvement & Operations Subsidy
Special Event	As Appropriate

Sources: Kimley-Horn, Quadrex 2021

5.3.6.7. Goodwill

Goodwill is an influencing factor that defines the public's perception of an airport. This can be manifested as a community's awareness of an attitude toward the airport in general; as an example, being viewed as an asset as opposed to a liability (e.g., financial performance, noise, etc.). The Goodwill VRV seeks to quantify an airport's image within the community. An airport's goodwill can also be assessed by the existence of favorable media relation stories, editorials, and community outreach opportunities. Examples of building goodwill can include events like open houses, air shows, and guided tours for schools and organizations.

The Goodwill VRV is an additive score metric which examines certain aspects of how an airport is perceived in the community. Points are added for specific evidence of the proactive development of goodwill as listed in **Table 5-39**. There may be items other than those listed that can be considered goodwill, but the intent of the VRV is to encourage the proactive approach for improvement of the airport's favorable perception within the community.

Table 5-39: Goodwill VRV

Evidence of Goodwill	Points
Dedicated Website	2
Marketing and Advertising	1
Open House/Airshow	2
School Tours/Education Program	2
Positive media stories (Max 2)	1

Sources: Kimley-Horn, Quadrex 2021

5.3.6.8. Summary – Community Commitment VRVs (VCC)

Table 5-40 presents a summary of the value rating variables that comprise the Community Commitment VRV component of the ARV. The maximum score for the V_{CC} is 30 points.

Table 5-40: Summary – Community Commitment VRVs (V_{CC})

VRV Code	Variable	VRV Basis	VRV Scoring
CAU	Last ALP Update	Binary	5
CAM	Airport Management	Binary Hybrid	5
CCI	Historical Capital Improvement Investment	Binary Hybrid	5
CAC	ACIP	Binary Hybrid	5
CEP	Economic Development Partnership	Binary	5
CFS	Financial Sustainability	Binary	5
CGW	Goodwill	Additive	5
Total V_{CC}			**35**

Sources: Kimley-Horn, Quadrex 2021

5.4. Airport Regional Value Summary

The ARV helps to identify and quantify the influence of the airport separate from the traditional economic impact approach while also incorporating an evaluation of an airport's assets and its opportunities as a catalyst for economic activity in the region. The ARV also recognizes the efforts that an airport's community has engaged in to protect that investment as well as other attributes that demonstrate an airport's uniqueness, which can affect an airport's influence on the regional economic environment. The ARV can be used by airports in the discussion of economic impact and opportunity, asset values, and support for airport needs and development.

5.5. Non-NPIAS Airports Evaluation

For non-NPIAS airports within the NAHSP, a modified evaluation was utilized to assess how well airports are meeting the expectations of their NAHSP role based on a set of facility and service objectives (FSOs). Similar to ARV, the FSOs provide guidelines to help airports optimally support the type of aviation activities that typically occur at their facilities. Airports that meet the specific FSOs established for their classification are best equipped to fulfill the aviation market needs of their communities and regions and support their function in the statewide system. FSOs differ from VRVs because FSOs only relate to physical infrastructure that is available on an airport, and therefore don't consider such factors as roadway access, airport location, community development partnerships, and so forth. Focusing specifically on on-airport facilities and services allows an airport representative to identify what improvements may need to occur in order for that airport to better perform its role within the system, or what an airport needs to achieve in order to be placed in a more demanding role.

Unlike ARV, a score was not tied to the individual variables and only determined if the airport meets or does not meet the objective. The FSOs by NAHSP role for non-NPIAS facilities are displayed in **Table 5-41**.

Table 5-41: Non-NPIAS Facilities and Service Objectives (FSO) by NAHSP Role

Variable	Airport Objective			
	General	Access	Backcountry	Special Event
Longest Runway	To accommodate 95 percent of small aircraft fleet	Maintain Existing, at least 3,000 Feet	>3,000 Feet	>3,000 Feet or As Appropriate
T-Hangar Ratio (THR)	0.50 - 0.60	> 0.25	> 0.25	None
Fuel Availability	Jet-A or 100LL, Self Service with Credit Card Reader	Jet A or 100LL, Self Service with Credit Card Reader	None	As Appropriate
Instrument Approach	Non-precision	Visual	Visual	Visual
FAA Design Standards	Meet FAA Design Standards	Meet FAA Design Standards	Meet FAA Design Standards	Meet FAA Design Standards
Runway Surface Type/Condition	Paved and Good, PCI >71	Non-Paved and Fair, PCI > 56	Non-Paved and Fair, PCI > 56	As Appropriate and Fair, PCI > 56
Runway Lighting	LIRL	Reflectors, LIRL Desired	None	As Appropriate
Taxiways	Partial Parallel to Primary Runway	Turn Arounds	Turn Arounds or Hold Pads	As Appropriate
Visual Aids	Rotating Beacon and Wind Cone	Wind Cone	Wind Cone	As Appropriate
Weather Reporting	AWOS/ASOS	Automated Unicom	None	As Appropriate
GA Terminal	Public Restrooms	Public Restrooms Desired	Public Restrooms Desired	Public Restrooms Desired
Utilities	Electricity and Water Available	Electricity and Water Available	Electricity and Water Available	Electricity and Water Available
Security/Wildlife Fencing	Partial	None	None	None
Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone or Cellular	None	None

Variable	Airport Objective			
	General	Access	Backcountry	Special Event
Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Rental or Courtesy Car and Taxi/Ride Share	Rental or Courtesy Car and Taxi/Ride Share Desired	As Appropriate
Last ALP Update	< 10 years and After 2013	< 10 years and After 2013 or Airport Diagram	< 10 years and After 2013 or Airport Diagram	As Appropriate

Source: Kimley-Horn, 2021

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Chapter 6. Forecasts of Aviation Demand

6.1. Introduction

Forecast analyses lend insight into how future aviation demand may impact the system and its potential needs. System planning forecasts differ from master planning as detailed input from users, both existing and anticipated, are not available and the process used is more top down and high level. Forecasts are prepared for aviation demand indicators such as enplanements, operations, and based aircraft for all commercial service and general aviation (GA) airports in Nevada.

Developing useful forecasts is dependent upon two elements: good baseline data from which to forecast and employing multiple methodologies to examine the range of potential demand that might be realized. The reliability of data for some indicators is better than others. For example, enplanements are recorded by both commercial service airports and airlines as required by the FAA. Most airports maintain records on based aircraft as they relate to the revenues they collect; however, for operations at non-towered airports, there are no reliable data available for all airports that is collected or compiled from any consistent source. For the Nevada Airport and Heliport System Plan (NAHSP), baseline data was obtained from multiple sources to compare and select the most accurate data for use in forecasting.

Forecasting methodologies used in the NAHSP provide both “top-down” and “bottom-up” approaches to determine future aviation projections, with the bottom-up forecasts representing general groupings of airports and not factoring in detailed analysis of each individual airport’s activities. Top-down approaches view the aviation system from a “bird’s-eye” level to understand its overall performance and direction into the future. The use of multi-level metrics reveals how different demand indicators are influenced by market changes and are considered during the selection of “preferred” projections.

The base year for the NASHP forecasts is 2020 and 2040 is used as the forecast horizon. Forecasts of based aircraft utilized 2020 as the FAA’s National Based Aircraft Inventory Program (www.basedaircraft.com) and a snapshot of data was obtained in 2020 after the study started. Operations data for both commercial service and GA operations were sourced from the FAA’s Terminal Area Forecast (TAF) that was published in 2020. It is important to note that all activity included in the FAA TAF 2020 were estimates of that year and 2020 activity results appear atypical due to the significant impacts of the COVID-19 pandemic on the aviation industry, particularly commercial enplanements and operations.

All forecast projections in the following sections assume the aviation system will perform in an unconstrained environment throughout the duration of the planning horizon without regard to the pandemic or other potential disruptions. This analysis utilizes a Compound Annual Growth Rate (CAGR) which calculates a constant rate of change over a given time period. This method creates a “smoothed” annual growth rate by dampening the effect of volatility from periods of significant change.

Forecasts and aviation demand analyses for the NAHSP are documented in the following sections:

- Socioeconomic Trends
- National Aviation Trends
- Nevada Commercial Service Activity

- Nevada General Aviation (GA) Activity
- Forecast Summary

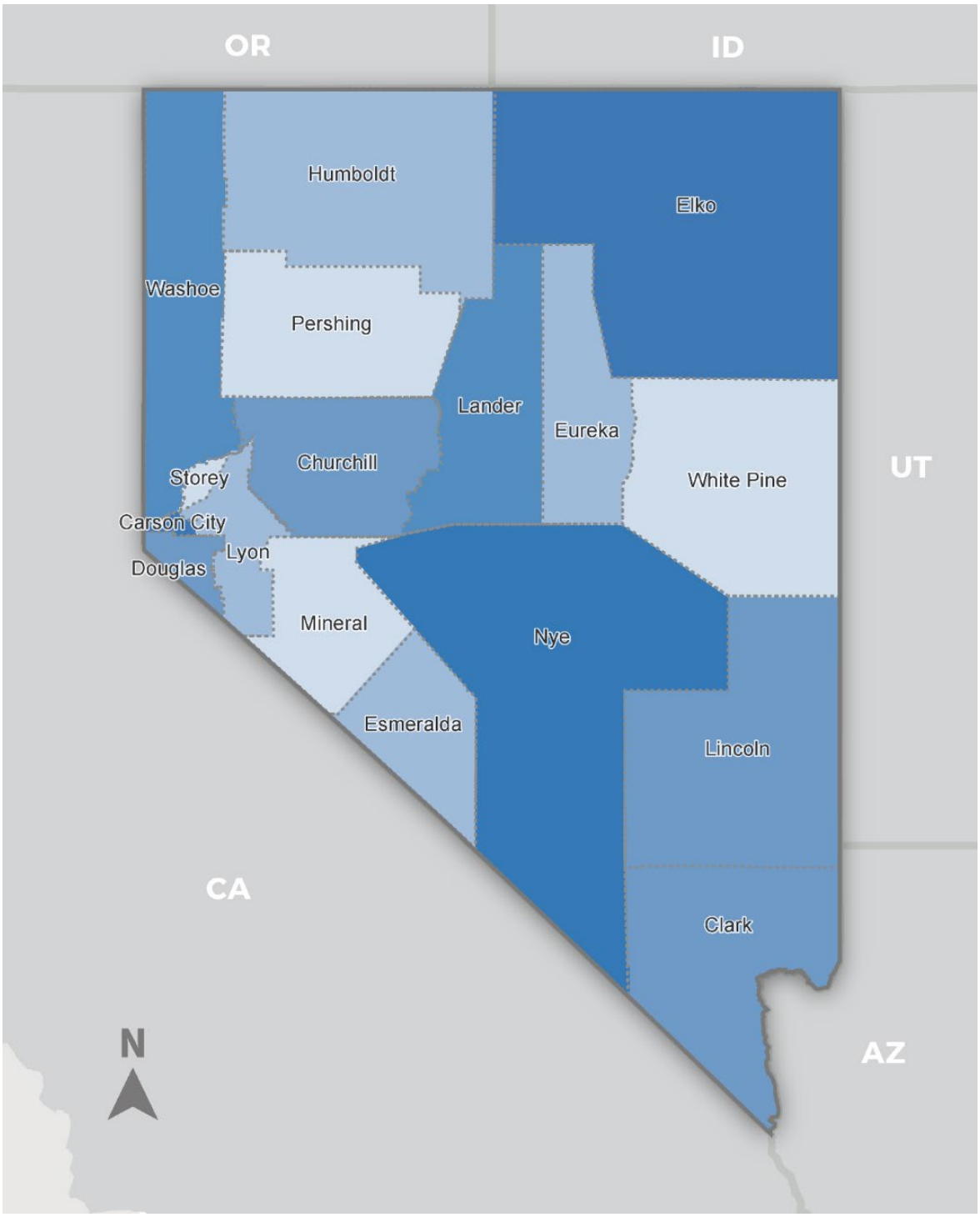
6.2. Socioeconomic Trends

Demand for aviation, an individual market's size, and prevailing economic conditions are strongly related. This section presents trends in population in Nevada which drive aviation needs. According to the Nevada Association of Counties, there are 17 counties that range in population from 1,000 residents in Esmeralda County to over 2,000,000 residents in Clark County.[1] Due to the diversity of each county and the variance between their shape and size as shown in **Figure 6-1**, analyses were completed for each Nevada county and the entire state using Woods & Poole Economics, Inc. data. Woods & Poole data used throughout this chapter reflects actual data through 2016 and forecast data from 2017 through 2040, including 2020.

It is also important to note that Nevada is bordered by five different states, Arizona, California, Idaho, Oregon, and Utah. While the population analysis is focused on Nevada, the proximity of the state to several other states does impact aviation demand and the services provided at Nevada airports. There are airports within Nevada that serve demand from those states and vice versa with airports outside Nevada attracting users from within the state to access certain geographies.

[1] https://www.nvnaco.org/ (accessed 5/4/2021)

Figure 6-1: Nevada Counties[2]



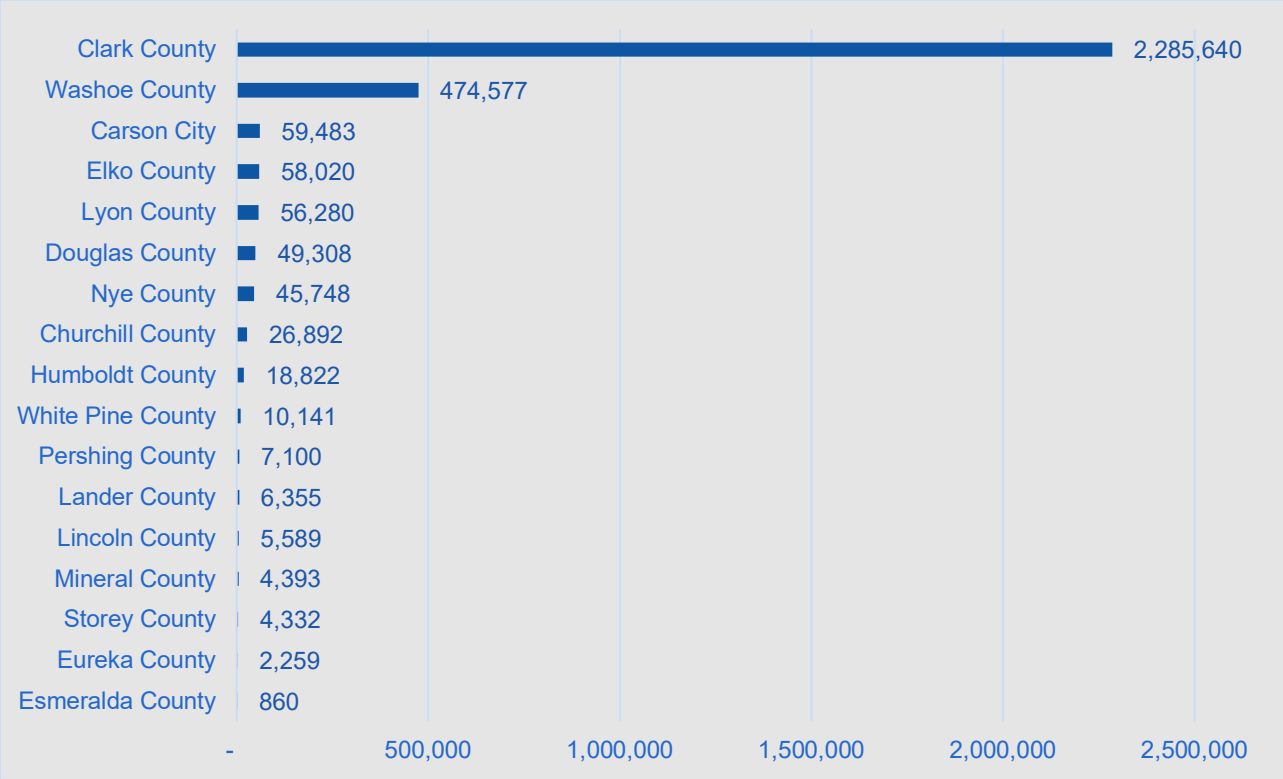
Sources: ESRI 2020, Kimley-Horn 2021

[2] Shading is utilized only to differentiate between county borders.

6.2.1. Population Trends

Population indicates market size, trends in growth, and market potential. In 2020, the state of Nevada had an estimated population of over 3.1 million, with nearly 2.3 million living in Clark County and just under 500,000 living in Washoe County, which totals approximately 89 percent of the state's population. Eight counties had between 10,000 and 60,000 residents in 2020, while the remaining seven counties all had fewer than 10,000 people. **Figure 6-2** shows the distribution of population across Nevada's 17 counties in 2020.

Figure 6-2: Population by County, 2020



Source: Woods & Poole Economics, Inc. 2020

Historical county population growth from 2000 to 2020 is shown in **Table 6-1**. As depicted, the state population grew more than 54 percent since 2000. Higher population growth was experienced between 2000 and 2010 than between 2010 and 2020, with a CAGR of 1.43 percent in the last 10 years. In more rural areas, growth is generally lower than in more urban areas though certain counties like Elko County have seen population increase at comparatively rapid rates. In terms of population numbers, from 2000 to 2020 Clark County saw the largest increase (nearly 892,000), Pershing County saw the smallest increase (less than 430), and Esmeralda and Mineral counties each saw population declines of approximately 120 and 600, respectively. Between 2000 and 2020, Clark County and Pershing County experienced the greatest and smallest population growth rates (2.50 percent CAGR and 0.31 percent CAGR, respectively), while Esmeralda County and Mineral County both experienced negative population growth rates of -0.64 percent CAGR.

Table 6-1: Population Growth by County, 2000-2020

County	Population in Thousands			CAGR	
	2000	2010	2020	2000-2010	2010-2020
Carson City	52.57	55.26	59.48	0.50%	0.74%
Churchill County	24.02	24.80	26.89	0.32%	0.81%
Clark County	1393.91	1953.26	2285.64	3.43%	1.58%
Douglas County	41.44	47.04	49.31	1.27%	0.47%
Elko County	45.23	49.07	58.02	0.82%	1.69%
Esmeralda County	0.98	0.78	0.86	-2.27%	1.02%
Eureka County	1.63	2.00	2.26	2.03%	1.25%
Humboldt County	15.87	16.60	18.82	0.45%	1.26%
Lander County	5.70	5.79	6.36	0.15%	0.94%
Lincoln County	4.18	5.36	5.59	2.52%	0.42%
Lyon County	34.81	52.07	56.28	4.11%	0.78%
Mineral County	5.00	4.79	4.39	-0.44%	-0.85%
Nye County	32.91	43.86	45.75	2.91%	0.42%
Pershing County	6.67	6.74	7.10	0.10%	0.52%
Storey County	3.39	4.00	4.33	1.65%	0.81%
Washoe County	341.39	422.04	474.58	2.14%	1.18%
White Pine County	9.03	10.05	10.14	1.07%	0.09%
Total Nevada	**2,018.74**	**2,703.49**	**3,115.80**	**2.96%**	**1.43%**

Source: Woods & Poole Economics, Inc. 2020

Table 6-2 shows forecast population for Nevada by county, in both actual number of additional residents and CAGR. As discussed previously, Woods & Poole data used throughout this chapter is forecast from 2017 through 2040, including 2020. The county with the fastest growth rate in each of the forecast periods is Churchill County, with a CAGR of 1.83 percent between 2020 and 2040. The county with the slowest growth rate in each of the same forecast periods is White Pine County, with a CAGR of 0.08 percent between 2020 and 2040. Between 2020 and 2040, the population growth in real persons of Nevada counties is expected to range between 120 (Esmeralda County) and an increase of 839,110 (Clark County). Note that Mineral County is forecast to experience a negative CAGR, -0.49 percent, and a population decline of 410 between 2020 and 2040.

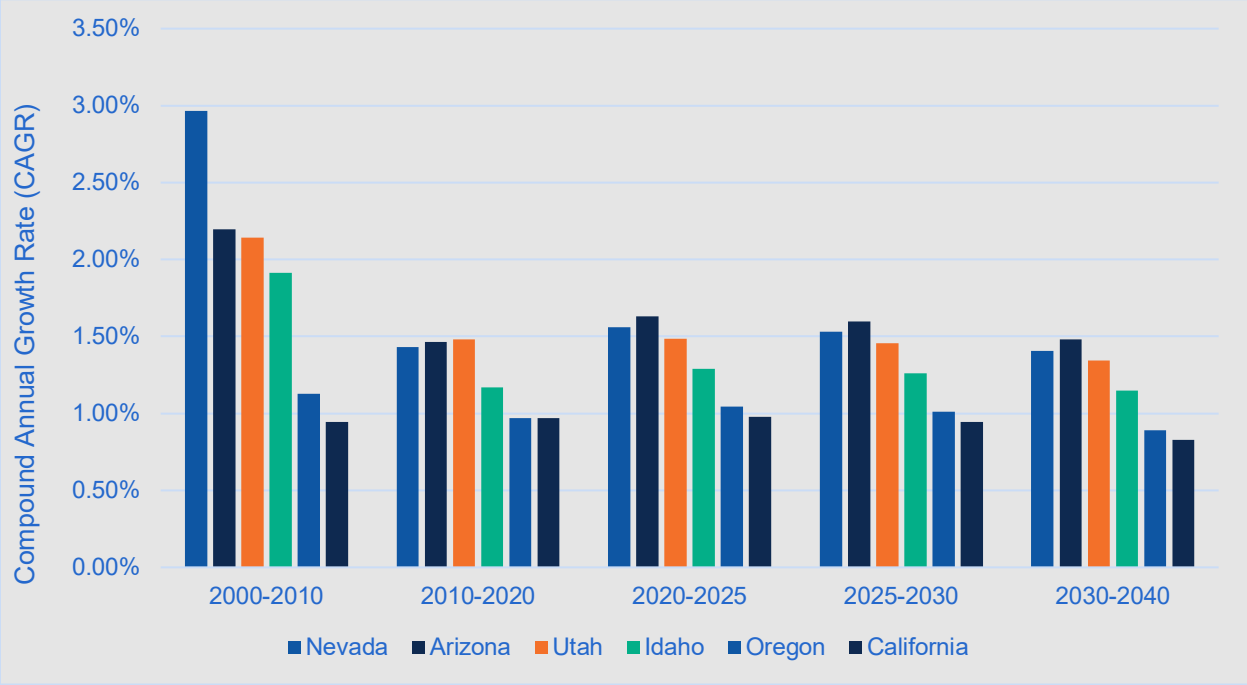
Table 6-2: Population Forecast for Nevada Counties, 2020-2040

County	Population in Thousands				CAGR		
	2020	2025	2030	2040	2020-2025	2025-2030	2030-2040
Carson City	59.48	63.95	68.63	78.06	1.46%	1.42%	1.30%
Churchill County	26.89	29.57	32.46	38.63	1.92%	1.88%	1.76%
Clark County	2285.64	2482.41	2691.44	3124.75	1.67%	1.63%	1.50%
Douglas County	49.31	50.82	52.26	54.55	0.60%	0.56%	0.43%
Elko County	58.02	62.78	67.82	78.14	1.59%	1.55%	1.43%
Esmeralda County	0.86	0.89	0.93	0.98	0.78%	0.73%	0.60%
Eureka County	2.26	2.48	2.72	3.23	1.90%	1.86%	1.73%
Humboldt County	18.82	20.21	21.66	24.57	1.43%	1.40%	1.27%
Lander County	6.36	6.66	6.96	7.52	0.93%	0.89%	0.77%
Lincoln County	5.59	5.95	6.32	7.05	1.26%	1.22%	1.10%
Lyon County	56.28	60.31	64.51	72.89	1.39%	1.36%	1.23%
Mineral County	4.39	4.30	4.21	3.98	-0.41%	-0.44%	-0.57%
Nye County	45.75	48.85	52.07	58.42	1.32%	1.28%	1.16%
Pershing County	7.10	7.45	7.81	8.46	0.97%	0.94%	0.81%
Storey County	4.33	4.71	5.12	5.97	1.70%	1.67%	1.55%
Washoe County	474.58	505.29	537.02	599.08	1.26%	1.23%	1.10%
White Pine County	10.14	10.23	10.30	10.31	0.17%	0.14%	0.01%
Total Nevada	**3,115.80**	**3,366.86**	**3,632.23**	**4,176.60**	**1.56%**	**1.53%**	**1.41%**

Source: Woods & Poole Economics, Inc. 2020

Historically, Nevada had the highest population growth rate within the region but is expected to become the second highest growth rate below Arizona in the future. **Figure 6-3** shows population growth and forecast population in 2040 for the five states that share a border with Nevada. Between 2000 and 2020, population growth (in terms of CAGR) in Nevada and surrounding states ranged between 0.96 percent (California) and 2.19 percent (Nevada). Between 2020 and 2040, population growth in Nevada and surrounding states is projected to range from 0.89 percent (California) and 1.55 percent (Arizona). Between 2020 and 2040, Nevada's population is expected to reach approximately 4.2 million people at a CAGR of 1.48 percent.

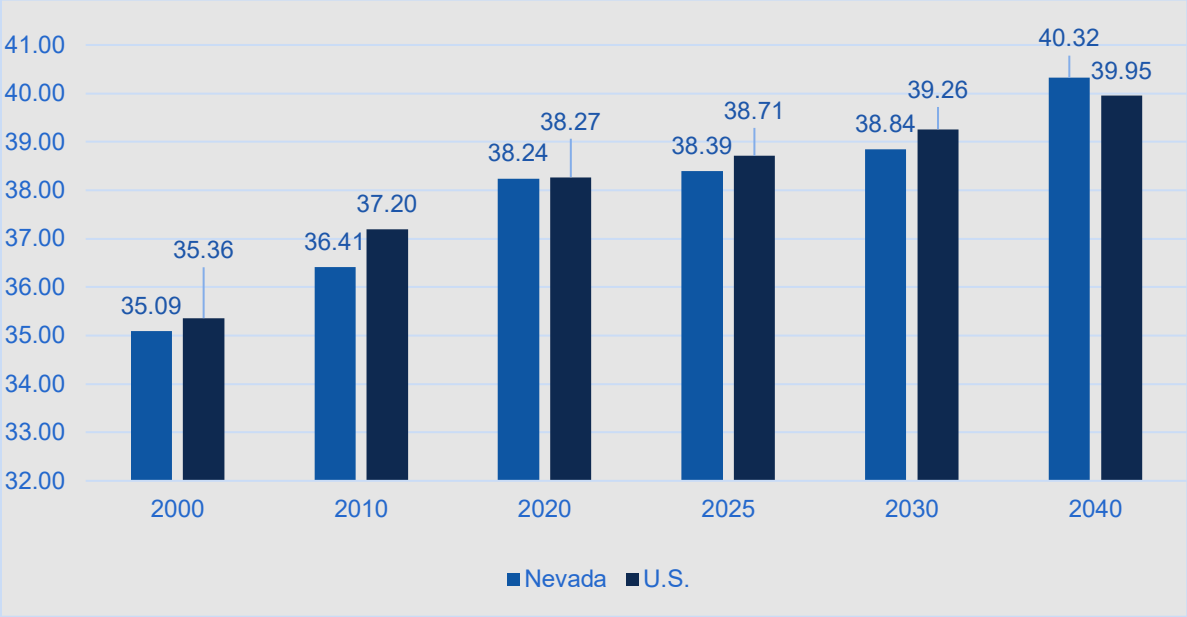
Figure 6-3: Population Growth Rates in Nevada and Surrounding States, 2000-2040



Source: Woods & Poole Economics, Inc. 2020

As shown in **Figure 6-4**, in terms of median age, Nevada is a slightly younger state when compared with the U.S. for 2020. For both groups, median age has increased over the last 20 years as the population grows older, with Nevada forecast to overtake the U.S. by 2040 in this metric.

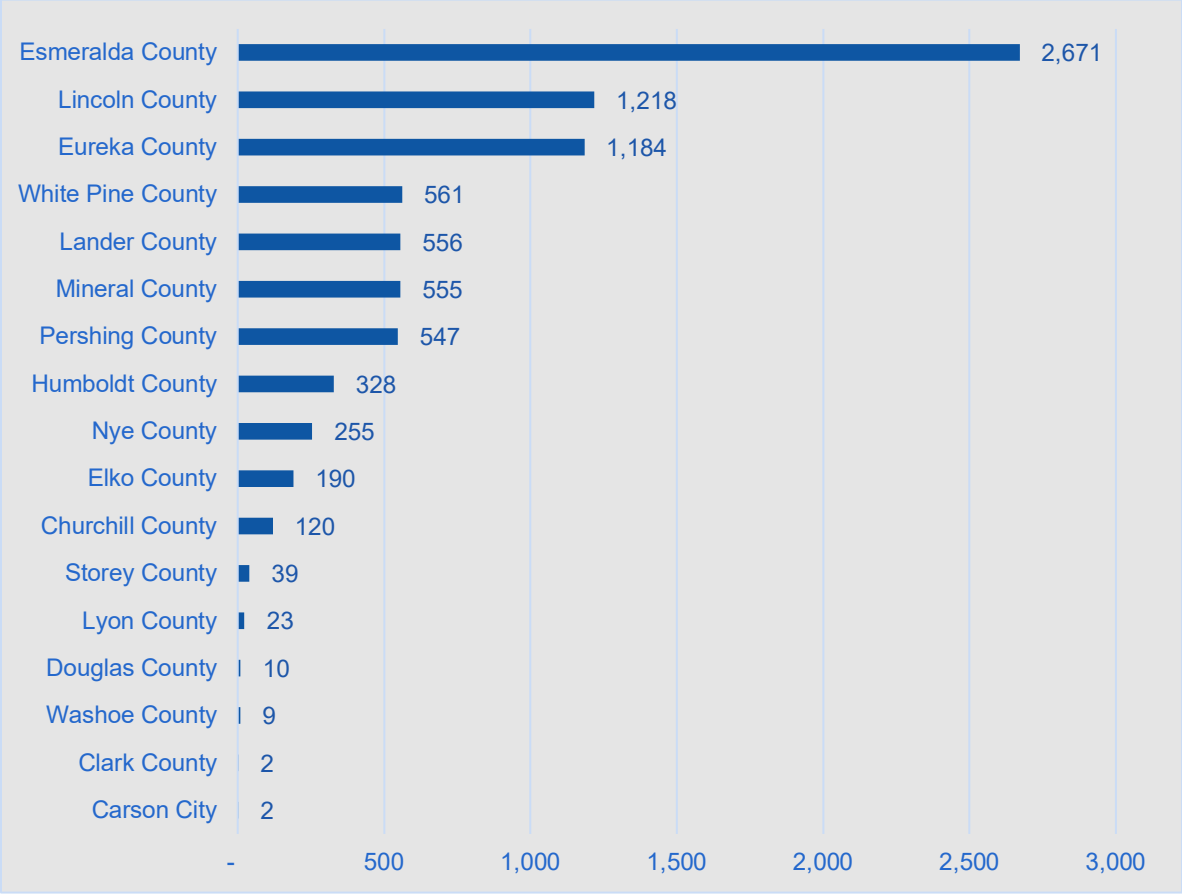
Figure 6-4: Median Age of Nevadans and the U.S., 2000-2040



Source: Woods & Poole Economics, Inc. 2020

Nevada is also a state with a significant amount of land compared to its population, which is demonstrated in the low population density of most of the counties. In many counties, if the ratio of total county acreage to the number of residents in 2020 is calculated, the number of acres in the county per person would be rather high. As shown in **Figure 6-5**, this value ranges from as low as two acres per person in Carson City and Clark County to approximately 2,700 acres per person in Esmeralda County. Eleven counties have a ratio of more than 100 acres of land per resident while four of the remaining six counties have a ratio of 10 or less acres per person. Urban counties like Clark and Washoe have some of the highest population densities and lowest acreage/per person ratios while more rural counties such as Esmeralda and Lincoln have the lowest population densities and highest acreage/per person ratios.

Figure 6-5: Ratios of Acreage per Person for Each Nevada County, 2020



Sources: UNLV "Land Use in Nevada: Counties and the Bureau of Land Management (BLM)" 2020, Headwaters Economics, Economic Profile System, Land Use 2020

6.2.2. Economic Trends

Economic conditions are also closely linked to aviation demand. For the purposes of this system plan, employment, per capita income, and Gross Regional Product (GRP) were used to identify changes in the Nevada economy that may influence aviation demand. Several trends became apparent through the NAHSP and are detailed in the following subsections.

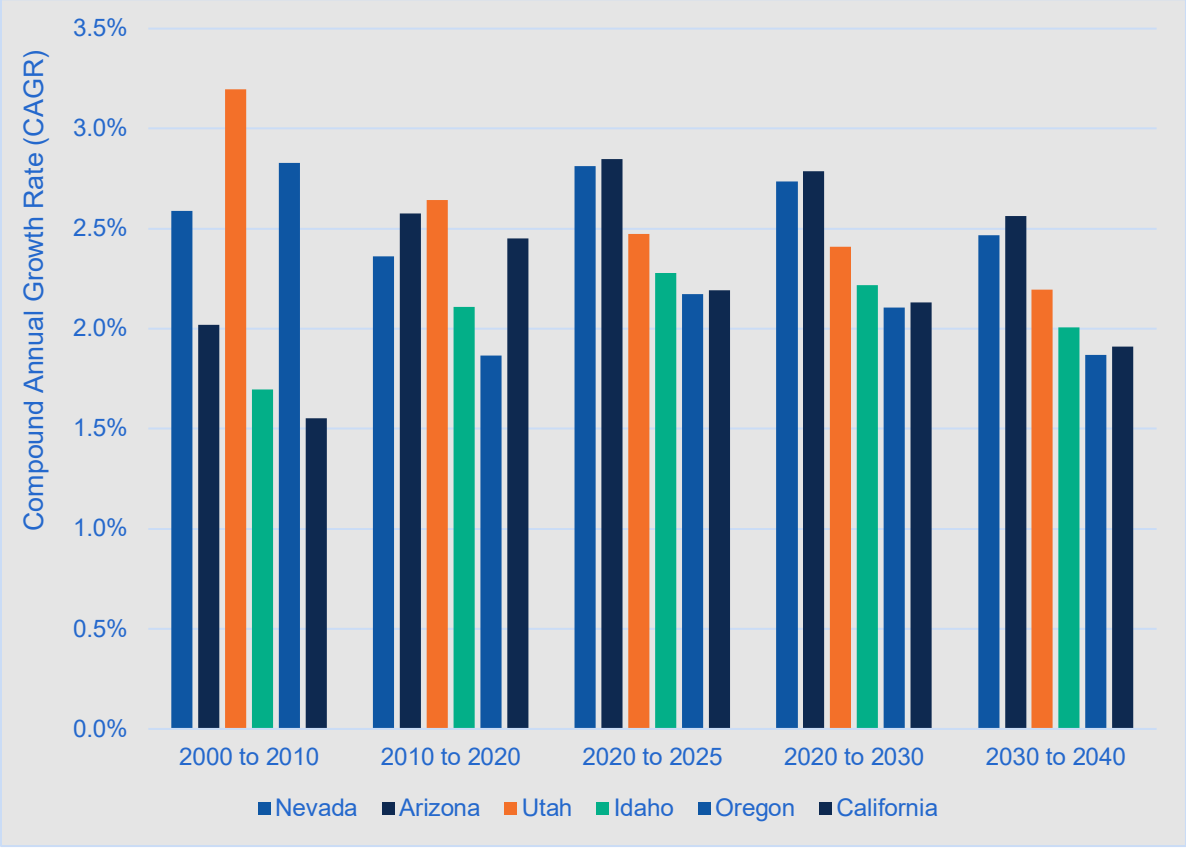
6.2.2.1. Nevada Is a Strong Economic Force in the Region

Nevada's economy is evolving due to its advanced industries and increased private investment throughout the state. As a result, businesses are providing additional employment opportunities and growth paths to mainstays of the Nevada economy such as:

- Tourism and Gaming
- Aerospace and Defense
- Mining
- Health
- Information Technology
- Manufacturing and Logistics

GRP growth rates in the state and its neighbors are shown in **Figure 6-6**. Despite not having the highest GRP compared to surrounding states, Nevada's GRP projected growth rate from 2020 to 2040 is expected to be close behind the fastest-growing state in the region, Utah. Between 2000 and 2020, GRP growth rates in Nevada and surrounding states ranged from 1.90 percent (Idaho) to 2.92 percent (Utah). Between 2000 and 2020, Nevada ranked second in GRP growth with a 2.48 percent CAGR. In the future, between 2020 and 2040, GRP growth rates in Nevada and surrounding states are expected to range from 1.99 percent (Oregon) to 2.68 percent (Arizona). Nevada is still forecast to rank second in GRP growth with a CAGR of 2.60 percent between 2020 and 2040.

Figure 6-6: GRP Growth Rates in Nevada and Surrounding States, 2000-2040

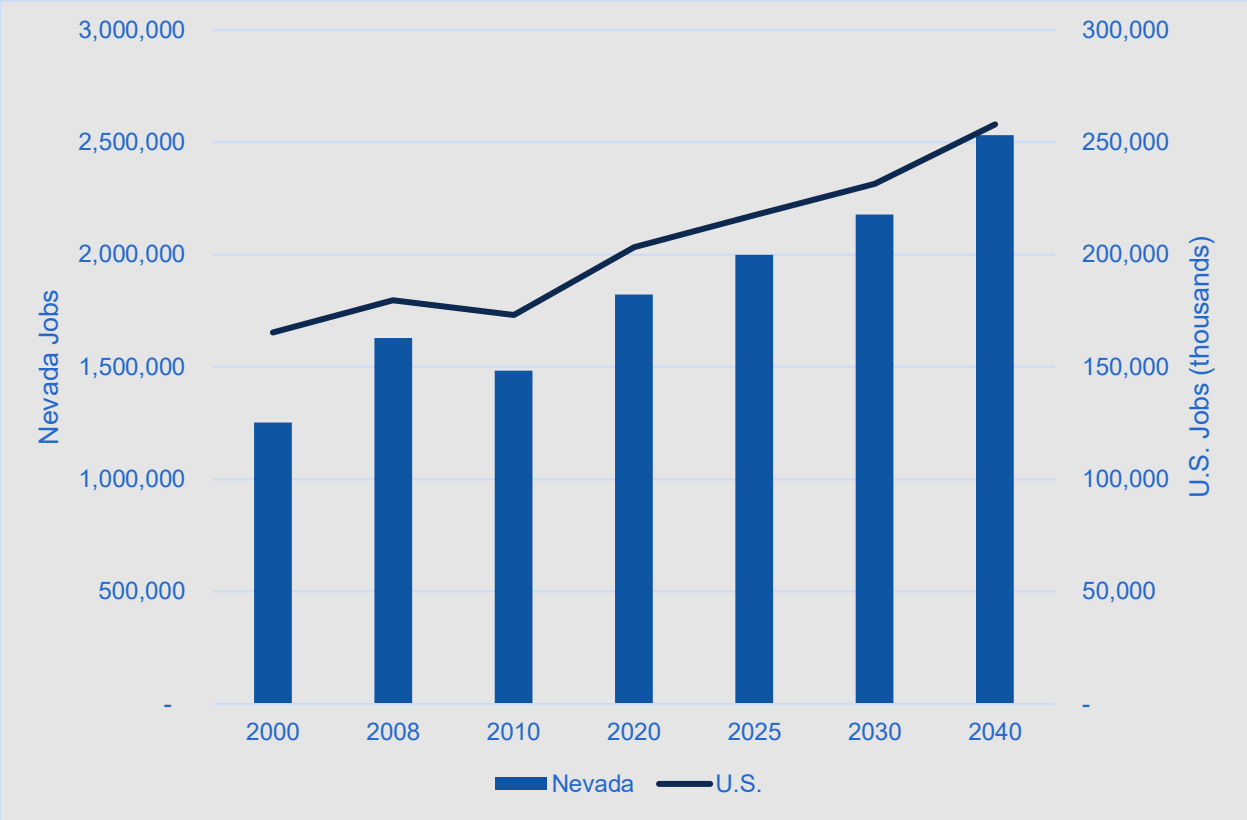


Source: Woods & Poole Economics, Inc. 2020

6.2.2.2. Employment in Nevada Is Growing at a Faster Rate Than the U.S. Average

Nevada saw job growth of approximately 45 percent in the last 20 years, or 1.9 percent annually. In the U.S., jobs increased by approximately 23 percent in the same period, or 1.04 percent annually. Nevada is expected to continue outpacing U.S. employment growth through 2040, with a forecast increase of 39 percent (equal to 1.66 percent CAGR) compared to 27 percent for the U.S. (which is 1.20 percent CAGR). Employment growth in Nevada and the U.S. is shown in **Figure 6-7**.

Figure 6-7: Growth in Employment, Nevada, and the U.S., 2000 - 2040

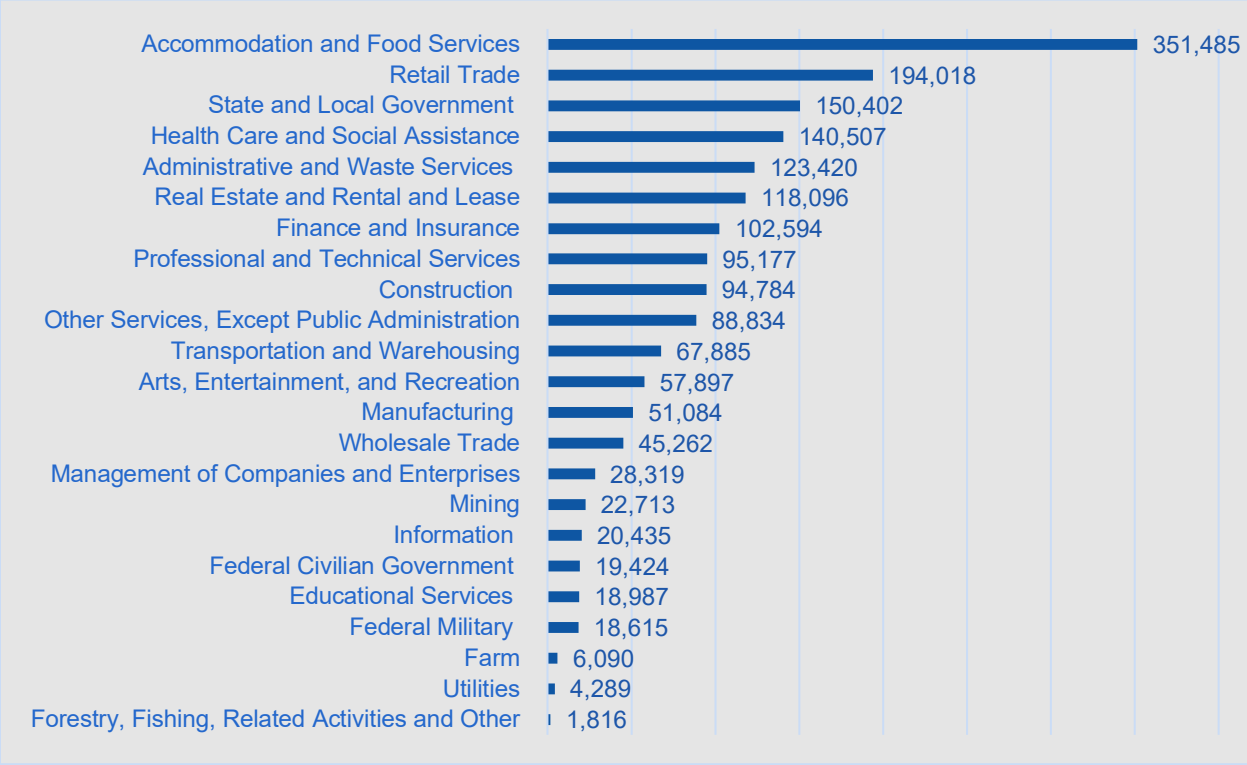


Source: Woods & Poole Economics, Inc. 2020

6.2.2.3. Employment by Industry Is Changing

The top three industries in Nevada by employment numbers are accommodation and food services, retail trade, and state and local government. These sectors make up 19.29 percent, 10.65 percent, and 8.25 percent of statewide employment, respectively. As expected for a growing economy, construction ranks ninth in the state as a top employer with approximately 95,000 employees and 5.20 percent of employment across the state. In Nevada, the top nine industries by employment make up over 75 percent of employment in the state. Aviation employment is found under the industry category "Transportation and Warehousing," which ranked 11th by employment with approximately 68,000 employees in 2020 (3.73 percent). **Figure 6-8** shows employment by industry in Nevada in 2020.

Figure 6-8: Nevada Employment by Industry, 2020



Source: Woods & Poole Economics, Inc. 2020

Table 6-3 shows how employment by industry has changed in the last 20 years. In 2000, the accommodation and food services industry was the largest employer in the state, followed by retail trade, construction, state and local government, and administrative and waste services. Over the 20-year period, seven sectors remained steady or declined: farm (1 percent); wholesale trade (0 percent); forestry, fishing related activities, and other (-3 percent); utilities (-4 percent); manufacturing (-8 percent); information (-20 percent); and construction (-28 percent). The industries with the largest growth in employment over this timeframe were educational services (183 percent); management of companies and enterprises (127 percent); real estate and rental and lease (70 percent); health care and social assistance (56 percent); and federal military (47 percent).

The transportation and warehousing industry, which includes aviation industry statistics, saw a 31 percent increase between 2000 and 2010. Between 2010 and 2020, the overall industry experienced a 28 percent growth in employment. **Table 6-4** ranks forecast employment by industry in 2040. In the next 20 years, Nevada is expected to grow by approximately 709,000 jobs, or 39 percent, with accommodation and food services remaining the state's largest industry. Over the next 10 years, manufacturing, mining, and professional and technical services are expected to grow substantially. Construction and transportation and warehousing are expected to grow by 15 percent and 20 percent, respectively, between 2020 and 2030.

Table 6-3: Nevada Employment by Industry, 2000-2020

Industry	Thousands			CAGR	
	2000	2010	2020	2000-2010	2010-2020
Accommodation and Food Services	282.71	291.01	351.49	0.3%	1.9%
Retail Trade	132.43	152.41	194.02	1.4%	2.4%
State and Local Government	103.83	133.35	150.40	2.5%	1.2%
Health Care and Social Assistance	70.40	109.54	140.51	4.5%	2.5%
Administrative and Waste Services	79.28	95.05	123.42	1.8%	2.6%
Real Estate and Rental and Lease	59.05	100.49	118.10	5.5%	1.6%
Finance and Insurance	62.37	82.79	102.59	2.9%	2.2%
Professional and Technical Services	57.89	81.38	95.18	3.5%	1.6%
Construction	104.61	75.78	94.78	-3.2%	2.3%
Other Services, Except Public Administration	48.25	65.37	88.83	3.1%	3.1%
Transportation and Warehousing	40.51	53.23	67.89	2.8%	2.5%
Arts, Entertainment, and Recreation	41.59	46.56	57.90	1.1%	2.2%
Manufacturing	45.30	41.68	51.08	-0.8%	2.1%
Wholesale Trade	37.43	37.49	45.26	0.0%	1.9%
Management of Companies and Enterprises	9.77	22.14	28.32	8.5%	2.5%
Mining	12.63	16.84	22.71	2.9%	3.0%
Information	21.95	17.65	20.44	-2.2%	1.5%
Federal Civilian Government	15.14	18.74	19.42	2.2%	0.4%
Educational Services	4.91	13.93	18.99	11.0%	3.1%
Federal Military	11.57	17.01	18.62	3.9%	0.9%
Farm	5.29	5.35	6.09	0.1%	1.3%
Utilities	4.72	4.54	4.29	-0.4%	-0.6%
Forestry, Fishing, Related Activities and Other	1.59	1.55	1.82	-0.3%	1.6%
Total Nevada	**1,253.21**	**1,483.88**	**1,822.13**	**1.7%**	**2.1%**

Source: Woods & Poole Economics, Inc. 2020.

Table 6-4: Forecast of Nevada Employment by Industry, 2020-2040

Industry	Thousands				CAGR		
	2020	2025	2030	2040	2020-2025	2025-2030	2030-2040
Accommodation and Food Services	351.49	381.33	408.85	456.63	1.64%	1.40%	1.11%
Retail Trade	194.02	212.85	233.05	278.05	1.87%	1.83%	1.78%
Health Care and Social Assistance	140.51	157.06	174.98	211.84	2.25%	2.18%	1.93%
State and Local Government	150.40	165.89	180.82	208.48	1.98%	1.74%	1.43%
Real Estate and Rental and Lease	118.10	133.23	149.86	187.37	2.44%	2.38%	2.26%
Administrative and Waste Services	123.42	135.09	147.06	169.11	1.82%	1.71%	1.41%
Finance and Insurance	102.59	114.53	125.24	142.81	2.23%	1.80%	1.32%
Construction	94.78	106.13	115.11	130.58	2.29%	1.64%	1.27%
Professional and Technical Services	95.18	102.88	111.30	130.47	1.57%	1.59%	1.60%
Other Services, Except Public Administration	88.83	97.17	106.22	126.14	1.81%	1.80%	1.73%
Transportation and Warehousing	67.89	74.17	80.98	94.85	1.79%	1.77%	1.59%
Arts, Entertainment, and Recreation	57.90	64.04	70.53	83.20	2.04%	1.95%	1.67%
Wholesale Trade	45.26	49.86	54.64	64.29	1.95%	1.85%	1.64%
Manufacturing	51.08	53.17	54.78	57.38	0.80%	0.60%	0.46%
Management of Companies and Enterprises	28.32	31.54	34.81	41.44	2.18%	2.00%	1.76%
Educational Services	18.99	22.62	26.76	36.23	3.57%	3.42%	3.08%
Mining	22.71	24.63	26.70	31.28	1.64%	1.62%	1.60%
Federal Civilian Government	19.42	20.59	21.82	24.52	1.17%	1.17%	1.17%
Information	20.44	21.30	22.17	23.96	0.84%	0.80%	0.78%
Federal Military	18.62	18.67	18.72	18.84	0.06%	0.06%	0.06%
Farm	6.09	6.34	6.56	6.92	0.80%	0.68%	0.54%
Utilities	4.29	4.42	4.53	4.66	0.61%	0.50%	0.28%
Forestry, Fishing, Related Activities and Other	1.82	1.95	2.09	2.37	1.42%	1.36%	1.28%
Total Nevada	**1,822.13**	**1,999.46**	**2,177.59**	**2,531.40**	**1.87%**	**1.72%**	**1.52%**

Source: Woods & Poole Economics, Inc. 2020

6.2.2.4. Employment Is Concentrated in Two Counties

Table 6-5 shows employment in Nevada by county. Two counties, Clark and Washoe, home of the cities of Las Vegas and Reno, respectively, comprised 88 percent of Nevada jobs in 2020.

Table 6-5: Employment by County, 2020

County	Employment	Share
Clark County	1,324,534	72.69%
Washoe County	287,525	15.78%
Carson City	41,780	2.29%
Elko County	30,203	1.66%
Douglas County	29,989	1.65%
Churchill County	27,369	1.50%
Lyon County	18,952	1.04%
Nye County	17,653	0.97%
Humboldt County	11,835	0.65%
Storey County	6,311	0.35%
White Pine County	6,016	0.33%
Eureka County	5,955	0.33%
Lander County	4,699	0.26%
Pershing County	2,951	0.16%
Lincoln County	2,773	0.15%
Mineral County	2,331	0.13%
Esmeralda County	1,257	0.07%
Total Employment	**1,822,133**	**100%**

Source: Woods & Poole Economics, Inc. 2020

6.2.2.5. The Great Recession of 2008 Impacted Industries and Counties Disproportionately

The 2008 recession heavily impacted tourism and gaming, retail trade, and transportation. As shown in **Table 6-6** and **Table 6-7**, counties dependent on these industries saw the greatest declines in employment and GRP in the 2008 to 2010 timeframe. Fortunately, most regions except for Douglas County have recovered to above 2008 levels. Similar impacts on these industries and counties have been observed throughout the COVID-19 pandemic that started in late 2019/early 2020.

Table 6-6: Employment by County, 2000-2020

County	Thousands of Jobs				Percent Change		
	2000	2008	2010	2020	2000-2008	2008-2010	2010-2020
Carson City	39.20	40.64	37.77	41.78	0.5%	-3.6%	1.0%
Churchill County	14.61	23.68	24.11	27.37	6.2%	0.9%	1.3%
Clark County	852.40	1,163.81	1,057.76	1,324.53	4.0%	-4.7%	2.3%
Douglas County	29.01	31.27	28.47	29.99	0.9%	-4.6%	0.5%
Elko County	23.89	25.83	25.28	30.20	1.0%	-1.1%	1.8%
Esmeralda County	0.41	0.59	0.79	1.26	4.7%	16.3%	4.7%
Eureka County	4.56	5.06	5.03	5.96	1.3%	-0.3%	1.7%
Humboldt County	9.61	9.94	10.20	11.84	0.4%	1.3%	1.5%
Lander County	2.84	3.53	3.88	4.70	2.7%	4.9%	1.9%
Lincoln County	1.95	2.25	2.25	2.77	1.8%	-0.1%	2.1%
Lyon County	14.24	18.29	16.09	18.95	3.2%	-6.2%	1.6%
Mineral County	2.47	2.60	2.51	2.33	0.7%	-1.8%	-0.7%
Nye County	13.84	16.92	15.26	17.65	2.5%	-5.0%	1.5%
Pershing County	2.55	2.43	2.33	2.95	-0.6%	-2.0%	2.4%
Storey County	1.25	3.54	3.71	6.31	13.9%	2.4%	5.5%
Washoe County	236.33	273.61	243.19	287.53	1.8%	-5.7%	1.7%
White Pine County	4.07	5.20	5.26	6.02	3.1%	0.5%	1.4%
Total Nevada	**1,253.21**	**1,629.16**	**1,483.88**	**1,822.13**	**3.3%**	**-4.6%**	**2.1%**

Source: Woods & Poole Economics, Inc. 2020

Table 6-7: Gross Regional Product 2000-2020 (in Millions of 2009 Dollars)

County	Gross Regional Product (millions of 2009 $$)				Percent Share (2020)	Growth Rate		
	2000	2008	2010	2020		2000-2008	2008-2010	2010-2020
Carson City	2,742.66	3,262.35	3,119.70	3,540.68	2.4%	2.2%	-2.2%	1.3%
Churchill County	787.26	1,160.34	1,160.27	1,474.03	1.0%	5.0%	0.0%	2.4%
Clark County	62,608.89	91,804.28	82,379.96	106,489.15	71.6%	4.9%	-5.3%	2.6%
Douglas County	1,704.50	1,952.83	1,729.59	1,883.16	1.3%	1.7%	-5.9%	0.9%
Elko County	1,600.75	2,174.39	2,488.91	3,265.45	2.2%	3.9%	7.0%	2.8%
Esmeralda County	26.84	52.15	88.93	155.62	0.1%	8.7%	30.6%	5.8%
Eureka County	545.43	1,070.02	1,484.68	1,748.52	1.2%	8.8%	17.8%	1.6%
Humboldt County	733.83	960.49	1,278.18	1,545.52	1.0%	3.4%	15.4%	1.9%
Lander County	258.94	490.85	756.21	972.94	0.7%	8.3%	24.1%	2.6%
Lincoln County	131.57	151.09	174.60	202.96	0.1%	1.7%	7.5%	1.5%
Lyon County	748.21	1,098.99	1,018.32	1,277.78	0.9%	4.9%	-3.7%	2.3%
Mineral County	168.14	176.36	185.70	187.51	0.1%	0.6%	2.6%	0.1%
Nye County	980.04	1,298.67	1,339.95	1,537.71	1.0%	3.6%	1.6%	1.4%
Pershing County	208.15	248.57	268.24	398.87	0.3%	2.2%	3.9%	4.0%
Storey County	80.21	281.46	321.42	451.98	0.3%	17.0%	6.9%	3.5%
Washoe County	17,544.43	22,027.70	19,258.76	22,755.35	15.3%	2.9%	-6.5%	1.7%
White Pine County	283.88	512.81	633.23	758.86	0.5%	7.7%	11.1%	1.8%
State of Nevada	**91,153.72**	**128,723.33**	**117,686.64**	**148,646.07**	**100.0%**	**4.4%**	**-4.4%**	**2.4%**

Source: Woods & Poole Economics, Inc. 2020

Using 2009 dollars to adjust for inflation, average per capita income in the state of Nevada is $41,191. However, per capita income varies greatly across the state's counties. **Table 6-8** shows per capita income in each county indexed to the state of Nevada. Douglas County, Lander County, and Esmeralda County have the highest per capita income while Eureka County, Pershing County, and Lincoln County have the lowest.

Table 6-8: Total Personal Income per Capita in Nevada, by County (in 2009 Dollars)

Region	2020 (2009 dollars)	Index
Douglas County	$58,123	141%
Lander County	$51,587	125%
Esmeralda County	$49,400	120%
Washoe County	$45,780	111%
Churchill County	$43,980	107%
Humboldt County	$43,404	105%
White Pine County	$41,857	102%
Carson City	$40,987	100%
Elko County	$40,655	99%
Clark County	$40,288	98%
Mineral County	$37,147	90%
Storey County	$36,738	89%
Nye County	$33,987	83%
Lyon County	$31,361	76%
Eureka County	$31,316	76%
Pershing County	$29,753	72%
Lincoln County	$27,356	66%
State of Nevada	**$41,191**	**100%**

Source: Woods & Poole Economics, Inc. 2020

6.3. National Aviation Trends

Every segment of aviation activity at Nevada's airports is influenced by population and economic factors as well as industry variables like the cost of equipment and fuel. As a result, commercial air service, military aviation, and general aviation (GA) in the state will be affected differently over the 20-year planning horizon. These effects are examined in this section.

6.3.1. Commercial Aviation

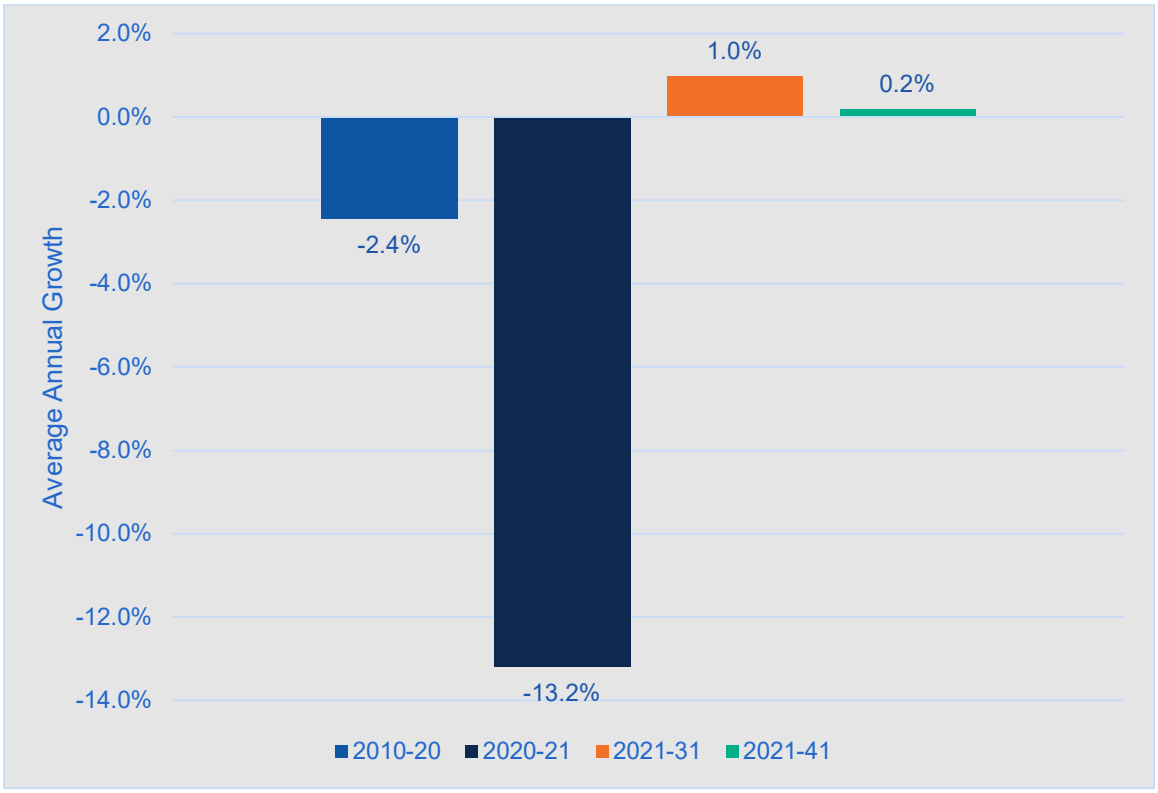
Trends in commercial service activity are highlighted in this section for their potential impact on future indicators in Nevada, particularly enplanements and commercial service operations. It is important to note that the COVID-19 pandemic resulted in an unprecedented decline in commercial aviation, and predictions of future trends vary greatly depending on the source. As of 2021, most commercial activity has rebounded to within 75 percent of 2019 activity levels, although some airports have seen higher activity.

6.3.1.1. Industry Consolidation and Restructuring

After the U.S. airline industry was deregulated in 1978, it became a volatile market characterized by cyclical boom and bust cycles. However, the economic recession of 2007-2009 led to fundamental changes in the business models of the airline industry. Airlines minimized the market's volatility by eliminating unprofitable routes, replacing older aircraft with newer, more efficient models, and by lowering operating costs. These changes allowed the industry to mark its 11th consecutive year of profitability in 2019, before realizing its spiral in 2020 and into 2021 as a result of the pandemic.

Prior to the pandemic, yields were expected to grow more quickly in the short term (2021-2031 period) as demand for air travel outpaces the return of airline capacity, increasing airfares. **Figure 6-9** displays the average annual passenger yield growths from 2010 to 2041 as projected by the FAA in its latest forecast.

Figure 6-9: System Average Annual Passenger Yield Growth[3]



Sources: FAA Aerospace Forecast Fiscal Years 2021-2041; U.S. Department of Transportation Form 41

6.3.1.2. Expansion of Ancillary Revenues

Since the end of the recession in 2009, airlines initiated new services and began charging separately for services that had been bundled with the price of a ticket in previous years. Revenues from these new add-on options are known as ancillary fees and are exempt from taxation. The trend of adding ancillary fees took a small step back in November 2020 as airlines began to eliminate change fees for most types

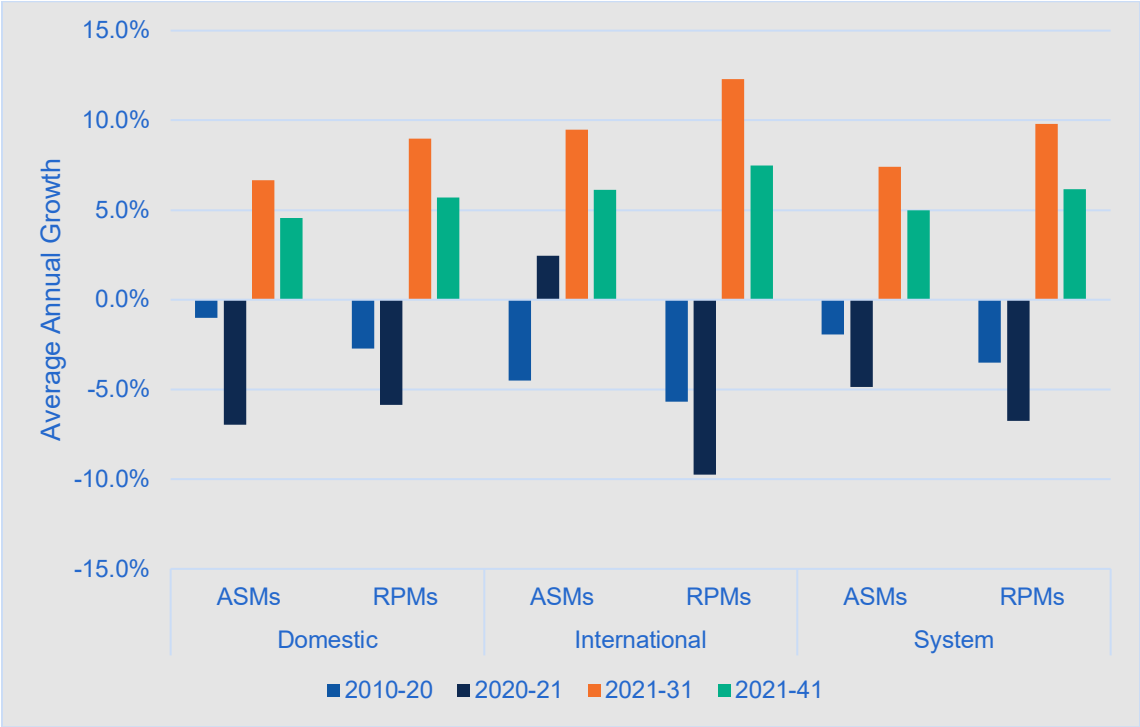
[3] *Sum of U.S. Mainline and Regional Air Carriers*

of tickets. Overall, revenue has grown faster than airlines' output since airlines began collecting ancillary fees.

6.3.1.3. Capacity Discipline

Airlines 'rightsized' aircraft to gain efficiencies in key metrics such as available seat miles (ASMs) and revenue passenger miles (RPMs), and as a result saw increasing load factors, higher profitability, and lower capital overhead. According to the *FAA Aerospace Forecast Fiscal Years 2021-2041*, as the U.S. recovery from the COVID-19 pandemic progresses, ASMs and RPMs are forecast to experience high rates of annual growth that will return to more normal rates as the market stabilizes. Overall, Low-Cost Carriers (LCCs) have grown more quickly than network or legacy carriers, which has put pressure on RPM levels throughout the industry as larger carriers compete with lower fares offered by LCCs. This pattern is expected to continue through 2041. **Figure 6-10** displays a comparison of the Available Seat Miles (ASM) and Revenue Passenger Miles (RPM) for the U.S. Commercial Air Carriers from 2010 through 2041.

Figure 6-10: U.S. Commercial Air Carrier ASMs and RPMs[4]



Sources: FAA Aerospace Forecast Fiscal Years 2021-2041; U.S. Department of Transportation Forms 41 and 298-C

6.3.1.4. Impact of COVID-19

Business travel almost entirely disappeared starting in 2020 and has not seen a full recovery as of July 2021 due to the COVID-19 pandemic. Leisure travel also shrank around March 2020 and April 2020 but picked up slightly around the 2020 holiday season and returned to near 2019 levels at many airports by July 2021, especially those that rely on leisure travel and less on business travel, including conferences

[4] *Sum of U.S. Mainline and Regional Air Carriers*

and exhibitions that are prevalent in Las Vegas. Airlines aggressively cut costs through reduced schedules, staffing, and expenditures in March and April 2020. However, long-term debt in the industry still surged by the end of 2020 as airlines struggled to generate revenue. Curtailed business travel, closed international borders, and the large U.S. domestic market meant that leisure travelers became the focus of the U.S. airline industry.

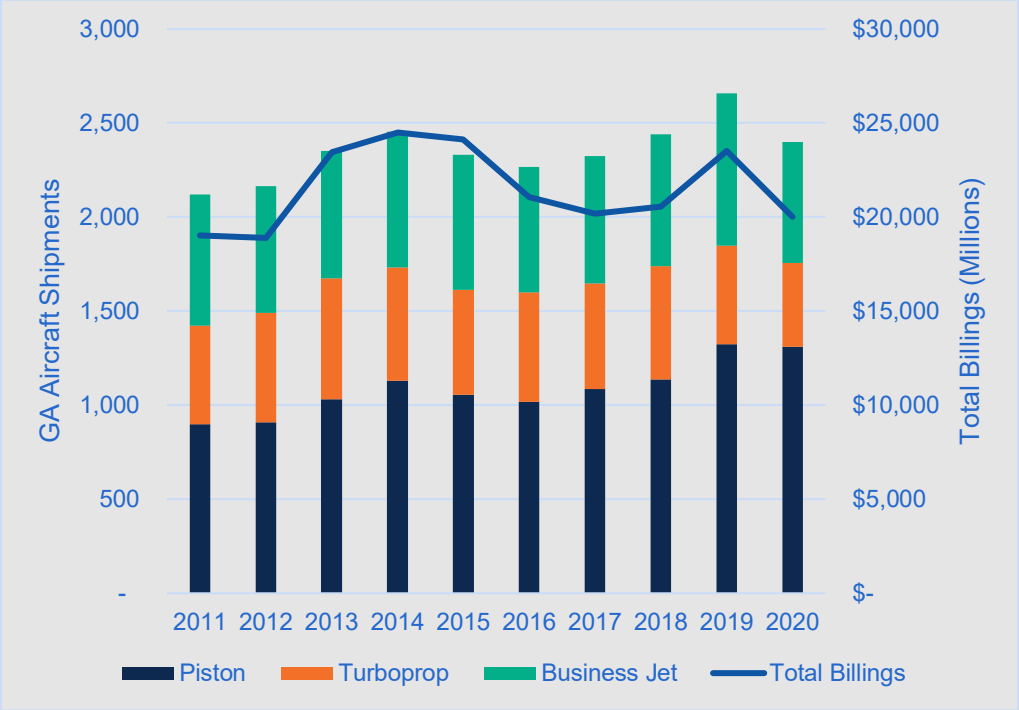
6.3.2. General Aviation (GA)

The GA community in Nevada is a major user of the airport system and its demand is evaluated in terms of based aircraft and operations. The following trends were highlighted due to their likelihood to impact Nevada's future GA demand.

6.3.2.1. Relatively Flat GA Aircraft Shipments and Billings

Between 2011 and 2020, historic GA aircraft billings fluctuated but had only increased by five percent over this time period. Total turboprop and jet deliveries had declined over this time period while piston deliveries had increased. COVID-19 had a minimal impact on piston deliveries compared to 2019, as they increased 4.0 percent in 2020. However, in 2020 turboprop deliveries continued to decline (down 15.6 percent) and business jet deliveries sharply declined, falling by 20.4 percent. **Figure 6-11** displays GA aircraft shipping and billings from 2011 through 2020.

Figure 6-11: Total GA Aircraft Shipments and Billings, 2011-2020



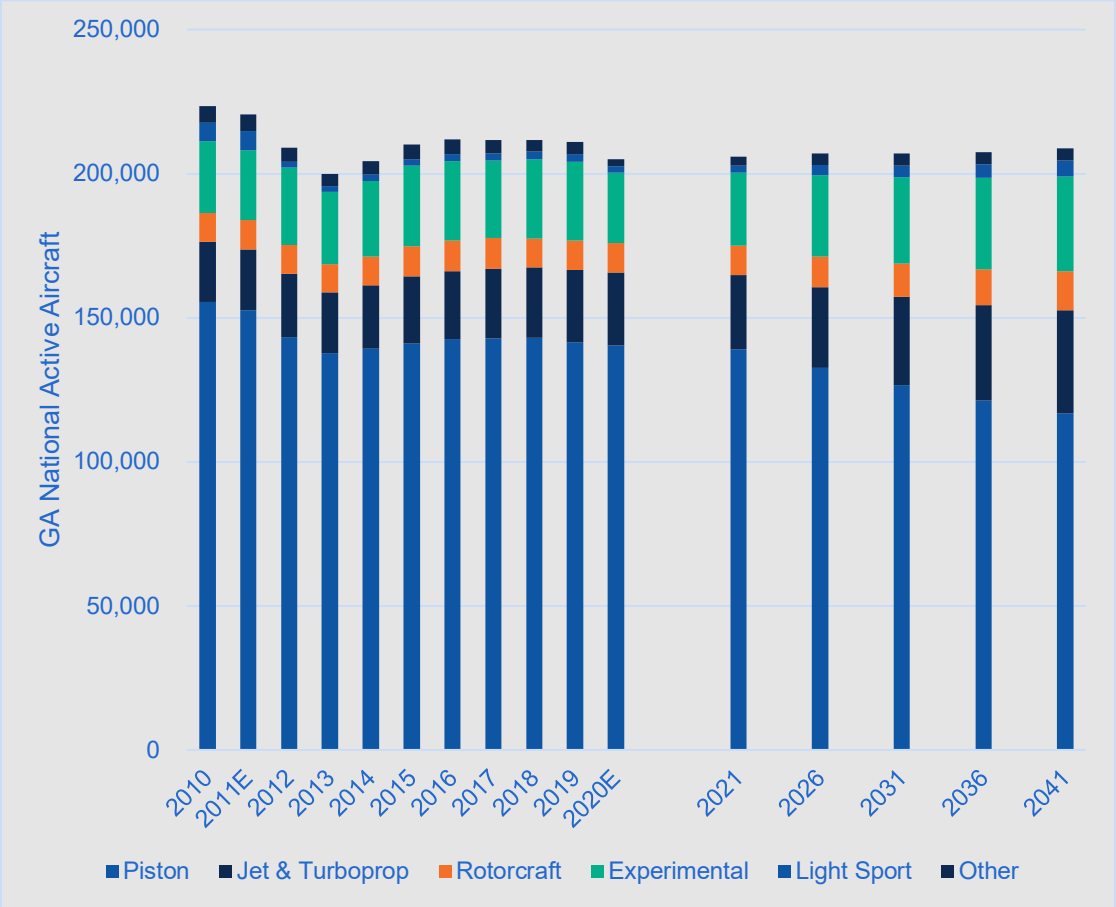
Sources: General Aviation Manufacturers Association (GAMA) GA Airplane Shipments and Billings, 1994-2020

6.3.2.2. Slight Decline in National Active GA Fleet

Between 2010 and 2020, an average annual decrease of 0.9 percent was observed in the national GA fleet. **Figure 6-12** displays the National GA fleet by type from 2010 to 2041 per the 2021 FAA Aerospace Forecast. The FAA projected the following average annual growth rates in the active GA fleet by type between 2021 and 2041:

- Piston: -0.9%
- Turboprop: 0.6%
- Jet: 2.3%
- Rotorcraft: 1.4%
- Experimental: 1.4%
- Light Sport: 4.0%
- Other: 1.6%

Figure 6-12: National Active GA Fleet by Type, 2010-2041



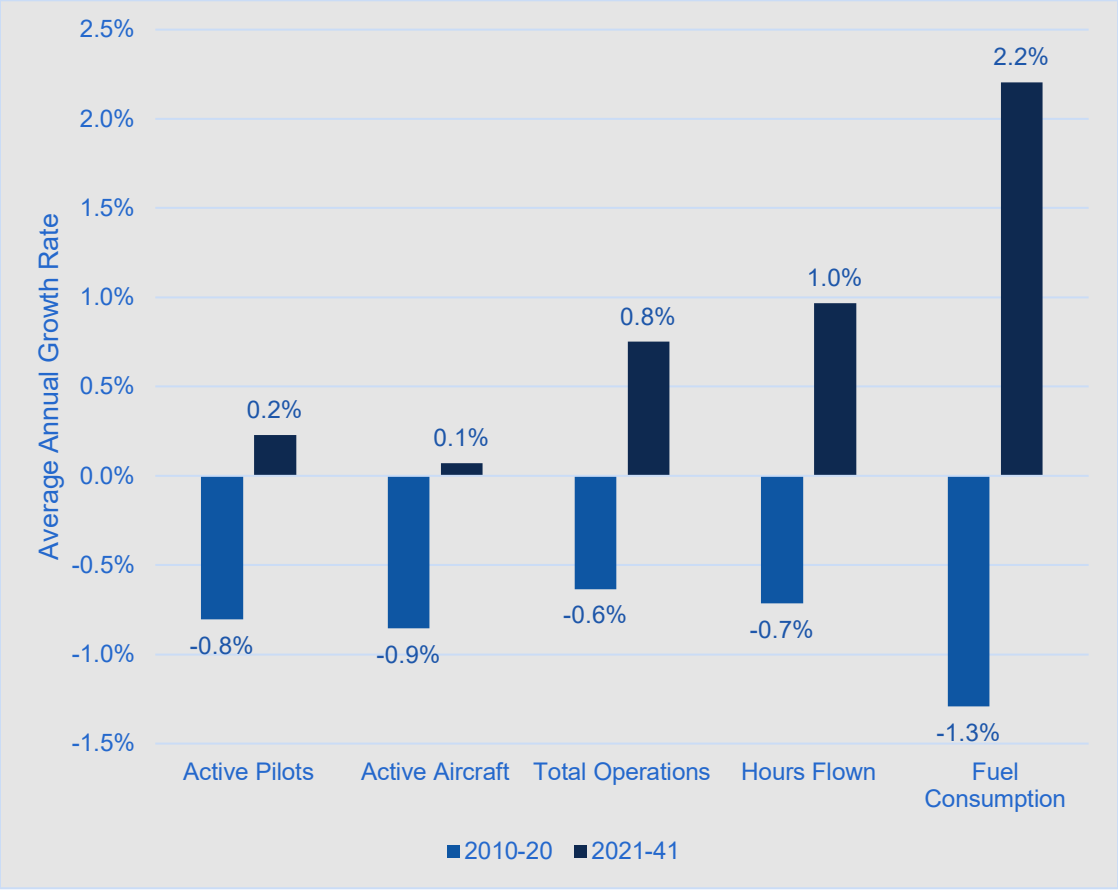
Sources: FAA Aerospace Forecast Fiscal Years 2021-2041; FAA General Aviation and Air Taxi Activity (and Avionics) Surveys 2001-2010, 2012-2018

6.3.2.3. Slight Projected Growth in GA Activity

GA activity is expected to remain relatively flat through the 2041 forecast period with a recovery largely offsetting declines due to COVID-19. This recovery was due to strong demand for pilot training and fairly consistent GA pleasure flight activity during the pandemic, which offset the reduction in corporate business travel on GA aircraft. **Figure 6-13** displays the historic and projected GA activity by type from 2010 to 2041.

The total number of active pilots in all categories, except for student pilots, is forecast by the FAA to increase by 0.2 percent on average each year between 2021 and 2041. Total GA hours flown are forecast to increase by an average of 1.0 percent per year between 2021 and 2041. Total GA fuel consumption is forecast to increase by an average of 2.2 percent per year between 2021 and 2041.

Figure 6-13: Historic and Projected GA Activity by Type, 2010-2041



Sources: FAA U.S. Civil Airmen Statistics; FAA General Aviation and Air Taxi Activity (and Avionics) Surveys 2001-2010, 2012-2018; FAA Air Traffic Activity; FAA Aerospace Forecast Fiscal Years 2021-2041

6.4. Nevada Commercial Service Activity

6.4.1. Historical and Current Commercial Service Activity

To determine future demand forecasts for commercial service in Nevada, it is important to examine historical and current contexts of commercial service airport activity across the state. While individual airports report their activity data and conduct their own forecasts, the FAA's Terminal Area Forecast (TAF) from 2019 was used as a consistent baseline for all historical commercial service data and anticipated levels of future activity. The TAF was also used because the FAA compares all forecasts to the TAF as part of its approval process.

6.4.1.1. Enplanements

Enplaned passenger activity for the past eight years for Nevada's commercial service airports is shown in **Table 6-9**. Considering the inclusion of 2020, which was significantly impacted by the COVID-19 pandemic, all commercial service airports experienced a decline from 2013 through 2020, with the largest declines at Harry Reid International (LAS) and Reno/Tahoe International (RNO) in terms of actual enplanements and all others experiencing higher CAGRs. Moreover, the 2020 data presented in the FAA TAF 2020 presents estimates for the number of enplanements and actual enplanements in 2020 could be lower than is presented in **Table 6-9**.

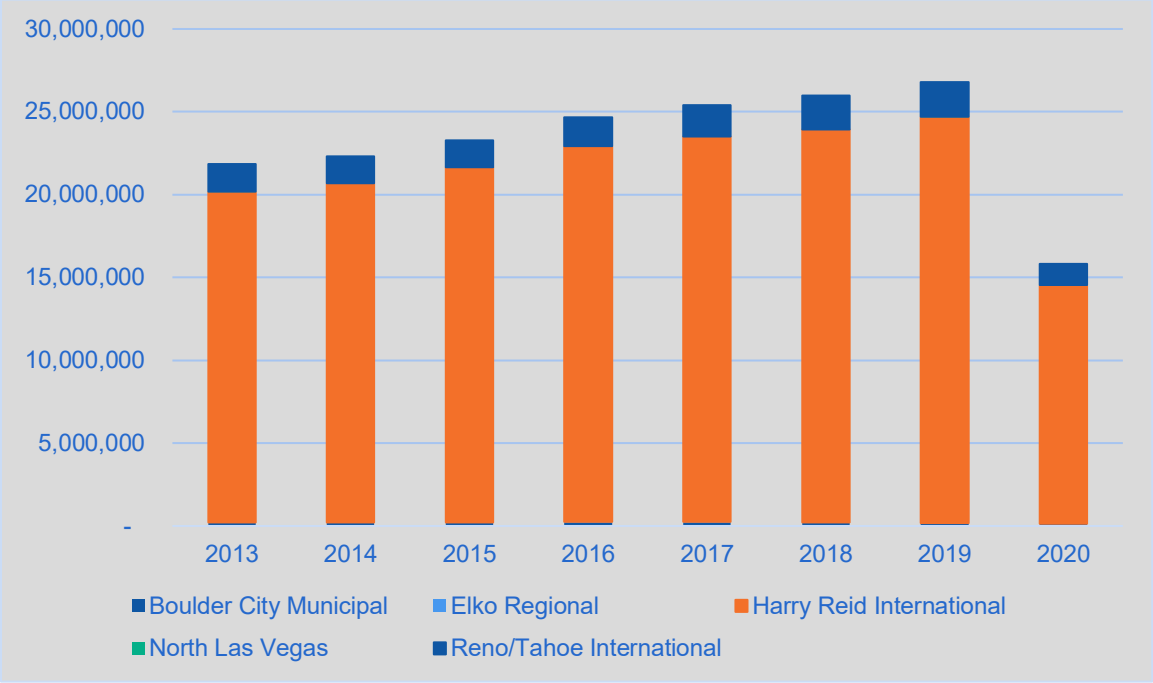
Table 6-9: Recent Enplanements at Nevada Airports, 2013-2019

Year	Boulder City Municipal (BVU)	Elko Regional (EKO)	Harry Reid International (LAS)	North Las Vegas (VGT)	Reno/Tahoe International (RNO)
2013	208,272	19,908	19,905,723	39,822	1,683,734
2014	212,588	18,508	20,434,421	31,443	1,609,833
2015	204,586	14,563	21,418,543	19,217	1,627,701
2016	218,657	14,270	22,668,615	15,908	1,752,668
2017	222,493	16,745	23,261,511	3	1,907,676
2018	206,692	17,901	23,709,855	6,516	2,030,158
2019	166,939	19,896	24,484,394	16,276	2,119,274
2020 (est.)	121,772	12,265	14,391,587	16,280	1,269,829
CAGR (2013 – 2020)	-6.5%	-5.9%	-4.0%	-10.6%	-3.5%

Source: FAA TAF 2020

As shown in **Figure 6-14**, approximately 91 percent of enplanements take place at LAS, the highest amount of any Nevada airport by far. RNO accounts for 8 percent, while the rest of the commercial service airports make up a fraction of state's annual enplanements.

Figure 6-14: Enplanement Growth by Nevada Commercial Service Airport, 2015-2020



Source: FAA TAF 2020

Nevada's total share of U.S. enplanements has remained relatively steady at approximately three percent from 2010 to 2019 as shown in **Table 6-10** and prior to the 2020 pandemic.

Table 6-10: Nevada Share of U.S. Enplanements, 2010-2019

Year	Nevada	U.S.	Nevada's Share of U.S.	Growth Rates (Year to Year)	
				Nevada	U.S.
2010	21,063,497	703,821,932	2.99%		
2011	21,783,661	723,885,332	3.01%	3.42%	2.85%
2012	22,001,361	732,042,443	3.01%	1.00%	1.13%
2013	21,857,459	735,534,910	2.97%	-0.65%	0.48%
2014	22,306,793	754,590,349	2.96%	2.06%	2.59%
2015	23,284,610	787,503,557	2.96%	4.38%	4.36%
2016	24,670,118	823,735,195	2.99%	5.95%	4.60%
2017	25,408,428	847,828,120	3.00%	2.99%	2.92%
2018	25,971,122	889,409,769	2.92%	2.21%	4.90%
2019	26,806,779	925,237,899	2.90%	3.22%	4.03%
2020 (est.)	15,811,733	515,146,861	3.07%	-41.02%	-44.32%

Source: FAA TAF 2020

6.4.1.2. Based Aircraft

A based aircraft is an aircraft that is operational and airworthy, which is typically based or stored at a specific airport for a majority of the year. While the FAA validates the number of based aircraft at each non-primary NPIAS airport through the FAA's National Based Aircraft Inventory Program, explained further in **Section 6.5.1.1**, it does not require primary airports to utilize this system. As such, for the NAHSP, the number of based aircraft listed in the FAA's TAF was utilized for the commercial service airports. As shown in **Table 6-11**, there are a total of 1,140 based aircraft at the five Nevada commercial service airports.

Table 6-11: 2020 Nevada Commercial Service Airport Based Aircraft

Associated City	Airport Name	FAA ID	2019 Based Aircraft
Boulder City	Boulder City Municipal	BVU	240
Elko	Elko Regional	EKO	77
Las Vegas	Harry Reid International	LAS	110
Las Vegas	North Las Vegas	VGT	552
Reno	Reno/Tahoe International	RNO	161
Total Statewide Based Aircraft at Commercial Service Airports			**1,166**

Source: FAA TAF 2020

6.4.1.3. Operations

Operations are defined as either a landing or takeoff occurring at an airport. For example, one takeoff and one landing together constitute two operations. For the NAHSP, the commercial operations values include both air carrier and air taxi/commuter operations as defined by the FAA:

- **Air Carrier Operations:** Airport operations performed by aircraft with seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds, carrying passengers or cargo for hire or compensation.
- **Air Taxi/Commuter Operations:** Airport operations performed by aircraft with seating capacity of 60 seats or less or a maximum payload capacity of 18,000 pounds or less, carrying passengers or cargo for hire or compensation on either a scheduled or charter basis, or on an on-demand or limited scheduled basis. Scheduled or charter basis is defined as five or more round-trip flights per week on at least one route according to published flight schedules.

Table 6-12 displays operations by type for 2020, including commercial, GA, and military, as derived from the FAA TAF 2020. It is important to note that the 2020 operations presented in the FAA TAF 2020 are considered estimates. For additional context, the total operations for 2019 presented in the FAA TAF 2020 are included in Table 6-12.

Table 6-12: 2020 Nevada Commercial Service Airport Operations by Type

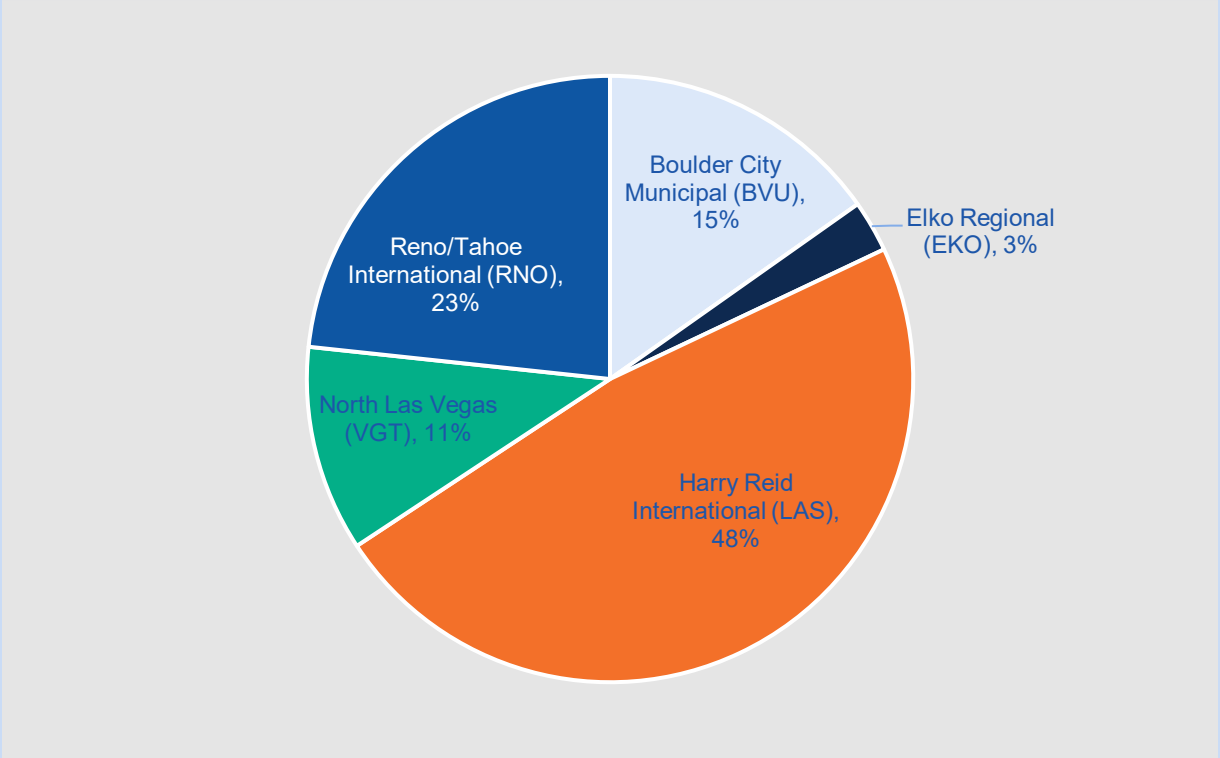
Associated City	Airport Name	FAA ID	Commercial, Air Carrier & Air Taxi	Military	Local GA	Itinerant GA	2020 Total Operations	*2019 Total Operations*
Boulder City	Boulder City Municipal	BVU	106,071	74	11,340	2,920	120,405	*120,405*
Elko	Elko Regional	EKO	6,230	135	4,944	10,460	21,769	*21,373*

Las Vegas	Harry Reid International	LAS	342,092	4,958	0	30,883	377,933	*549,098*
Las Vegas	North Las Vegas	VGT	11,538	1,607	118,344	52,906	184,395	*178,326*
Reno	Reno/Tahoe International	RNO	45,016	2,405	13,043	26,381	86,845	*99,703*
Total Statewide Commercial Service Operations by Type			**510,947**	**9,179**	**147,671**	**123,550**	**791,347**	***968,905***

Source: FAA TAF 2020

Figure 6-15 presents the market share of commercial service operations for each commercial airport in Nevada. The largest share of commercial service operations in 2020 took place at LAS at 48 percent, followed by RNO with 23 percent. The remaining 29 percent was comprised of BVU, EKO, and VGT combined.

Figure 6-15: Percent of Total Commercial Service Operations in Nevada, 2020



Source: FAA TAF 2020

6.4.2. Forecasts of Commercial Service

Estimations of future passenger enplanements, aircraft operations, and based GA aircraft at commercial service airports are presented in this section. For aircraft operations, the individual categories of Commercial, GA, and Military are examined to derive total operations forecasts for the five commercial service airports. Note that FAA TAF data for the 20-year planning horizon to 2040 were used for all commercial service forecasts in this section, with 2020 serving as the baseline year for all of these indicators at commercial service airports. While individual airports in Nevada prepare their own forecasts, historical and forecast TAF data were used to establish a uniform baseline for projections.

6.4.2.1. Enplanement Forecasts

Table 6-13 shows forecasts of enplaned passenger activity for the individual commercial service airports in Nevada. BVU and VGT are forecast to maintain consistent enplanements over the 20-year period while the remaining commercial service airports are anticipating growth over this same period of time. LAS is expected to see the most growth with a CAGR of 4.73 percent. RNO is estimated to grow at 4.16 percent annually, while EKO is estimated to experience a growth rate of 2.98 percent annually.

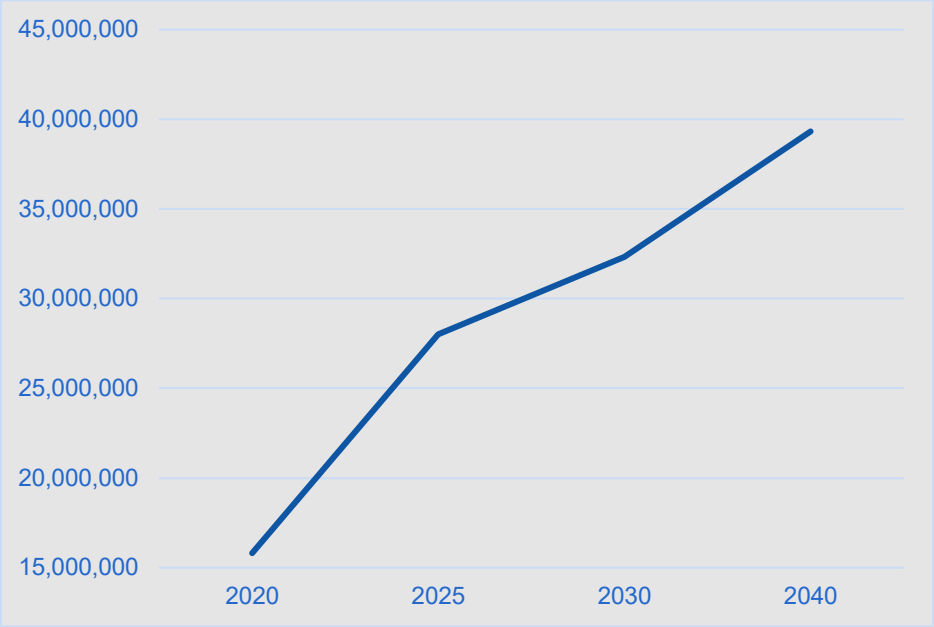
Table 6-13: Nevada Commercial Service Airport Enplanement Forecasts, 2019-2040

Associated City	Airport Name	FAA ID	Historic	Enplanements Forecast			CAGR 2019-2040
			2019	2025	2030	2040	
Boulder City	Boulder City Municipal	BVU	121,772	121,772	121,772	121,772	0.00%
Elko	Elko Regional	EKO	12,265	14,209	16,457	22,070	2.98%
Las Vegas	Harry Reid International	LAS	14,391,587	25,581,085	29,658,949	36,294,658	4.73%
Las Vegas	North Las Vegas	VGT	16,280	16,280	16,280	16,280	0.00%
Reno	Reno/Tahoe International	RNO	1,269,829	2,272,954	2,522,761	2,869,846	4.16%
Total Statewide Enplanements			15,811,733	28,006,300	32,336,219	39,324,626	4.66%

Source: FAA TAF 2019

Figure 6-16 presents the total enplanements forecast for Nevada commercial service airports through 2040. The total number of enplanements is expected to increase over the next 20 years at varying rates. Growth is estimated to be most significant between 2020 and 2025, which aligns with COVID-19 recovery returning the industry to pre-COVID levels, then growth slowing slightly, but continuing to increase from 2025 – 2040.

Figure 6-16: Statewide Commercial Service Enplanement Forecast, 2020-2040



Source: FAA TAF 2020

6.4.2.2. Based GA Aircraft Forecasts at Commercial Service Airports

Table 6-14 presents based GA aircraft projections through 2040 for the Nevada commercial service airports. In 2020 there were 1,140 based aircraft at commercial service airports which is calculated to increase by 205 up to 1,345 by 2040. Through the planning horizon BVU, LAS, and RNO are forecast to remain flat in terms of based aircraft, with a CAGR of approximately one percent at EKO and approximately one and a half percent at VGT.

Table 6-14: Based Aircraft Forecasts at Nevada Commercial Service Airports, 2020-2040

Associated City	Airport Name	FAA ID	Historic	Based Aircraft Forecast			CAGR 2019-2040
			2019	2025	2030	2040	
Boulder City	Boulder City Municipal	BVU	240	240	240	240	0.00%
Elko	Elko Regional	EKO	77	80	85	95	1.06%
Las Vegas	Harry Reid International	LAS	110	110	110	110	0.00%
Las Vegas	North Las Vegas	VGT	552	598	643	739	1.47%
Reno	Reno/Tahoe International	RNO	161	161	161	161	0.00%
Total Statewide Based Aircraft at Commercial Service Airports			1,140	1,189	1,239	1,345	0.83%

Note: Upcoming RNO development will result in additional aircraft storage that may correspond to a larger increase in based aircraft than forecast due to the existing aircraft storage waitlist. Source: FAA TAF 2020

6.4.2.3. Commercial Operations Forecasts

Table 6-15 presents commercial operations forecasts through 2040. LAS is expected to continue handling the bulk of the growth with a 3.62 percent CAGR amounting to over 354,000 added commercial

operations by 2040. RNO is expected to add over 32,000 commercial operations by 2040 with a CAGR of 2.74 percent. VGT is expected to experience similar commercial operation increases over the 20-year timeline, with a CAGR of 2.79 percent. BVU is shown to remain constant through the planning horizon, but EKO will see a marginal growth of less than one percent. Commercial operations across Nevada are calculated to grow 2.91 percent annually which would mean to an increase of commercial service operations of almost 397,000.

Table 6-15: Nevada Commercial Operations Forecasts, 2020-2040

Associated City	Airport Name	FAA ID	Historic	Commercial Operations Forecast			CAGR 2020 - 2040
			2019	2025	2030	2040	
Boulder City	Boulder City Municipal	BVU	106,071	106,074	106,071	106,071	0.00%
Elko	Elko Regional	EKO	6,230	6,476	6,746	7,362	0.84%
Las Vegas	Harry Reid International	LAS	342,092	515,694	583,948	696,983	3.62%
Las Vegas	North Las Vegas	VGT	11,538	19,996	19,996	19,996	2.79%
Reno	Reno/Tahoe International	RNO	45,016	61,727	67,963	77,294	2.74%
Total Statewide Commercial Operations			**510,947**	**709,967**	**784,724**	**907,706**	**2.91%**

**Note: Commercial service operation counts and forecast estimates utilize combined air carrier and air taxi/commuter operations*
Source: FAA TAF 2020

6.4.2.4. GA and Military Operations Forecasts at Commercial Service Airports

In addition to commercial service operations (air carrier and air taxi/commuter), commercial service airports also experience GA and military activity. GA services include personal transportation, helicopter operations, and corporate flights. Additional examples of GA activity that can utilize a commercial service airport include medical or emergency airlift, agricultural spraying, recreational flights, and natural disaster response.

Table 6-17 shows the total number of GA and military operations expected to occur at the five commercial service airports through 2040. GA operations are projected to have a CAGR of 0.40 percent resulting in a total of approximately 300,000 annual operations while military operations are projected to remain constant over the 20-year period. It should be noted that military operations are determined by national security issues and are generally unknown for the future; due to these considerations military operations are forecast to remain flat.

6.4.2.5. Total Operations at Commercial Service Airports

Table 6-16 presents forecast estimates for total operations taking place at commercial service airports. Total operations include commercial (which incorporates air carrier and air taxi/commuter categories), GA, and military operations.

Over the next 20 years, total operations at commercial service airports are calculated to experience growth. LAS is expected to have almost 371,000 more operations by 2040 and has the fastest growth rate of 3.48 percent per year. BVU experiences the slowest rate of growth at 0.42 percent annually. Overall total operations are expected to increase by 1.23 percent annually with approximately 220,000 more operations by 2040.

Table 6-16: Total Operations Forecasts at Nevada Commercial Service Airports, 2020-2040

Associated City	Airport Name	FAA ID	Historic	Total Operations Forecast			CAGR 2019-2040
			2019	2025	2030	2040	
Boulder City	Boulder City Municipal	BVU	120,405	120,408	120,405	120,405	0.00%
Elko	Elko Regional	EKO	21,769	23,891	26,275	31,939	1.94%
Las Vegas	Harry Reid International	LAS	377,933	565,537	634,468	748,908	3.48%
Las Vegas	North Las Vegas	VGT	184,395	194,697	196,560	200,348	0.42%
Reno	Reno/Tahoe International	RNO	85,845	106,385	113,049	123,254	1.82%
Total Statewide Operations at Commercial Service Airports			**791,347**	**1,010,915**	**1,090,757**	**1,010,918**	**1.23%**

Source: FAA TAF 2020

Table 6-17: GA and Military Operations Forecasts at Nevada Commercial Service Airports, 2020-2040

Associated City	Airport Name	FAA ID	Historical		Forecast GA and Military Operations						CAGR 2019-2040	
			2019		2025		2030		2040			
			GA	Military	GA	Military	GA	Military	GA	Military	GA	Military
Boulder City	Boulder City Municipal	BVU	14,260	74	14,260	74	14,260	74	14,260	74	0.00%	0.00%
Elko	Elko Regional	EKO	15,404	135	17,280	135	19,394	135	24,442	135	2.34%	0.00%
Las Vegas	Harry Reid International	LAS	30,883	4,958	44,885	4,958	45,562	4,958	46,967	4,958	2.12%	0.00%
Las Vegas	North Las Vegas	VGT	171,250	1,607	173,094	1,607	174,957	1,607	178,745	1,607	0.21%	0.00%
Reno	Reno/Tahoe International	RNO	39,424	2,405	42,253	2,405	42,681	2,405	43,555	2,405	0.50%	0.00%
Total Statewide GA and Military Operations at Commercial Service Airports			271,221	9,179	291,772	9,179	296,854	9,179	307,969	9,179	0.64%	0.00%

Source: FAA TAF 2020

6.5. Nevada General Aviation (GA) Activity

6.5.1. Historical and Current GA Activity

GA activity is the main type of activity at most of Nevada's airports, as many do not have commercial service, and most have only transient or itinerant military operations. Nevada has a long history with GA as it has provided emergency response capabilities, critical access, and economic benefits to many communities. Historic and current trends at Nevada GA airports provide insights on trends unique to the state. In turn, this helps identify characteristics that will influence future aviation activity. For the NAHSP, the FAA National Based Aircraft Inventory Program, FAA Form 5010 Airport Master Record, the 2020 FAA TAF, and the NAHSP Airport Inventory Data Collection Form[5] were utilized to collect information on based aircraft and operations at the individual airports. It should be noted that the FAA TAF only provides data for NPIAS airports, which includes only 30 of the 51 airports in the NAHSP. A list of which airports are included in the NPIAS is provided in **Table 6-18.**

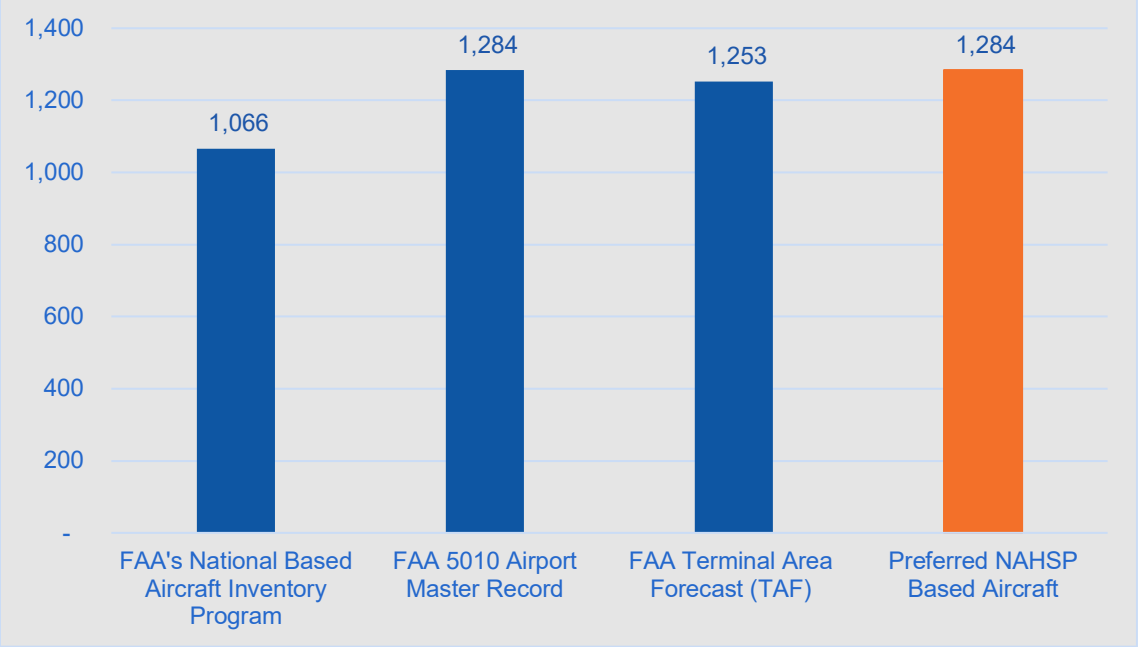
6.5.1.1. Based Aircraft

The FAA primarily collects data through the National Based Aircraft Inventory Program, also known as its website name "basedaircraft.com," to verify based aircraft counts for all Nonprimary airports in the NPIAS. Numbers submitted to the program are validated and incorporated in each airport's 5010 Master Record inspection data. These numbers are used by the FAA to determine NPIAS eligibility, allocate federal funding, and to determine system-wide improvement needs.

It is not uncommon that the number of reported based aircraft differ by source as each source has different methodologies and verification steps, and the data is collected at various times. Aircraft move from airport to airport either due to changes in residence (whether full time or just seasonal), availability of new hangars or storage facilities, aircraft being sold, etc.; therefore, the number of based aircraft varies at any point in time and while presented as representative of a single year, only truly reflect a snapshot in time of when the count was taken and recorded. As such, inventories of based aircraft were gathered from the multiple sources listed above and compared against one another to determine the most complete and accurate snapshot of based aircraft inventories at GA airports, as shown in **Figure 6-17**. **Table 6-18** shows the data for the individual airports and the final selected value used for the NAHSP.

[5] Based aircraft information was not collected on the NAHSP Airport Inventory Data Collection Form.

Figure 6-17: Total Based Aircraft at Nevada GA Airports by Source, 2020



Sources: FAA National Based Aircraft Inventory Program 2020, FAA Form 5010 Airport Master Record 2020, FAA TAF 2020

Table 6-18: Nevada GA Based Aircraft by Source

Associated City	Airport Name	FAA ID	NPIAS	FAA's National Based Aircraft Inventory Program	FAA 5010 Airport Master Record	FAA Terminal Area Forecast (TAF)	Preferred NAHSP Based Aircraft
Alamo	Alamo Landing Field	L92	Yes	1	1	1	1
Austin	Austin	TMT	Yes	5	5	4	5
Battle Mountain	Battle Mountain	BAM	Yes	4	4	3	4
Beatty	Beatty	BTY	Yes	4	5	8	5
Cal Nev Ari	Kidwell	1L4	No	0	14	0	14
Carson City	Carson	CXP	Yes	294	298	326	298
Crescent Valley	Crescent Valley	U74	No	0	0	0	0
Currant	Currant Ranch	9U7	No	0	0	0	0
Dayton/Carson City	Dayton Valley Airpark	A34	No	0	31	0	31
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	-	No	0	0	0	0
Denio	Denio Junction	E85	No	0	0	0	0
Duckwater	Duckwater	01U	No	0	0	0	0
Dyer	Dyer	2Q9	No	0	5	0	5
Ely	Ely Airport/Yelland Field	ELY	Yes	9	10	15	10
Eureka	Eureka	05U	Yes	1	1	1	1
Fallon	Fallon Muni	FLX	Yes	79	80	77	80
Fernley	Samsarg Field	N58	No	0	3	0	3
Gabbs	Gabbs	GAB	Yes	1	1	1	1
Gerlach	Black Rock City (Burning Man)	88NV	No	0	0	0	0
Goldfield	Lida Junction	0L4	No	0	0	0	0
Hawthorne	Hawthorne Industrial	HTH	Yes	5	6	7	6
Jackpot	Jackpot/Hayden Field	06U	Yes	0	0	0	0

Associated City	Airport Name	FAA ID	NPIAS	FAA's National Based Aircraft Inventory Program	FAA 5010 Airport Master Record	FAA Terminal Area Forecast (TAF)	Preferred NAHSP Based Aircraft
Jean	Jean	0L7	Yes	12	13	37	13
Kingston	Kingston	N15	No	0	4	0	4
Las Vegas	Henderson Executive	HND	Yes	253	247	219	247
Lovelock	Derby Field	LOL	Yes	2	2	2	2
Lyon County	Flying M Ranch (Hilton Ranch)	-	No	0	0	0	0
Mesquite	Mesquite	67L	Yes	7	9	14	9
Mina	Mina	3Q0	No	0	2	0	2
Minden	Minden-Tahoe	MEV	Yes	167	175	350	175
North Fork	Stevens-Crosby	08U	No	0	1	0	1
Overton	Echo Bay	0L9	No	0	0	0	0
Overton	Perkins Field	U08	Yes	1	1	12	1
Owyhee	Owyhee	10U	Yes	0	0	0	0
Pahrump	Calvada Meadows	74P	No	0	47	0	47
Panaca	Lincoln County	1L1	Yes	1	2	5	2
Reno	Reno/Stead	RTS	Yes	168	172	93	172
Reno	Spanish Springs	N86	No	0	11	0	11
Sandy Valley	Sky Ranch	3L2	No	0	79	0	79
Searchlight	Searchlight	1L3	No	0	0	0	0
Silver Springs	Silver Springs	SPZ	Yes	12	12	16	12
Smith	Rosaschi Air Park	N59	No	0	2	0	2
Tonopah	Tonopah	TPH	Yes	9	9	9	9
Wells	Wells Municipal/Harriet Field	LWL	Yes	4	4	5	4
Winnemucca	Winnemucca Municipal	WMC	Yes	10	10	29	10
Yerington	Yerington Municipal	O43	Yes	17	18	19	18

Sources: FAA National Based Aircraft Inventory Program 2020, FAA Form 5010 Airport Master Record 2020, FAA TAF 2020

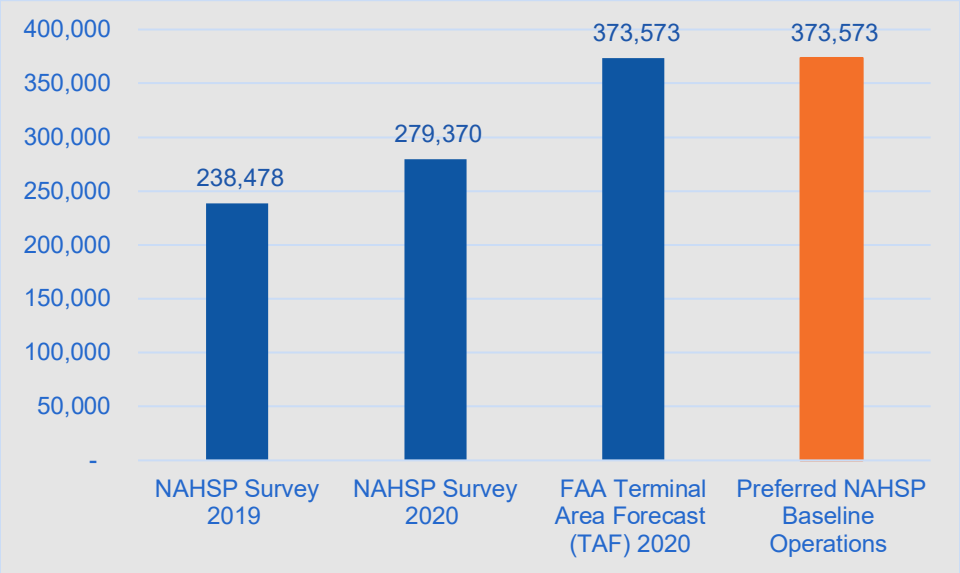
6.5.1.2. GA Operations at GA Airports

GA operations estimates for the NAHSP were gathered from the NAHSP Airport Inventory Data Collection Form (requested both 2019 and 2020) and 2020 FAA TAF to determine the most reliable assessment of the number of operations at Nevada GA airports in 2020. Most Nevada airports do not have an air traffic control tower (ATCT) or another form of monitoring equipment (e.g., visual, acoustic, or GPS-based) to track takeoffs and landings. As a result, annual aircraft operations are often estimated by these airports using methods such as average number of operations per based aircraft (OPBA), fuel sales, asking major airport tenants, or referencing local knowledge. The Nevada Department of Transportation (NDOT) has been working with local airport sponsors and alternative funding sources to provide monitoring equipment at non-towered airports to provide more reliable operations counting data.

Figure 6-18 displays the total operations counts at the GA airports as available from each source. It is difficult to compare the different sources as the FAA TAF only includes operations for NPIAS airports and only 29 of the 51 NAHSP airports were able to provide their annual operations during the inventory data collection process. **Table 6-19** shows operations for the individual NAHSP airports by source that were utilized to determine the final NAHSP operations count for 2020. In order to determine the preferred baseline NAHSP operations number, the differences between 2019 and 2020 operations from the inventory process were reviewed along with the contextual information gathered from the airport sponsors. This data was then compared against the TAF. In some cases, the data from the survey was utilized over the TAF and for other airports the TAF was utilized.

Table 6-20 displays the total baseline operations at the Nevada GA airports utilized for the NAHSP, which includes the military operations in addition to GA operations. As discussed further below, for the purposes of the NAHSP, military operations are assumed to remain constant throughout the planning period.

Figure 6-18: Nevada GA Airport Operations, 2019 and 2020



Sources: FAA TAF 2020, NAHSP Airport Inventory Data Collection Form 2021

Table 6-19: GA Operations at Nevada GA Airports by Data Source, 2020

Associated City	Airport Name	FAA ID	NPIAS	NAHSP Survey 2019 Data	NAHSP Survey 2020 Data	FAA Terminal Area Forecast (TAF) - 2020	Preferred NAHSP Baseline GA Operations
Alamo	Alamo Landing Field	L92	Yes	375	400	400	400
Austin	Austin	TMT	Yes	3,680	3,680	3,180	3,180
Battle Mountain	Battle Mountain	BAM	Yes	12,500	12,000	11,900	11,900
Beatty	Beatty	BTY	Yes	1,875	1,875	1,575	1,575
Cal Nev Ari	Kidwell	1L4	No	1,400	400	400	400
Carson City	Carson	CXP	Yes	80,000	80,000	79,900	79,900
Crescent Valley	Crescent Valley	U74	No	Not Provided	Not Provided	0	0
Currant	Currant Ranch	9U7	No	Not Provided	1,500	1,125	1,125
Dayton/Carson City	Dayton Valley Airpark	A34	No	Not Provided	Not Provided	0	0
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	-	No	Not Provided	Not Provided	0	0
Denio	Denio Junction	E85	No	180	180	180	180
Duckwater	Duckwater	01U	No	Not Provided	1,000	670	670
Dyer	Dyer	2Q9	No	Not Provided	Not Provided	0	0
Ely	Ely Airport/Yelland Field	ELY	Yes	Not Provided	Not Provided	3,246	3,246
Eureka	Eureka	05U	Yes	576	488	488	488
Fallon	Fallon Muni	FLX	Yes	6,300	6,300	6,200	6,200
Fernley	Samsarg Field	N58	No	Not Provided	Not Provided	0	0
Gabbs	Gabbs	GAB	Yes	580	580	400	400
Gerlach	Black Rock City (Burning Man)	88NV	No	Not Provided	Not Provided	0	0
Goldfield	Lida Junction	0L4	No	Not Provided	Not Provided	0	0
Hawthorne	Hawthorne Industrial	HTH	Yes	1,214	1,309	1,243	1,243
Jackpot	Jackpot/Hayden Field	06U	Yes	Not Provided	Not Provided	5,900	5,900

Associated City	Airport Name	FAA ID	NPIAS	NAHSP Survey 2019 Data	NAHSP Survey 2020 Data	FAA Terminal Area Forecast (TAF) - 2020	Preferred NAHSP Baseline GA Operations
Jean	Jean	0L7	Yes	15,000	Not Provided	15,000	15,000
Kingston	Kingston	N15	No	96	100	96	96
Las Vegas	Henderson Executive	HND	Yes	72,649	56,301	56,322	56,322
Lovelock	Derby Field	LOL	Yes	6,400	4,400	4,040	4,040
Lyon County	Flying M Ranch (Hilton Ranch)	-	No	1,000	1,000	1,000	1,000
Mesquite	Mesquite	67L	Yes	Not Provided	Not Provided	6,824	6,824
Mina	Mina	3Q0	No	Not Provided	Not Provided	0	0
Minden	Minden-Tahoe	MEV	Yes	Not Provided	Not Provided	90,200	90,200
North Fork	Stevens-Crosby	08U	No	230	230	230	230
Overton	Echo Bay	0L9	No	Not Provided	Not Provided	0	0
Overton	Perkins Field	U08	Yes	Not Provided	Not Provided	7,200	7,200
Owyhee	Owyhee	10U	Yes	Not Provided	Not Provided	960	960
Pahrump	Calvada Meadows	74P	No	1,200	1,450	1,434	1,434
Panaca	Lincoln County	1L1	Yes	380	450	450	450
Reno	Spanish Springs	N86	No	60	60	60	60
Reno	Reno/Stead	RTS	Yes	52,000	42,000	38,500	38,500
Sandy Valley	Sky Ranch	3L2	No	Not Provided	Not Provided	0	0
Searchlight	Searchlight	1L3	No	500	200	150	150
Silver Springs	Silver Springs	SPZ	Yes	12,000	13,000	11,175	11,175
Smith	Rosaschi Air Park	N59	No	Not Provided	Not Provided	0	0
Tonopah	Tonopah	TPH	Yes	7,275	7,275	6,955	6,955
Wells	Wells Municipal/Harriet Field	LWL	Yes	Not Provided	Not Provided	7,400	7,400
Winnemucca	Winnemucca Municipal	WMC	Yes	Not Provided	Not Provided	6,475	6,475
Yerington	Yerington Municipal	O43	Yes	1,900	2,300	2,295	2,295

Sources: FAA TAF 2020, NAHSP Airport Inventory Data Collection Form 2021

Table 6-20: Total Baseline Operations at Nevada GA Airports, 2020

Associated City	Airport Name	FAA ID	Baseline Operations		
			GA	Military	Total
Alamo	Alamo Landing Field	L92	400	0	400
Austin	Austin	TMT	3,180	500	3,680
Battle Mountain	Battle Mountain	BAM	11,900	100	12,000
Beatty	Beatty	BTY	1,580	300	1,880
Cal Nev Ari	Kidwell	1L4	400	0	400
Carson City	Carson	CXP	79,900	100	80,000
Crescent Valley	Crescent Valley	U74	0	0	0
Currant	Currant Ranch	9U7	1,130	380	1,500
Dayton/Carson City	Dayton Valley Airpark	A34	0	0	0
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	-	0	0	0
Denio	Denio Junction	E85	180	0	180
Duckwater	Duckwater	01U	670	330	1,000
Dyer	Dyer	2Q9	0	0	0
Ely	Ely Airport/Yelland Field	ELY	3,250	230	3,480
Eureka	Eureka	05U	490	0	490
Fallon	Fallon Muni	FLX	6,200	100	6,300
Fernley	Samsarg Field	N58	0	0	0
Gabbs	Gabbs	GAB	400	180	580
Gerlach	Black Rock City (Burning Man)	88NV	0	0	0
Goldfield	Lida Junction	0L4	0	0	0
Hawthorne	Hawthorne Industrial	HTH	1,240	70	1,310
Jackpot	Jackpot/Hayden Field	06U	5,900	400	6,300
Jean	Jean	0L7	15,000	0	15,000
Kingston	Kingston	N15	100	0	100
Las Vegas	Henderson Executive	HND	56,320	0	56,320
Lovelock	Derby Field	LOL	4,040	360	4,400
Lyon County	Flying M Ranch (Hilton Ranch)	-	1,000	0	1,000
Mesquite	Mesquite	67L	6,820	180	7,000
Mina	Mina	3Q0	0	0	0
Minden	Minden-Tahoe	MEV	90,200	300	90,500
North Fork	Stevens-Crosby	08U	230	0	230
Overton	Echo Bay	0L9	0	0	0
Overton	Perkins Field	U08	7,200	180	7,380
Owyhee	Owyhee	10U	960	400	1,360
Pahrump	Calvada Meadows	74P	1,430	20	1,450

Associated City	Airport Name	FAA ID	Baseline Operations		
			GA	Military	Total
Panaca	Lincoln County	1L1	450	0	450
Reno	Spanish Springs	N86	60	0	60
Reno	Reno/Stead	RTS	38,500	3,500	42,000
Sandy Valley	Sky Ranch	3L2	0	0	0
Searchlight	Searchlight	1L3	150	50	200
Silver Springs	Silver Springs	SPZ	11,180	1,830	13,000
Smith	Rosaschi Air Park	N59	0	0	0
Tonopah	Tonopah	TPH	6,960	320	7,280
Wells	Wells Municipal/Harriet Field	LWL	7,400	180	7,580
Winnemucca	Winnemucca Municipal	WMC	6,480	360	6,840
Yerington	Yerington Municipal	O43	2,300	10	2,300
Total Statewide Operations at GA Airports			**373,600**	**10,400**	**373,570**

Note: Operations have been rounded. Sources: FAA TAF 2020, NAHSP Airport Inventory Data Collection Form 2021

6.5.2. Forecasts of GA Activity at GA Airports

Forecasts for GA are focused on predicting based aircraft and GA operations to determine future demand over the next 20 years. Forecasts presented in this chapter are unconstrained, meaning that there are no extenuating circumstances that are anticipated to limit or restrict potential demand or operational functionality of the airports.

6.5.2.1. Forecasting Methodologies

This section describes the methodologies and associated growth rates utilized in the based aircraft and operational forecasts for GA airports. Each of the methodologies below utilize CAGR which calculates a constant rate of change over a given time period. It dampens the effect of volatility during periods that experience significant change and is essentially a “smoothed” annual growth rate. The CAGR has been applied to the 2020 base year for the 20-year planning horizon for each methodology as discussed below.

Socioeconomics

Socioeconomic characteristics provide insight to the economic health of a specific locality or region. Population, per capita personal income (PCPI), employment, Gross Regional Product (GRP), and other indicators can reflect propensity to own or operate aircraft, both in terms of based aircraft and operations. Socioeconomic data was provided by Woods and Poole Economics, Inc., an independent firm that specializes in long-term economic and demographic projections for the individual counties and the State of Nevada. The individual growth rates for 2020 to 2025, 2020 to 2030, and 2020 to 2040 were applied, with the total growth rates shown in each table. Additional information for the socioeconomics of each county and statewide are detailed in **Section 6.2.**

FAA Aerospace Forecast

The FAA’s forecast of the number of active GA and air taxi aircraft, by type of aircraft, was used to develop a CAGR for the NAHSP. The *FAA Aerospace Forecast 2021-2041* predicts the following for active aircraft:

- Standard single-engine piston aircraft will decrease at an annual rate of 1.0% through 2040.
- Multi-engine piston aircraft will decrease at an annual rate of 0.5% through 2040.
- Jet aircraft will increase at an annual rate of 1.8% through 2040.
- Helicopter aircraft will increase at an annual rate of 1.6% through 2040.
- Light sport aircraft will increase at an annual rate of 3.3% through 2040.
- Experimental aircraft will increase at an annual rate of 0.9% through 2040.

As the NAHSP forecasts for based aircraft were prepared on a statewide level as the study did not collect data containing the individual aircraft type at each airport, an average growth rate was applied to the 2020 base year. This average included a 0.06 percent growth rate from 2020 to 2025 and 2020 to 2030, and a 0.07 percent growth rate from 2020 to 2040.

For GA operations at GA airports, a growth rate of 0.75 percent was applied to all operations based on the average annual growth rate from 2021 to 2040 of total GA operations per the FAA Aerospace Forecast.

FAA Terminal Area Forecast (TAF)

The TAF is the official forecast for each airport in the NPIAS. The TAF contains forecasts for passenger enplanements, aircraft operations, and the number of based aircraft using data from the U.S. Department of Transportation (USDOT) T-100 database, Air Traffic Control Tower (ATCT) records, and FAA Master Records (Form 5010-1). The TAF is based on historical aircraft operations data, which are estimated for all non-towered airports. Only 30 NAHSP airports are included in the TAF, and of those 30 only six were forecast to have any growth within the forecast period. Additionally, only four airports in Nevada have an ATCT to accurately count operations.

6.5.2.2. Based Aircraft Forecasts at GA Airports

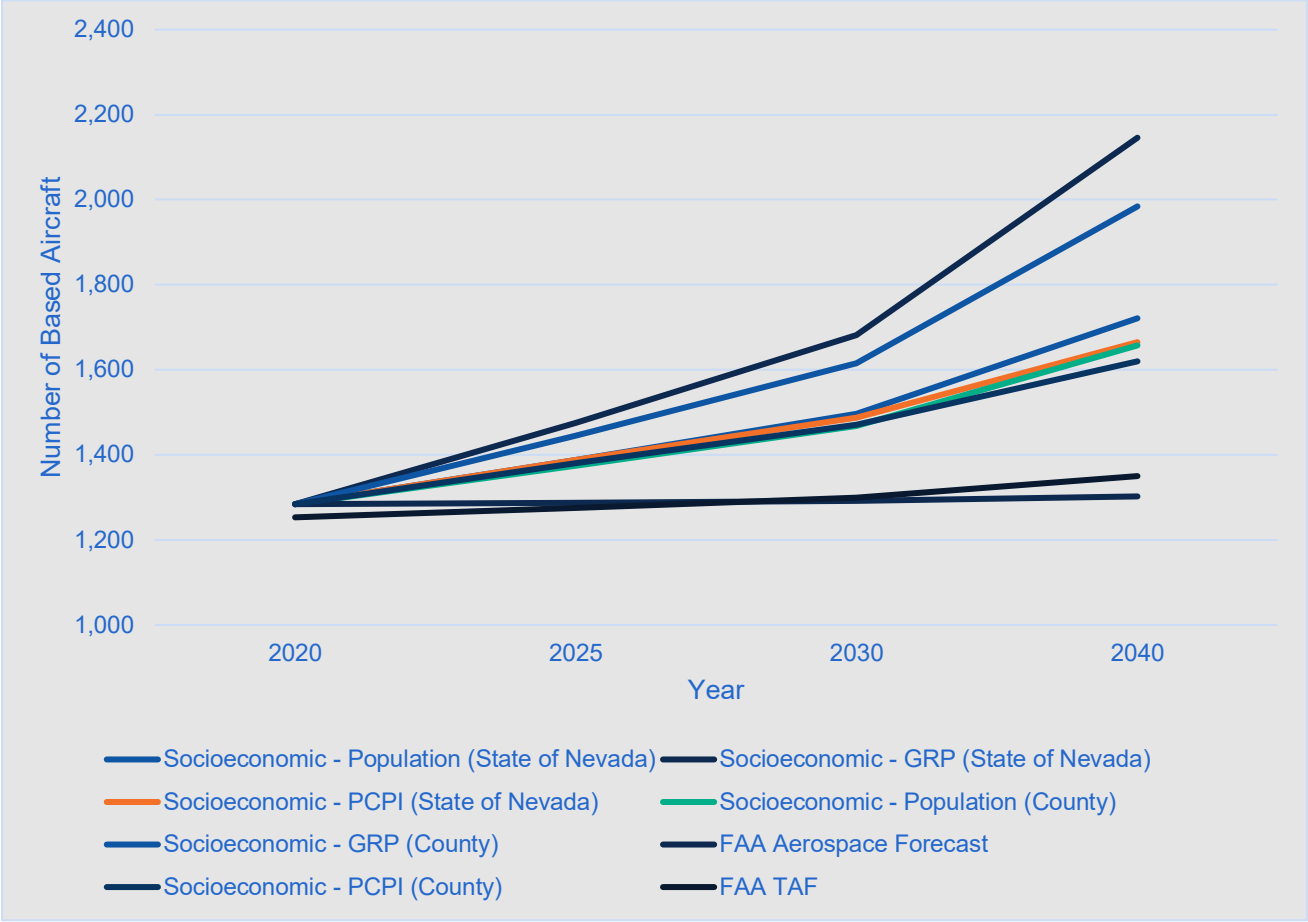
Using the methodologies discussed in **Section 6.5.2.1** resulted in a wide range of results for future based aircraft for GA airports, as shown in **Table 6-21** and **Figure 6-19.** The lowest growth resulting from the forecasts was from the FAA Aerospace Forecast methodology with only 0.07 percent growth, resulting in only 35 additional based aircraft statewide. The largest growth was from the State of Nevada GRP with 2.60 percent growth or 862 additional based aircraft. It should be noted that the TAF number is slightly different as the TAF only includes airports that are included within the FAA's NPIAS.

Table 6-21: GA Based Aircraft Results by Forecast Methodology, 2020-2040

Forecast Methodology	Historic	Forecast			CAGR 2020-2040
	2020	2025	2030	2040	
Socioeconomic - Population (State of Nevada)	1,280	1,390	1,500	1,720	1.48%
Socioeconomic - GRP (State of Nevada)	1,280	1,480	1,680	2,150	2.60%
Socioeconomic - PCPI (State of Nevada)	1,280	1,390	1,490	1,670	1.31%
Socioeconomic - Population (County)	1,280	1,370	1,470	1,660	1.28%
Socioeconomic - GRP (County)	1,280	1,440	1,620	1,980	2.20%
Socioeconomic - PCPI (County)	1,280	1,380	1,470	1,620	1.17%
FAA Aerospace Forecast	1,280	1,290	1,290	1,300	0.07%
FAA TAF	1,250	1,280	1,300	1,350	0.37%

Note: Operations have been rounded. Source: Kimley-Horn 2021

Figure 6-19: GA Based Aircraft Results by Forecast Methodology, 2020-2040



Source: Kimley-Horn 2021

The forecast results were then reviewed against historical activity and other aviation planning studies to select a preferred forecast of based aircraft methodology. Based on this review, the Socioeconomic Population by County was selected as the preferred methodology. Using the preferred methodology, Socioeconomic Population (County), based aircraft is calculated to grow at 1.28 percent CAGR from 1,280 in 2020 to 1,670 in 2040, which adds 380 aircraft to based aircraft inventory in Nevada. **Table 6-22** presents the results of the forecasts for based aircraft for the individual airports.

Table 6-22: Preferred Based Aircraft Forecasts at Nevada GA Airports, 2020-2040

Associated City	Airport Name	FAA ID	County	Historic	Forecast Based Aircraft			CAGR 2020-2040
				2020	2025	2030	2040	
Alamo	Alamo Landing Field	L92	Lincoln County	1	1	1	1	1.17%
Austin	Austin	TMT	Lander County	5	5	5	6	0.84%
Battle Mountain	Battle Mountain	BAM	Lander County	4	4	4	5	0.84%
Beatty	Beatty	BTY	Nye County	5	5	6	6	1.23%
Cal Nev Ari	Kidwell	1L4	Clark County	14	15	16	19	1.58%
Carson City	Carson	CXP	Carson City	298	320	344	391	1.37%
Crescent Valley	Crescent Valley	U74	Eureka County	0	0	0	0	1.81%
Currant	Currant Ranch	9U7	Nye County	0	0	0	0	1.23%
Dayton/Carson City	Dayton Valley Airpark	A34	Lyon County	31	33	36	40	1.30%
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	-	Washoe County	0	0	0	0	1.17%
Denio	Denio Junction	E85	Humboldt County	0	0	0	0	1.34%
Duckwater	Duckwater	01U	Nye County	0	0	0	0	1.23%
Dyer	Dyer	2Q9	Esmeralda County	5	5	5	6	0.68%
Ely	Ely Airport/Yelland Field	ELY	White Pine County	10	10	10	10	0.08%
Eureka	Eureka	05U	Eureka County	1	1	1	1	1.81%
Fallon	Fallon Muni	FLX	Churchill County	80	88	97	115	1.83%
Fernley	Samsarg Field	N58	Lyon County	3	3	3	4	1.30%
Gabbs	Gabbs	GAB	Nye County	1	1	1	1	1.23%
Gerlach	Black Rock City (Burning Man)	88NV	Washoe County	0	0	0	0	1.17%
Goldfield	Lida Junction	0L4	Esmeralda County	0	0	0	0	0.68%
Hawthorne	Hawthorne Industrial	HTH	Mineral County	6	6	6	5	-0.49%
Jackpot	Jackpot/Hayden Field	06U	Elko County	0	0	0	0	1.50%
Jean	Jean	0L7	Clark County	13	14	15	18	1.58%

Associated City	Airport Name	FAA ID	County	Historic	Forecast Based Aircraft			CAGR 2020-2040
				2020	2025	2030	2040	
Kingston	Kingston	N15	Lander County	4	4	4	5	0.84%
Las Vegas	Henderson Executive	HND	Clark County	247	268	291	338	1.58%
Lovelock	Derby Field	LOL	Pershing County	2	2	2	2	0.88%
Lyon County	Flying M Ranch (Hilton Ranch)	Flying M	Lyon County	0	0	0	0	1.30%
Mesquite	Mesquite	67L	Clark County	9	10	11	12	1.58%
Mina	Mina	3Q0	Mineral County	2	2	2	2	-0.49%
Minden	Minden-Tahoe	MEV	Douglas County	175	180	185	194	0.51%
North Fork	Stevens-Crosby	08U	Elko County	1	1	1	1	1.50%
Overton	Echo Bay	0L9	Clark County	0	0	0	0	1.58%
Overton	Perkins Field	U08	Clark County	1	1	1	1	1.58%
Owyhee	Owyhee	10U	Elko County	0	0	0	0	1.50%
Pahrump	Calvada Meadows	74P	Nye County	47	50	53	60	1.23%
Panaca	Lincoln County	1L1	Lincoln County	2	2	2	3	1.17%
Reno	Spanish Springs	N86	Washoe County	11	12	12	14	1.17%
Reno	Reno/Stead	RTS	Washoe County	172	183	195	217	1.17%
Sandy Valley	Sky Ranch	3L2	Clark County	79	86	93	108	1.58%
Searchlight	Searchlight	1L3	Clark County	0	0	0	0	1.58%
Silver Springs	Silver Springs	SPZ	Lyon County	12	13	14	16	1.30%
Smith	Rosaschi Air Park	N59	Lyon County	2	2	2	3	1.30%
Tonopah	Tonopah	TPH	Nye County	9	10	10	11	1.23%
Wells	Wells Municipal/Harriet Field	LWL	Elko County	4	4	5	5	1.50%
Winnemucca	Winnemucca Municipal	WMC	Humboldt County	10	11	12	13	1.34%
Yerington	Yerington Municipal	O43	Lyon County	18	19	21	23	1.30%
Total Statewide Based Aircraft at GA Airports				**1,284**	**1,374**	**1,468**	**1,657**	**1.19%**

Note: Upcoming RNO development will result in additional aircraft storage that may correspond to a larger increase in based aircraft than forecast due to the existing aircraft storage waitlist. Source: Kimley-Horn 2021

6.5.2.3. GA Operations Forecasts at GA Airports

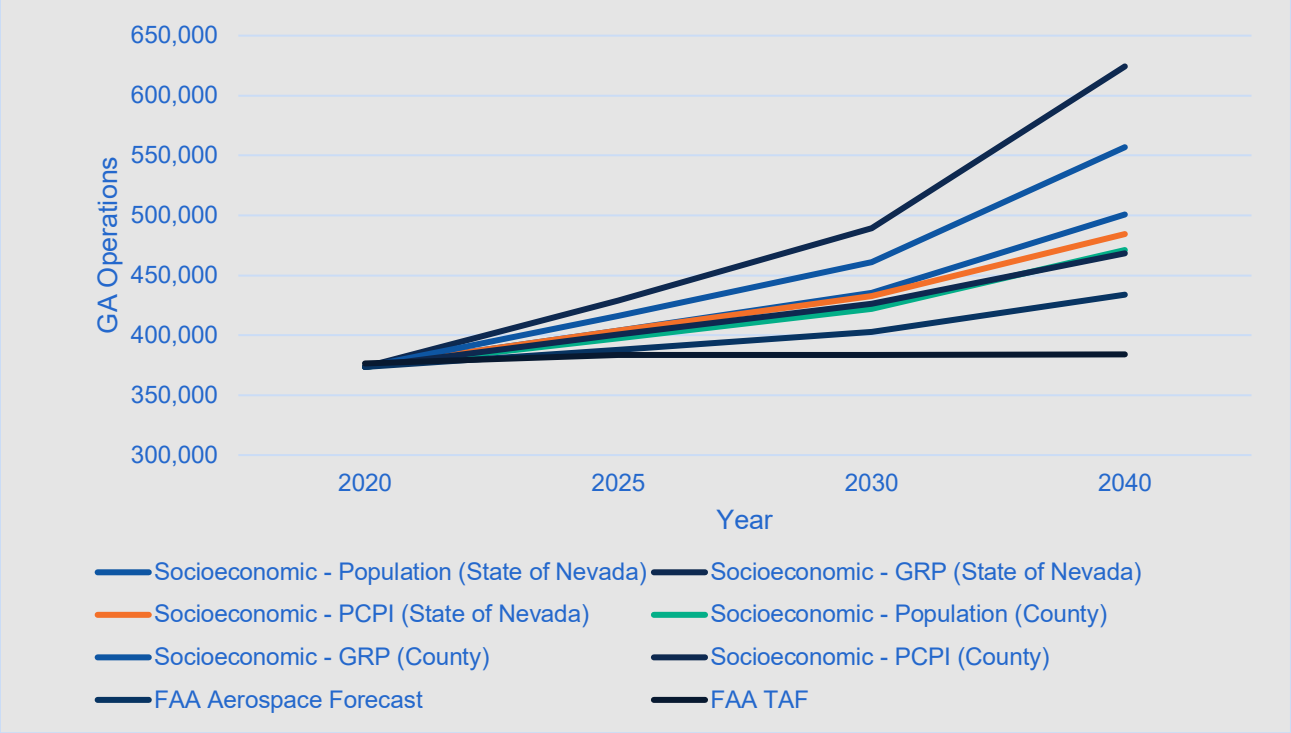
Using the methodologies discussed in 6.5.2.1 resulted in a wide range of results for future operations, as shown in **Table 6-23** and **Figure 6-20.** The lowest growth was from the FAA TAF methodology with only 0.10 percent growth, resulting in only 7,500 additional GA operations over the 20-year period. The largest growth was from the State of Nevada GRP methodology with 2.60 percent growth or 250,000 new GA operations over the next 20 years.

Table 6-23: Nevada GA Airport Operations Results by Forecast Methodology, 2020-2040

Forecast Methodology	Historic	Forecast			CAGR (2020-2040)
	2020	2025	2030	2040	
Socioeconomic - Population (State of Nevada)	373,570	403,670	435,490	500,760	1.48%
Socioeconomic - GRP (State of Nevada)	373,570	429,150	489,350	624,320	2.60%
Socioeconomic - PCPI (State of Nevada)	373,570	404,030	432,910	484,430	1.31%
Socioeconomic - Population (County)	373,570	397,400	422,180	471,100	1.17%
Socioeconomic - GRP (County)	373,570	416,390	461,150	556,910	2.02%
Socioeconomic - PCPI (County)	373,570	400,850	426,030	468,350	1.14%
FAA Aerospace Forecast	373,570	387,840	402,580	433,860	0.75%
FAA TAF	376,470	383,640	383,770	384,030	0.10%

Note: Operations have been rounded. Source: Kimley-Horn 2021

Figure 6-20: Nevada GA Airport Operations Results by Forecast Methodology, 2020-2040



Source: Kimley-Horn 2021

Similar to based aircraft, the forecast results were then reviewed against historical activity and other aviation planning studies to select a preferred forecast for GA operations. Based on this review, the Socioeconomic GRP by County was selected as the preferred methodology. Using the preferred methodology, total statewide GA operations are calculated to grow at 2.02 percent CAGR from approximately 373,500 in 2020 to 557,000 in 2040, which adds more than 183,000 total operations in Nevada across all GA airports. **Table 6-24** presents the preferred method's forecast results for GA and military operations for Nevada GA airports. For **Table 6-24**, the military operations from **Table 6-22** were added to the forecast GA operations to develop the total operations at GA airports. As noted above, military operations are forecast to remain constant throughout the planning period.

As noted in **Section 6.5.1.2**, there are several airports that did not provide operational information through the NAHSP inventory effort and are not included in the NPIAS. While it is understood operations are conducted at these airports, the NAHSP forecasts assume zero operations at these airports.

Table 6-24: Preferred Nevada GA Airport Operations Forecasts by Airport, 2020-2040

Associated City	Airport Name	FAA ID	County	Historic	Forecast Operations			CAGR 2020-2040
				2020	2025	2030	2040	
Alamo	Alamo Landing Field	L92	Lincoln County	400	440	480	560	1.70%
Austin	Austin	TMT	Lander County	3,680	4,020	4,390	5,220	1.76%
Battle Mountain	Battle Mountain	BAM	Lander County	12,000	13,260	14,640	17,770	1.98%
Beatty	Beatty	BTY	Nye County	1,880	2,060	2,270	2,730	1.90%
Cal Nev Ari	Kidwell	1L4	Clark County	400	460	530	690	2.76%
Carson City	Carson	CXP	Carson City	80,000	90,740	102,080	126,410	2.31%
Crescent Valley	Crescent Valley	U74	Eureka County	0	0	0	0	0.00%
Currant	Currant Ranch	9U7	Nye County	1,500	1,640	1,790	2,120	1.73%
Dayton/Carson City	Dayton Valley Airpark*	A34	Lyon County	0	0	0	0	0.00%
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)*	-	Washoe County	0	0	0	0	0.00%
Denio	Denio Junction	E85	Humboldt County	180	200	230	300	2.59%
Duckwater	Duckwater	01U	Nye County	1,000	1,080	1,170	1,370	1.59%
Dyer	Dyer*	2Q9	Esmeralda County	0	0	0	0	0.00%
Ely	Ely Airport/Yelland Field	ELY	White Pine County	3,480	3,660	3,840	4,170	0.91%
Eureka	Eureka	05U	Eureka County	490	560	650	850	2.81%
Fallon	Fallon Muni	FLX	Churchill County	6,300	7,230	8,250	10,600	2.64%
Fernley	Samsarg Field*	N58	Lyon County	0	0	0	0	0.00%
Gabbs	Gabbs	GAB	Nye County	580	630	680	800	1.62%
Gerlach	Black Rock City (Burning Man)*	88NV	Washoe County	0	0	0	0	0.00%
Goldfield	Lida Junction*	0L4	Esmeralda County	0	0	0	0	0.00%
Hawthorne	Hawthorne Industrial	HTH	Mineral County	1,310	1,380	1,450	1,570	0.90%
Jackpot	Jackpot/Hayden Field	06U	Elko County	6,300	7,070	7,880	9,680	2.17%
Jean	Jean	0L7	Clark County	15,000	17,400	20,030	26,000	2.79%
Kingston	Kingston	N15	Lander County	100	110	120	140	1.84%

Associated City	Airport Name	FAA ID	County	Historic	Forecast Operations			CAGR 2020-2040
				2020	2025	2030	2040	
Las Vegas	Henderson Executive	HND	Clark County	56,320	65,350	75,210	97,610	2.79%
Lovelock	Derby Field	LOL	Pershing County	4,400	4,880	5,390	6,510	1.98%
Lyon County	Flying M Ranch (Hilton Ranch)	-	Lyon County	1,000	1,110	1,220	1,450	1.88%
Mesquite	Mesquite	67L	Clark County	7,000	8,100	9,290	12,010	2.73%
Mina	Mina*	3Q0	Mineral County	0	0	0	0	0.00%
Minden	Minden-Tahoe	MEV	Douglas County	90,500	94,950	98,650	104,000	0.70%
North Fork	Stevens-Crosby	08U	Elko County	230	260	290	360	2.27%
Overton	Echo Bay*	0L9	Clark County	0	0	0	0	0.00%
Overton	Perkins Field	U08	Clark County	7,380	8,530	9,790	12,660	2.74%
Owyhee	Owyhee	10U	Elko County	1,360	1,490	1,620	1,910	1.71%
Pahrump	Calvada Meadows	74P	Nye County	1,450	1,630	1,810	2,240	2.19%
Panaca	Lincoln County	1L1	Lincoln County	450	490	540	630	1.70%
Reno	Spanish Springs	N86	Washoe County	60	70	70	90	2.05%
Reno	Reno/Stead	RTS	Washoe County	42,000	46,630	51,400	61,250	1.90%
Sandy Valley	Sky Ranch*	3L2	Clark County	0	0	0	0	0.00%
Searchlight	Searchlight	1L3	Clark County	200	220	250	310	2.22%
Silver Springs	Silver Springs	SPZ	Lyon County	13,000	14,220	15,470	18,060	1.66%
Smith	Rosaschi Air Park*	N59	Lyon County	0	0	0	0	0.00%
Tonopah	Tonopah	TPH	Nye County	7,280	8,110	9,020	11,070	2.12%
Wells	Wells Municipal/Harriet Field	LWL	Elko County	7,580	8,540	9,570	11,820	2.25%
Winnemucca	Winnemucca Municipal	WMC	Humboldt County	6,840	7,690	8,650	10,990	2.40%
Yerington	Yerington Municipal	O43	Lyon County	2,300	2,560	2,810	3,340	1.88%
Total Statewide GA Operations at GA Airports				**383,930**	**426,750**	**471,510**	**567,270**	**1.91%**

**Airport did not provide annual operations through NAHSP process. Sources: FAA TAF 2020, Kimley-Horn 2021*

6.6. Forecast Summary

The forecasts presented in this chapter are utilized as part of the determination of potential growth areas in Nevada over the next 20 years and were based on statewide trends as well as national trends that are expected to impact future aviation activity in Nevada. As shown in **Table 6-25**, the NAHSP forecasts display an increase of more than 500,000 total annual operations for a total of 1.87 million operations and 780 based aircraft for the airports within the Nevada system for a total of 3,064 based aircraft by 2040. It should be noted that this 2040 total includes NPIAS and non-NPIAS airports within the Nevada system.

Table 6-25: Total Nevada 2040 Based Aircraft and Operations Forecast

Associated City	Airport Name	FAA ID	2040 Based Aircraft Forecast	2040 Operations Forecast
Alamo	Alamo Landing Field	L92	1	560
Austin	Austin	TMT	6	5,220
Battle Mountain	Battle Mountain	BAM	5	17,770
Beatty	Beatty	BTY	6	2,730
Boulder City	Boulder City Municipal	BVU	240	120,405
Cal Nev Ari	Kidwell	1L4	19	690
Carson City	Carson	CXP	391	126,410
Crescent Valley	Crescent Valley	U74	0	0
Currant	Currant Ranch	9U7	0	2,120
Dayton/Carson City	Dayton Valley Airpark	A34	40	0
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	-	0	0
Denio	Denio Junction	E85	0	300
Duckwater	Duckwater	01U	0	1,370
Dyer	Dyer	2Q9	6	0
Elko	Elko Regional	EKO	95	31,939
Ely	Ely Airport/Yelland Field	ELY	10	4,170
Eureka	Eureka	05U	1	850
Fallon	Fallon Muni	FLX	115	10,600
Fernley	Samsarg Field	N58	4	0
Gabbs	Gabbs	GAB	1	800
Gerlach	Black Rock City (Burning Man)	88NV	0	0
Goldfield	Lida Junction	0L4	0	0
Hawthorne	Hawthorne Industrial	HTH	5	1,570
Jackpot	Jackpot/Hayden Field	06U	0	9,680
Jean	Jean	0L7	18	26,000
Kingston	Kingston	N15	5	140
Las Vegas	Henderson Executive	HND	338	97,610
Las Vegas	Harry Reid International	LAS	110	478,888

Associated City	Airport Name	FAA ID	2040 Based Aircraft Forecast	2040 Operations Forecast
Las Vegas	North Las Vegas	VGT	739	200,348
Lovelock	Derby Field	LOL	2	6,510
Lyon County	Flying M Ranch (Hilton Ranch)	-	0	1,450
Mesquite	Mesquite	67L	12	12,010
Mina	Mina	3Q0	2	0
Minden	Minden-Tahoe	MEV	194	104,000
North Fork	Stevens-Crosby	08U	1	360
Overton	Echo Bay	0L9	0	0
Overton	Perkins Field	U08	1	12,660
Owyhee	Owyhee	10U	0	1,910
Pahrump	Calvada Meadows	74P	60	2,240
Panaca	Lincoln County	1L1	3	630
Reno	Spanish Springs	N86	14	90
Reno	Reno/Stead	RTS	217	61,250
Reno	Reno/Tahoe International	RNO	161	123,254
Sandy Valley	Sky Ranch	3L2	108	0
Searchlight	Searchlight	1L3	0	310
Silver Springs	Silver Springs	SPZ	16	18,060
Smith	Rosaschi Air Park	N59	3	0
Tonopah	Tonopah	TPH	11	11,070
Wells	Wells Municipal/Harriet Field	LWL	5	11,820
Winnemucca	Winnemucca Municipal	WMC	13	10,990
Yerington	Yerington Municipal	O43	23	3,340
Total Statewide 2040 Forecast Based Aircraft and Operations			**3,064**	**1,866,375**

Note: Upcoming RNO development will result in additional aircraft storage that may correspond to a more significant increase in based aircraft due to the existing aircraft storage waitlist. Sources: FAA TAF 2020, Kimley-Horn 2021

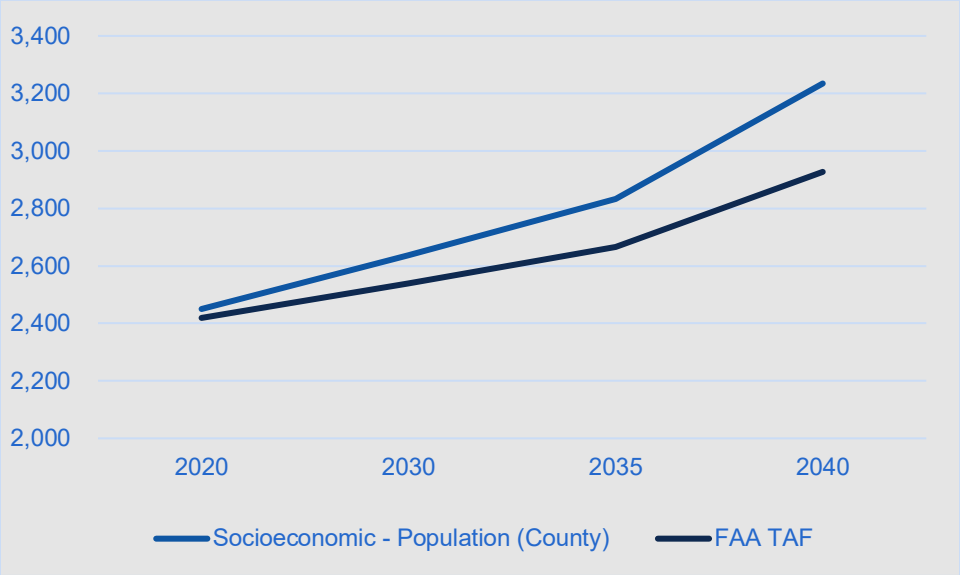
6.6.1. TAF Comparison

Preferred forecasts are required to be compared to the FAA TAF. Note that only NPIAS airports are included in the TAF, meaning that only forecasts for these airports are subject to FAA acceptance. As a result, based aircraft and operations forecasts for the NPIAS airports were reviewed to draw a more accurate comparison between the forecast sources.

Figure 6-21 presents findings from the NAHSP and compares them to TAF projections for based aircraft through the year 2040. For the base year, the NAHSP based aircraft forecast is one percent different, growing to approximately 11 percent different by 2040. **Figure 6-22** presents findings from the NAHSP and compares them to TAF projections for based aircraft through the year 2040. For the 2020 base year,

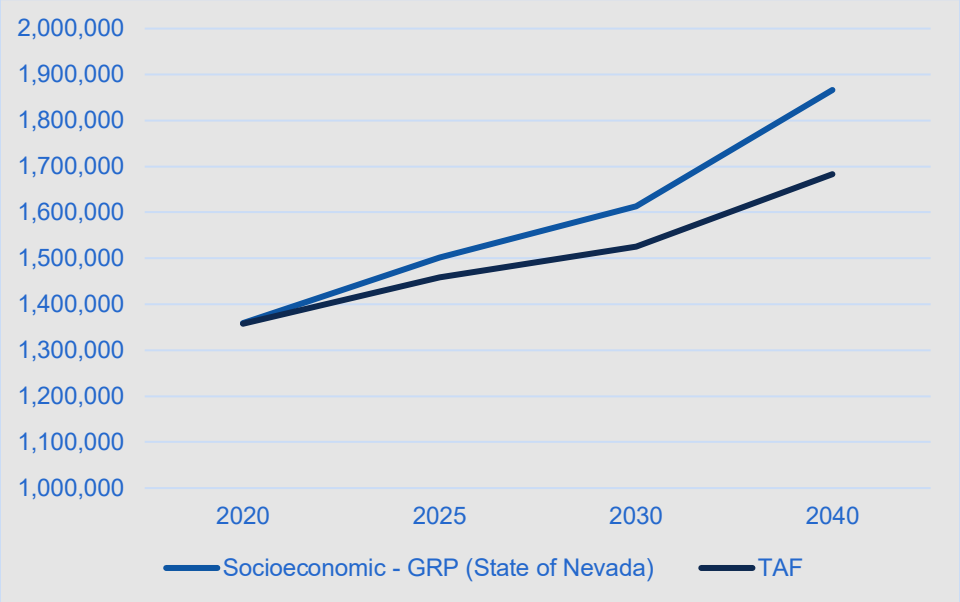
the NAHSP operations forecast is less than one percent different, growing to approximately 11 percent different by 2040.

Figure 6-21: NAHSP and FAA TAF Based Aircraft Forecasts, NPIAS Airports Only, 2020-2040



Sources: 2020 FAA TAF (GA Airports), Kimley-Horn 2021

Figure 6-22: NAHSP and FAA TAF Operations Forecasts, NPIAS Airports Only, 2019-2040



Sources: 2020 FAA TAF (GA Airports), Kimley-Horn 2021

Chapter 7. Existing and Future System Performance

7.1. Introduction

Evaluating system performance of the Nevada airport system is a multi-pronged effort that identified performance at an airport level, classification level, and from a systemwide perspective. System performance is broken out into three distinct efforts: Airport Regional Value (ARV) assessment, Facility and Service Objective (FSO) evaluation, and performance measure (PM) analyses. ARV is a broader concept employed in the Nevada Airport and Heliport System Plan (NAHSP) specifically for airports included in the Federal Aviation Administration's (FAA's) National Plan of Integrated Airport Systems (NPIAS). The ARV assessment for NPIAS airports includes identification of each airport's value rating variables (VRVs), as presented in this chapter, as well as combining the VRV summary report with economic impact data and an estimation of the replacement value for existing airport facilities. More information about ARV and its broader application to the NAHSP is available in **Chapter 5. Airport Regional Value**.

For the non-NPIAS airports, an analysis of FSOs is used to evaluate each airport's facility and service needs. FSOs provide guidance on the minimum level of facilities or services an airport should have in order to meet the needs of their role within the statewide aviation system. Detailed individual airport VRV or FSO results are presented in **Appendix A. Individual Airport Reports**. The VRV and FSO results in the following sections of this chapter represent a high-level summary of findings and present results at the airport classification and systemwide level.

The third component of establishing system performance is PM analyses. PMs were identified at the onset of the project and align with the NAHSP goals. **Chapter 1. System Goals and Performance Measures** provides more information about the NAHSP goals and PMs. The results of the PM analyses are organized by goal and presented by airport classification and at the systemwide level.

The PM analysis includes an examination of existing performance as well as identifying future performance targets that indicate a recommended level of performance the system should strive to achieve over the planning horizon. In general, future performance targets are only established for PMs that can be influenced or impacted by NDOT Aviation Program policies or funding. Identifying future performance targets not only identifies the gap between current and recommended future performance, but also helps to identify project and policy recommendations, that when implemented, move the needle toward reaching NAHSP goals. Specific project recommendations established from this assessment are presented in **Chapter 8. Project Recommendations and Cost Estimates**.

It is important to identify system performance via VRV, FSO, and PM analyses because, together, the results of these distinct assessments provide a broad understanding of how Nevada airports are performing at the local, regional, and statewide level. Moreover, determining a baseline understanding of system performance can lead to identifying important trends across classifications or geographical regions in the state. Determining system performance is critical in making data-driven decisions regarding project and policy recommendations and implementation.

The chapter presents system performance in the following order:

- Value Rating Variables (VRVs) Results
- Facility and Service Objectives (FSO) Summary Results
- Performance Measure (PM) Analysis Results
- Summary

7.2. Value Rating Variables (VRVs) Results

As mentioned, the VRV evaluation stems from the broader ARV component of the NAHSP that, in addition to determining an airport's performance using a comprehensive set of variables, also identifies an airport's economic impact and replacement value. **Chapter 9. Airport Economic Impact** provides more detail about an airport's economic impact and **Appendix B. Airport Replacement Values** provides detail about an airport's replacement value and the methodology used for this analysis. The VRV analysis is broken down into six variable categories that focus on a specific component of an airport's ability to serve users now and into the future. The VRV categories include Regional Significance, Airport Facilities, Airport Protection, Airport Access, Airport Expandability, and Community Involvement.

Within each category is a set of VRVs, which are individual variables that provide a means to compare airports against an established set of criteria. Using the methodology detailed in **Chapter 5. Airport Regional Value,** airports are assigned a score based on their existing conditions for each VRV within the VRV categories. When summed, the scores of each VRV category comprise the airport's overall VRV score and each NPIAS airport has a total VRV score. This score helps airports identify needs and identify other areas where improvement could positively impact their airport's performance. In order to present a high-level understanding of how the statewide system scored within each VRV factor, the following subsections summarize VRV analysis results by identifying the high and low range and average scores across each VRV category by NAHSP role.

As mentioned, the VRV evaluation relates to NPIAS airports only and there are 30 NPIAS airports included within the 51 NAHSP airports, which means there are 21 non-NPIAS airports.

Table 7-1 provides a breakdown of NPIAS and non-NPIAS airports by NAHSP role. This information provides important context for the VRV results presented in this chapter.

Table 7-1: Breakdown of NPIAS and Non-NPIAS NAHSP Airports

NAHSP Role	Number of NPIAS Airports	Number of Non-NPIAS Airports
Primary	4	0
National	2	0
Regional	3	0
General	18	0
Access	3	10
Backcountry	0	9
Special Event	0	2
Total	**30**	**21**

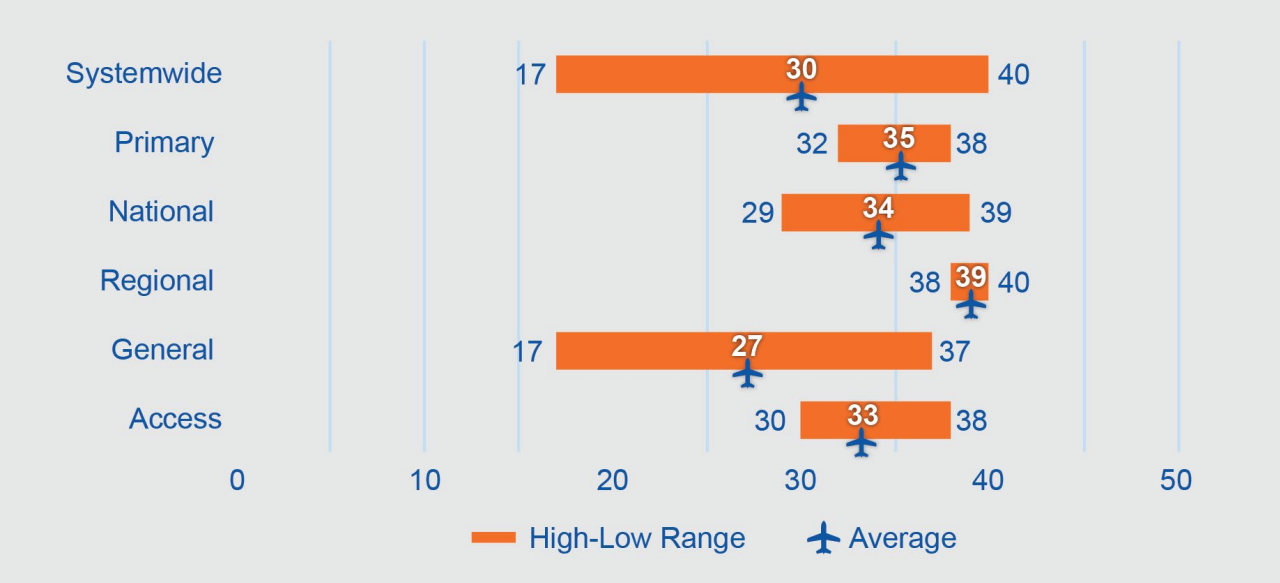
Source: Kimley-Horn 2021

7.2.1. Regional Significance VRV

The Regional Significance VRV category highlights the importance that an aviation facility has within its area and community given other nearby aviation facilities and its ability to serve expected aviation demand through its infrastructure and services. For this reason, the Regional Significance category evaluates a mix of airfield facilities, including runways, covered aircraft storage, and instrument approach, as well as other factors such as airport ownership, airport uses, and more.

As shown in **Figure 7-1**, the Regional airports have the highest score in the regional significance category, with an average score of 39 and a high – low score range of 38 to 40. The maximum score possible to achieve for this category is 45 points. The General airports scored the lowest in the Regional Significance category, with an average score of 27 and a high – low range of 17 to 37. Overall, the system scored an average of 30 in the Regional Significance category, with a high – low score range of 17-40. The lowest scoring VRV in the Regional Significance category is the Aircraft Maintenance VRV, with the most frequent score for all airports (also called a mode score) being 0 out of 5. The highest scoring VRV in the Regional Significance category is the Airport Ownership, with a mode score of 5 out of 5. For more detail regarding the individual VRVs for Regional Significance see **Section 5.3.1**. For information regarding individual airport scoring in this VRV category see **Appendix A. Individual Airport Reports**.

Figure 7-1: Regional Significance VRV Scores



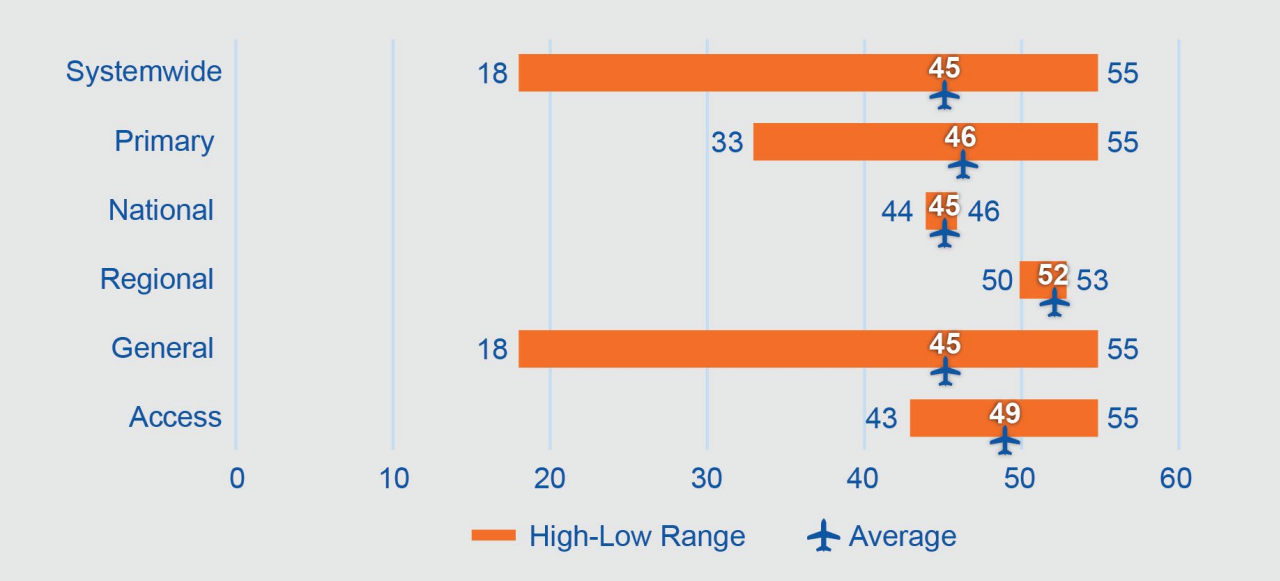
Source: Kimley-Horn 2021

7.2.2. Airport Facilities VRV

The Airport Facilities VRV category highlights the type and condition of a facility's pavement, buildings, services, and equipment for navigation and weather reporting. For this reason, the Airport Facilities category looks at a mix of airfield facilities, including runway surface and pavement condition, runway lighting, fencing, and more.

As shown in **Figure 7-2**, the Access airports have the highest average score in the Airport Facilities VRV category, with a score of 55 out of a potential 55 points. In terms of score ranges, Primary, General, and Access airports all have a maximum score of 55, with the low scores of 33,18, and 43 respectively. Overall, the system scored an average of 45 in the Airport Facilities category, with a high – low score range of 18 to 55. The lowest scoring VRV in the Airport Facilities category is the Weather Reporting VRV, with a mode score of 0 out of 5. The highest scoring VRV in the Airport Facilities category is the Security/Wildlife Fencing VRV, with a mode score of 5 out of 5. For more detail regarding the individual VRVs for Airport Facilities see **Section 5.3.2.**

Figure 7-2: Airport Facilities VRV Scores



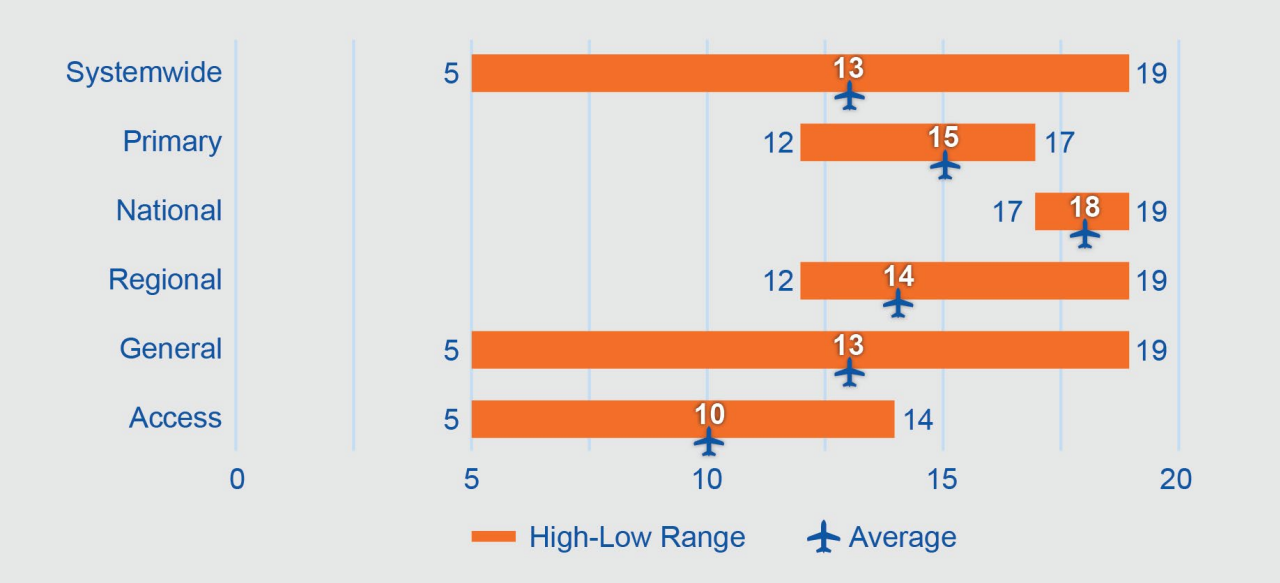
Source: Kimley-Horn 2021

7.2.3. Airport Protection VRV

The Airport Protection VRV category highlights the safety areas and airspace around a facility that identify existing and potential for new penetrations, obstructions, and restrictions that could impact the safety of aircraft operations. For this reason, the Airport Protection category looks at a variety of factors, including height hazard zoning, airspace restrictions, land use compatibility, and more.

As shown in **Figure 7-3**, the National airports have the highest average score in the Airport Protection category, with an average score of 18 and a high – low score range of 17 to 19 out of 25 potential total points. The Access airports have the lowest average score in the Airport Protection category, with an average score of 10 and a high – low range of 5 to 14. Overall, the system scored an average of 13 in the Airport Protection category, with a high – low score range of 5 to 19. The lowest scoring VRV in the Airport Protection category is the Height Hazard Zoning VRV, with a mode score of 0 out of 5. The highest scoring VRV in the Airport Protection category is the Obstruction Mitigation VRV, with a mode score of 3 out of 5. For more detail regarding the individual VRVs evaluated for Airport Protection see **Section 5.3.3**.

Figure 7-3: Airport Protection VRV Scores



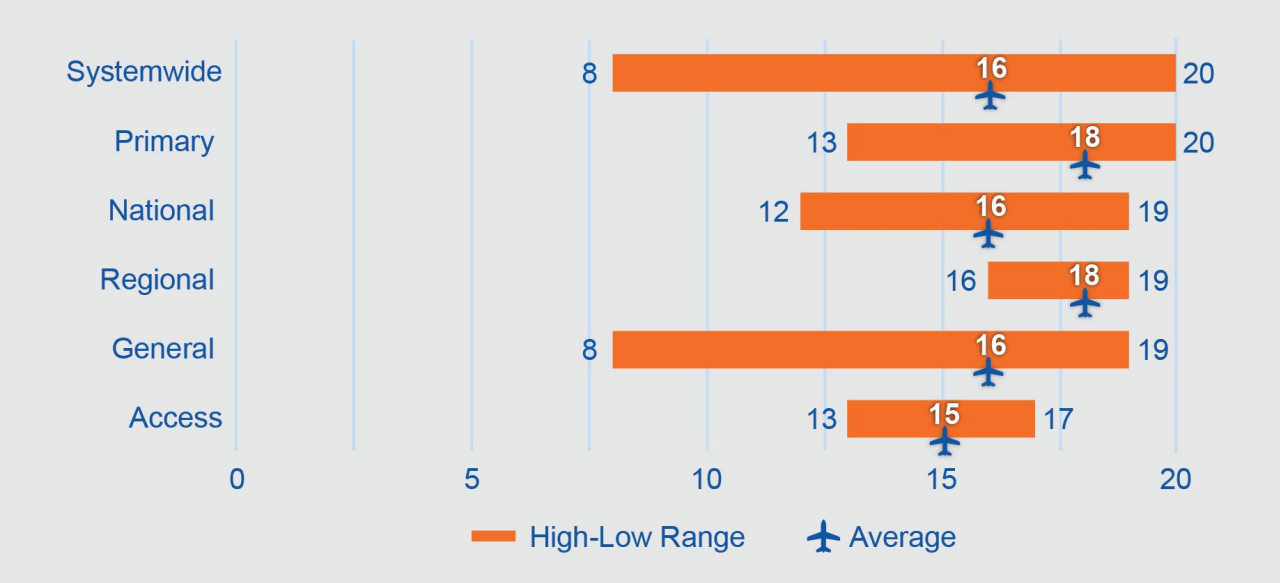
Source: Kimley-Horn 2021

7.2.4. Airport Access VRV

The Airport Access VRV category highlights the ability for users to travel to and from a given facility using several types of roadways and local transportation methods, as well as the proximity of the closest downtown area. For this reason, the Airport Access category looks at a variety of factors, including ground transportation services, as well as community, local, and regional access.

As shown in **Figure 7-4**, the Primary and Regional airports have the highest average score in the Airport Access category, with an average score of 18 and high – low score ranges of 13 to 20 and 16 to 19, respectively. The maximum score possible to achieve for this category is 20 points. The Access airports have the lowest average score in the Airport Access category, with an average score of 15, while General airports have the lowest high – low range, with scores of 8 to 19. Overall, the system scored an average of 16 in the Airport Access category, with a high – low score range of 8 to 20. The lowest scoring VRV in the Airport Access category is the Ground Transportation Services VRV, with a mode score of 3 out of 5. The highest scoring VRV in the Airport Access category is the Regional Access VRV, with a mode score of 5 out of 5. For more detail regarding the individual VRVs evaluated in the Airport Access category see **Section 5.3.4**.

Figure 7-4: Airport Access VRV Results



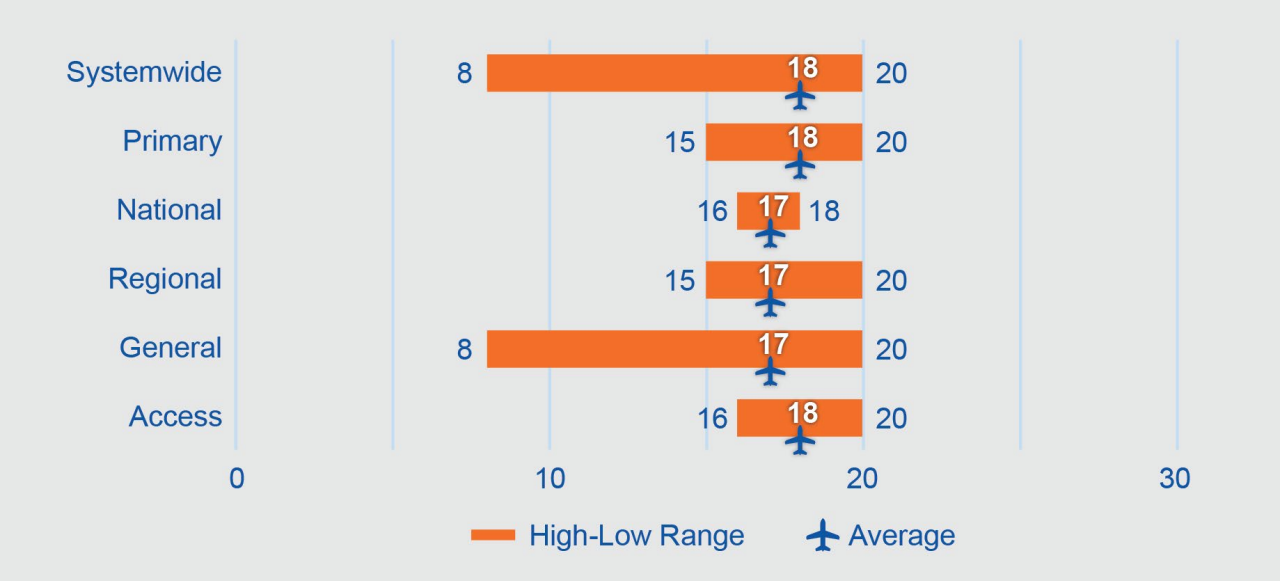
Source: Kimley-Horn 2021

7.2.5. Airport Expandability VRV

The Airport Expandability VRV category highlights the ability for a facility to expand given its existing aviation and non-aviation uses. For this reason, the Airport Expandability category looks at a variety of factors, including surplus property, total airport acreage, land use types, and more.

As shown in **Figure 7-5**, Primary and Access airports have the highest average score in the Airport Expandability category, with an average score of 18 and a high – low score ranges between 15 to 20 and 16 to 20, respectively. The maximum score possible to achieve for this category is 20 points. The National, Regional, and General airports all have an average score of 17. Overall, the system scored an average of 18 in the Airport Expandability category, with a high – low score range of 8 to 20. The lowest scoring VRV in the Airport Expandability category is the Airfield Expandability VRV, with a mode score of 1 out of 5. The highest scoring VRV in the Airport Expandability category is the Airfield and Aeronautical Property VRV, with a mode score of 5 out of 5. For more detail regarding the individual VRVs evaluated for Airport Expandability see **Section 5.3.5**.

Figure 7-5: Airport Expandability VRV Results



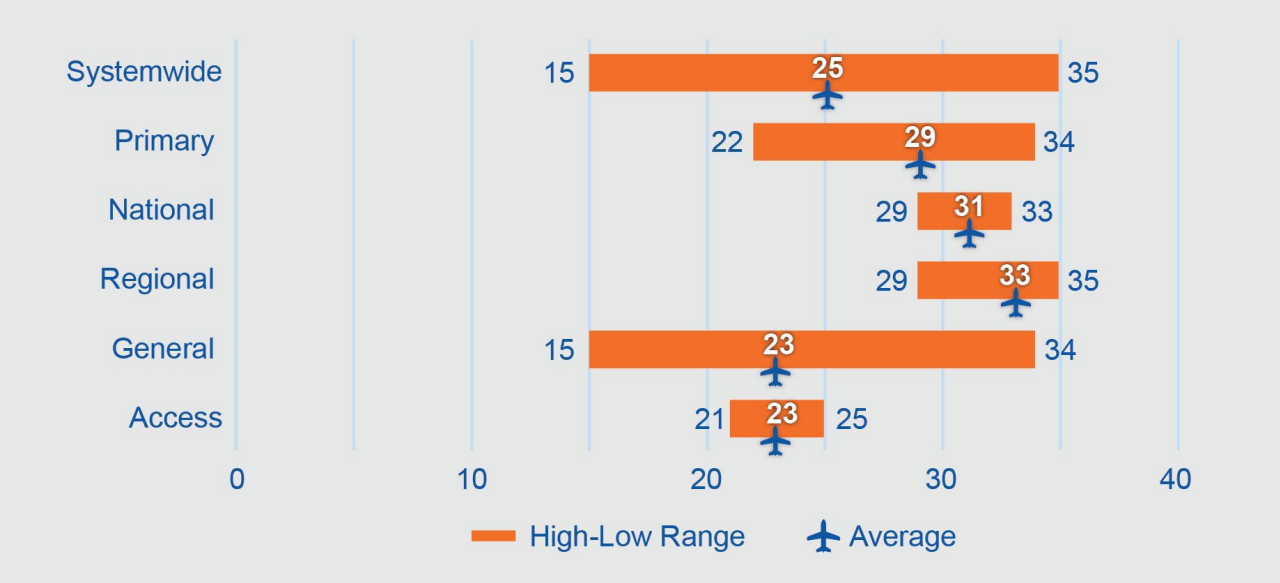
Source: Kimley-Horn 2021

7.2.6. Community Commitment VRV

The Community Commitment VRV category highlights the extent that a facility receives political, financial, and social support from its governing authority and community. For this reason, the Community Commitment category looks at a variety of factors, including airport planning documents, airport management, funding opportunities, and more.

As shown in **Figure 7-6**, the Regional airports have the highest score in the Community Commitment category, with an average score of 33 and a high – low score range of between 29 to 35, with 35 points being the maximum potential score. The General and Access airports have the lowest average scores in the Community Commitment category, with an average score of 23, and high – low ranges of 15 to 34 and 21 to 25, respectively. Overall, the system scored an average of 25 in the Community Commitment category, with a high – low score range of 15 to 35. The lowest scoring VRV in the Community Commitment category is the Economic Development Partnership VRV, with a mode score of 0 out of 5. The highest scoring VRV in the Community Commitment category is the Airport Capital Improvement Program (ACIP) VRV, with a mode score of 5 out of 5. For more detail regarding the individual VRVs evaluated for Community Commitment see **Section 5.3.6**.

Figure 7-6: Community Commitment VRV Results

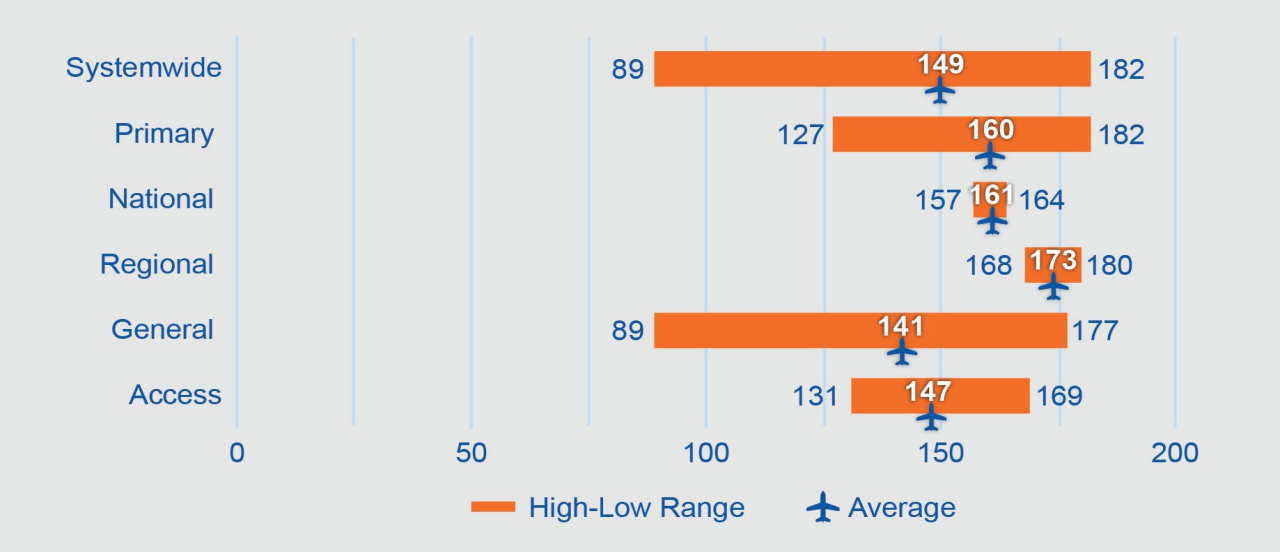


Source: Kimley-Horn 2021

7.2.7. Total VRV Results

Figure 7-7 presents the average and range of VRV scores across all VRV categories and by airport role. As shown, Regional airports have the highest average VRV score compared to other roles, with an average score of 173 out of a maximum potential score of 200. While Regional airports score the highest in terms of average score, when looking at the high – low score ranges, the Primary airports have the highest scoring airport and the largest range of scores with a range of 127-182. The average score at the systemwide level is 149.

Figure 7-7: Total VRV Results



Source: Kimley-Horn 2021

7.3. Facility and Service Objectives (FSO) Summary Results

FSOs were developed for the NAHSP as a way to evaluate non-NPIAS airports in a similar fashion to the VRV assessment for NPIAS airports, while ensuring that the evaluation is context specific to non-NPIAS facilities. The FSO evaluation is a pared down version of the VRV assessment that evaluates airports within the same categories but only looks at facilities or services that are within the airport's ability to control. The following sub-sections present the summary results from the FSO analysis by category. The summary results present information at the classification and systemwide level. **Appendix A. Individual Airport Reports** presents the airport-level findings from the FSO analysis. More information about the FSO analysis methodology and evaluation is presented in **Chapter 5. Airport Regional Value**.

Table 7-2 presents the variables and objectives by role that guide the non-NPIAS FSO evaluation.

Table 7-2: Non-NPIAS Facility and Service Objectives

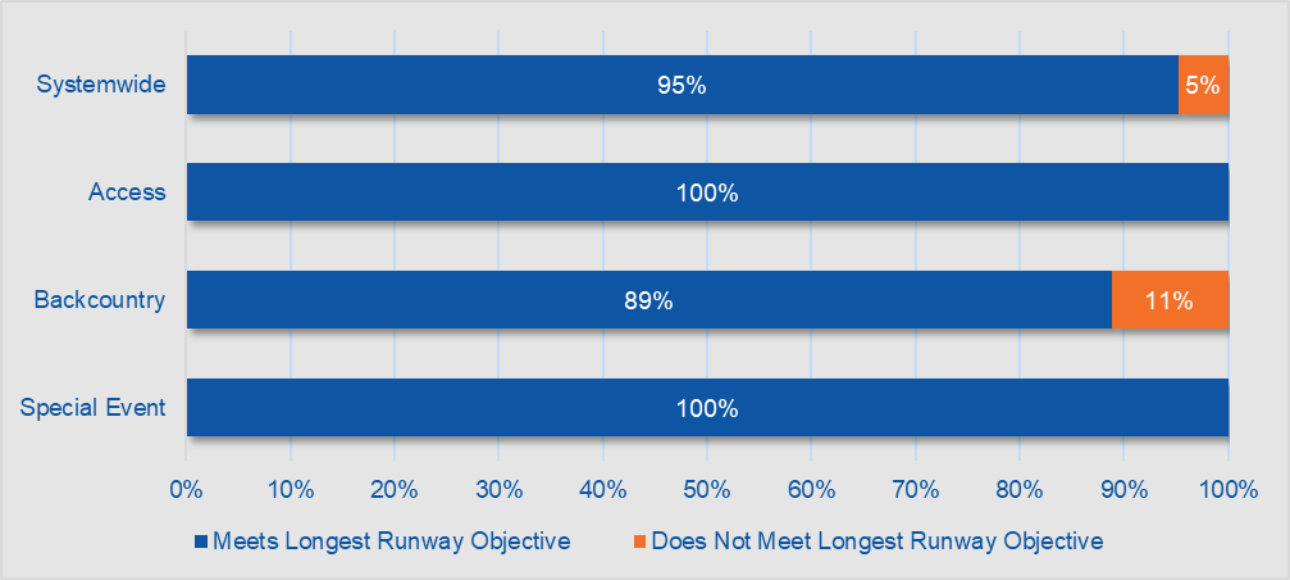
Variable	Airport Objective		
	Access	Backcountry	Special Event
Longest Runway	Maintain Existing	>3,000 Feet	>3,000 Feet or As Appropriate
T-Hangar Ratio (THR)	> 0.25	> 0.25	None
Fuel Availability	Jet A or 100LL, Self Service with Credit Card Reader	None	As Appropriate
FAA Design Standards	Meet FAA Design Standards	Meet FAA Design Standards	Meet FAA Design Standards
Runway Surface Type/Condition	Non-Paved and Fair, PCI > 56	Non-Paved and Fair, PCI > 56	As Appropriate and Fair, PCI > 56
Runway Lighting	Reflectors, LIRL Desired	None	As Appropriate
Taxiways	Turn Arounds	Turn Arounds or Hold Pads	As Appropriate
Visual Aids	Wind Cone	Wind Cone	As Appropriate
Weather Reporting	Automated Unicom	None	As Appropriate
GA Terminal	Public Restrooms Desired	Public Restrooms Desired	Public Restrooms Desired
Utilities	Electricity and Water Available	Electricity and Water Available	Electricity and Water Available
Communications Connectivity	Public Phone or Cellular	None	None
Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Rental or Courtesy Car and Taxi/Ride Share Desired	As Appropriate
Last ALP Update	< 10 years and After 2013 or Airport Diagram	< 10 years and After 2013 or Airport Diagram	As Appropriate

Source: Kimley-Horn 2021

7.3.1. Longest Runway FSO

Non-NPIAS airports are evaluated to determine if the length of their longest (or primary) runway is adequate based on the needs of their role. As shown in **Figure 7-8**, 95 percent of all non-NPIAS airports meet this objective, with 100 percent of Access airports, 89 percent of Backcountry airports, and 100 percent of Special Event airports have a runway long enough to be considered adequate for the role they serve within the system. It is important to note that the objective for Access airports is to maintain the existing length of their runway, which means that whatever the length of the longest runway is considered adequate for meeting this objective. Additionally, the Special Event airports have an objective that is either a runway greater than 3,000 feet or as appropriate for the airport, which means that a Special Event airport may have a runway length shorter than 3,000 feet but still be able to meet this objective.

Figure 7-8: Percent of Non-NPIAS Airports Meeting the Longest Runway Objective



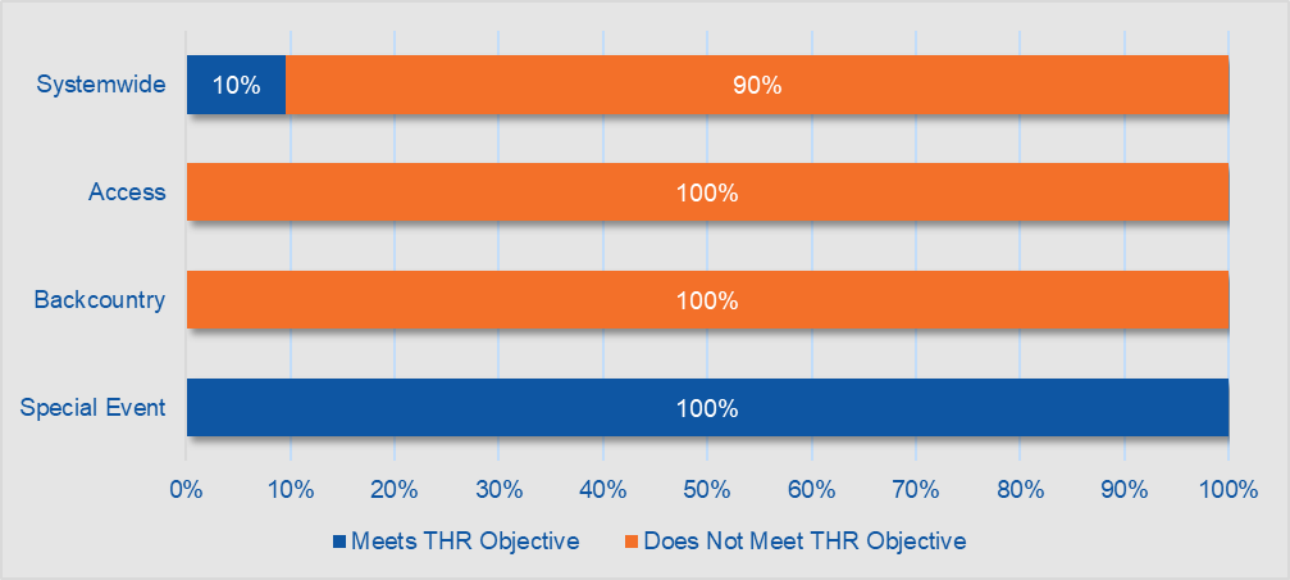
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.2. T-Hangar Ratio (THR) FSO

Non-NPIAS airports are evaluated to determine if there is are adequate T-Hangars using the T-Hangar Ratio, which compares the number of based aircraft stored in T-Hangars present at each airport.

As shown in **Figure 7-9**, 10 percent of non-NPIAS airports meet the objective, with none of the Access airports and Backcountry airports having an adequate number of T-Hangars to meet the demand they serve. Both of the Special Event airports meet the T-Hangar objective for their role within the system as they did not have an assigned objective for achieving an adequate ratio of based aircraft to T-Hangars, so these airports are considered as meeting this objective based on existing conditions.

Figure 7-9: Percent of Non-NPIAS Airports Meeting the T-Hangar Ratio Objective



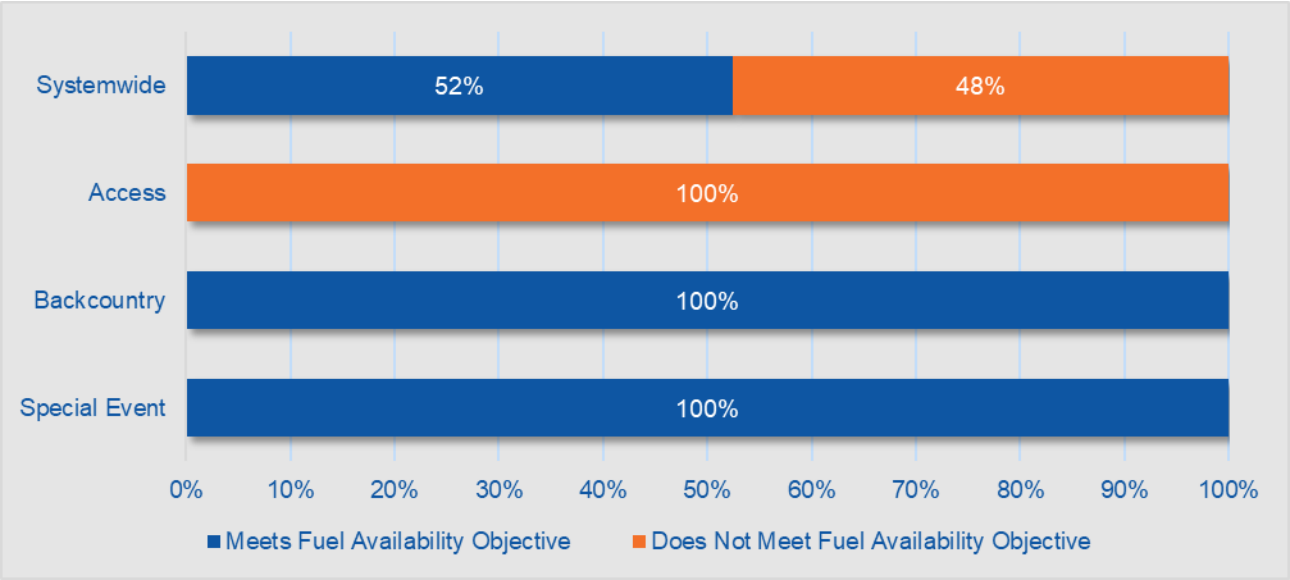
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.3. Fuel Availability FSO

Non-NPIAS airports are evaluated to determine if the fuel services provided at their airport are adequate based on the needs of their role. The only development-related fuel availability objective is for Access airports, with the objective stating that the airport must provide Jet A or 100LL fuel via a self-service credit card reader system. Backcountry airports do not have an objective for fuel availability, and the Special Event airports have an objective of "as appropriate," so whatever the existing fuel conditions are at these airports is considered adequate.

As shown in **Figure 7-10**, 52 percent of non-NPIAS airports meet the fuel availability objective, with all Backcountry airports and Special Event airports meeting their FSO objective, and none of the Access airports reported having an adequate level of fuel availability for their role.

Figure 7-10: Percent of Non-NPIAS Airports Meeting the Fuel Availability Objective



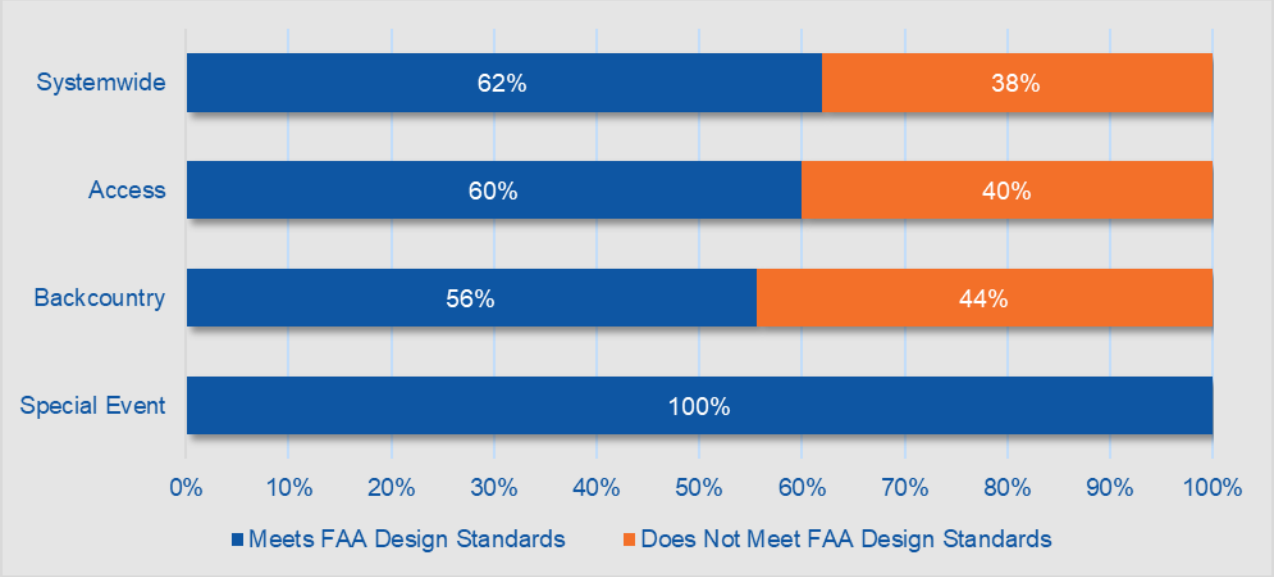
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.4. FAA Design Standards FSO

Non-NPIAS airports are evaluated to determine if their airfield geometries meet the FAA standards outlined in FAA AC 150/5300-13A, *Airport Design, Consolidated Change 1* (AC 150/5300-13A). While not required since the non-NPIAS airports are not eligible for FAA funding, FAA standards are still appropriate since they are researched and developed to protect the safety of people in the air and on the ground. The FAA design standards measured at non-NPIAS airports include runway separation standards, runway safety areas (RSAs), and runway object free areas (ROFAs). It is important to note that runway separation standards could not be evaluated at airports with unpaved runways because these runways do not include pavement markings, which are used to measure distance from runway centerline to parallel taxiway centerline, runway centerline to hold position, and runway centerline to aircraft parking area in Google Earth. The RSAs and ROFAs were evaluated using Google Earth and the dimensions of these safety areas were determined by referencing the airport's runway design code (RDC) and by consulting FAA AC 150/5300-13A. Airports were only evaluated by the FAA design standards that could be evaluated using Google Earth.

As shown in **Figure 7-11**, 62 percent of non-NPIAS airports meet the FAA Design Standards FSO objective, with 60 percent of Access airports, 56 percent of Backcountry airports, and 100 percent of Special Event airports meeting the design standards.

Figure 7-11: Percent of Non-NPIAS Airports Meeting the FAA Design Standards Objective



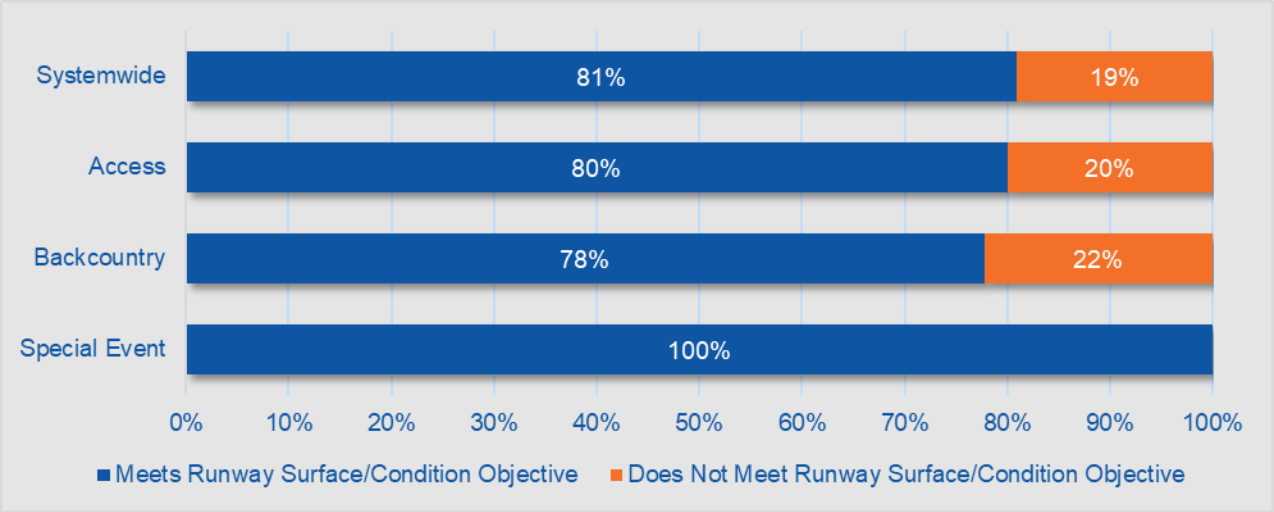
Sources: FAA AC 150/5300-13A, Google Earth, Kimley-Horn 2021

7.3.5. Runway Surface Type/Condition FSO

Non-NPIAS airports are evaluated to determine if the surface type and condition of their primary runway is adequate based on the needs of their role. While some airports are paved, the objective does not call for paving; however, if there is pavement the airports should maintain at least a fair rating on the pavement (defined as a pavement condition index or PCI greater than 56).

As shown in **Figure 7-12**, 81 percent of non-NPIAS airports meet the runway surface type/condition objective, with 80 percent of Access airports, 78 percent of Backcountry airports, and 100 percent of Special Event airports having acceptable runway surface/condition to meet their demand within the system.

Figure 7-12: Percent of Non-NPIAS Airports Meeting the Runway Surface Type/Condition Objective



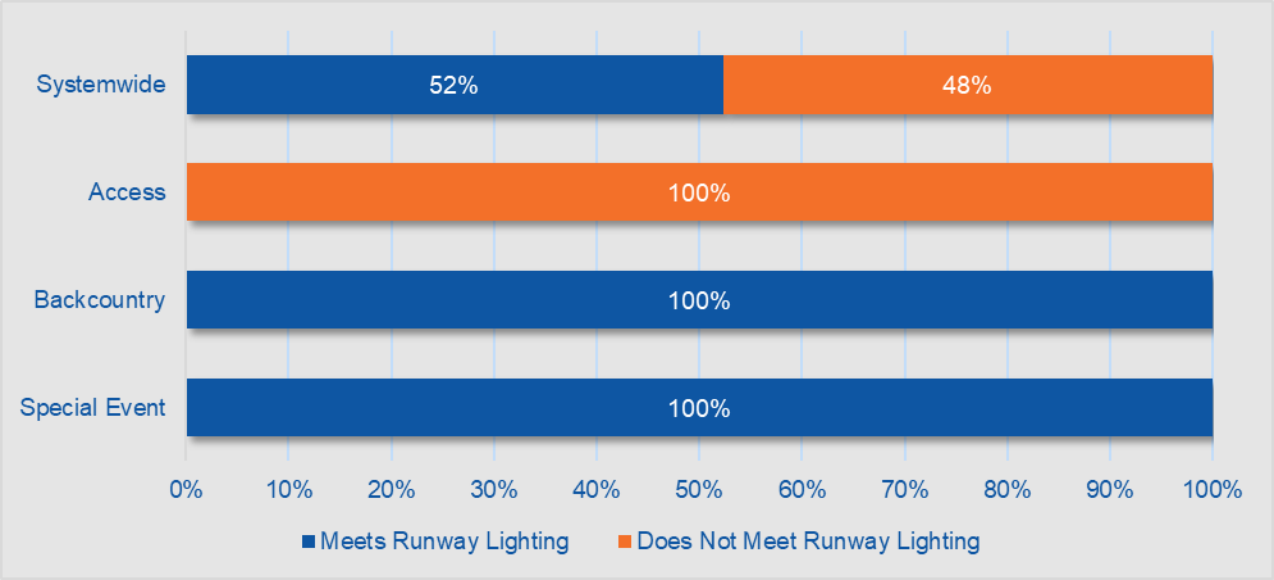
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.6. Runway Lighting FSO

Non-NPIAS airports are evaluated to determine if the runway lighting for their primary runway is adequate based on the needs of their role. The only development-related objective is for Access airports to have at least reflectors, although Low Intensity Runway Lights (LIRL) are desired. There is no objective for Backcountry airports, and Special Event airports only need runway lighting as appropriate for the event.

As shown in **Figure 7-13**, 52 percent of non-NPIAS airports meet this objective, with none of the Access airports, 100 percent of Backcountry airports, and 100 percent of Special Event airports having runway lighting adequate enough for the role they serve within the system.

Figure 7-13: Percent of Non-NPIAS Airports Meeting the Runway Lighting Objective



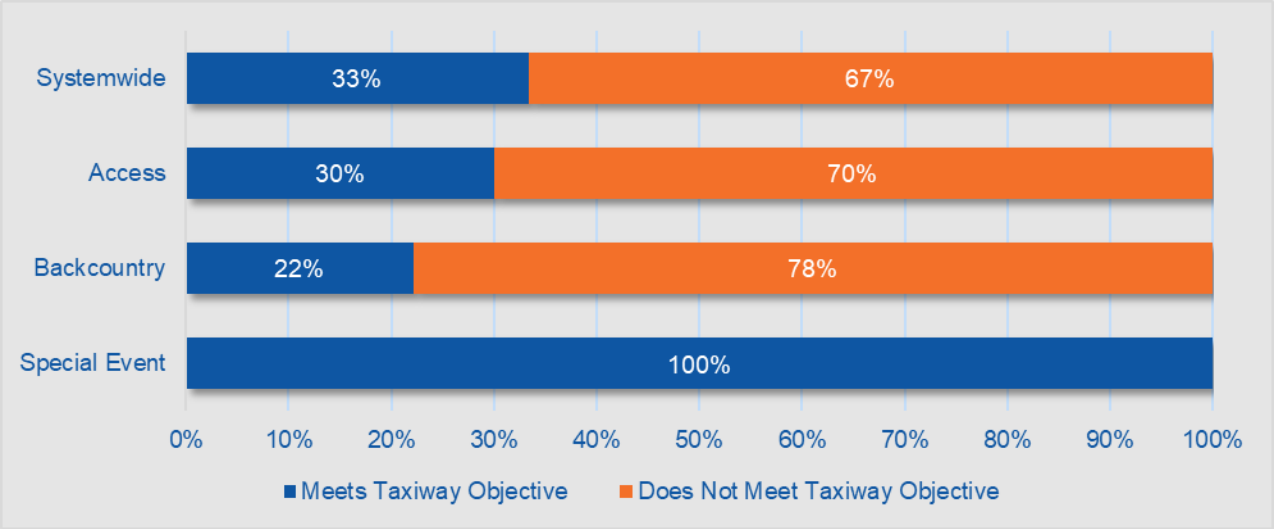
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.7. Taxiways FSO

Non-NPIAS airports are evaluated to determine if the type of taxiway present at the airport is adequate based on the needs of their role.

As shown in **Figure 7-14**, 33 percent of non-NPIAS airports meet this objective, with 30 percent of Access airports, 22 percent of Backcountry airports, and 100 percent of Special Event airports having an adequate taxiway type for their role. Development-related objectives are defined for taxiways at Access and Backcountry airports; however, it is important to note that the Special Event airports have an objective of "as appropriate" for the taxiway objective, which indicates that the airport's existing taxiway conditions are considered adequate.

Figure 7-14: Percent of Non-NPIAS Airports Meeting the Taxiway Objective

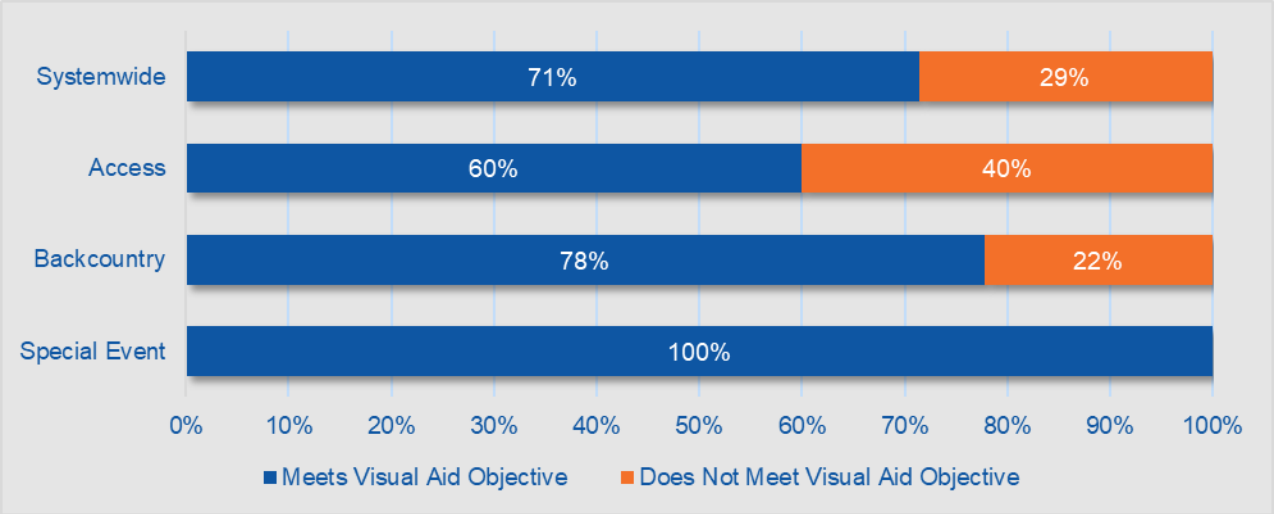


Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.8. Visual Aids FSO

Non-NPIAS airports are evaluated to determine if the visual aids present at their airport are adequate based on the needs of their role. The Visual Aid FSO for Access and Backcountry airports is to have a wind cone. The Visual Aid FSO for Special Event airports is "as appropriate" for the visual, which indicates that the airport's existing visual aid conditions are considered adequate. As shown in **Figure 7-15**, 71 percent of non-NPIAS airports meet this objective, with 60 percent of Access airports, 78 percent of Backcountry airports, and 100 percent of Special Event airports having adequate visual aids per the role they serve within the system. It is important to note that the Special Event airports have an objective of maintaining visual aids as appropriate to their airport's needs.

Figure 7-15: Percent of Non-NPIAS Airports Meeting the Visual Aids Objective

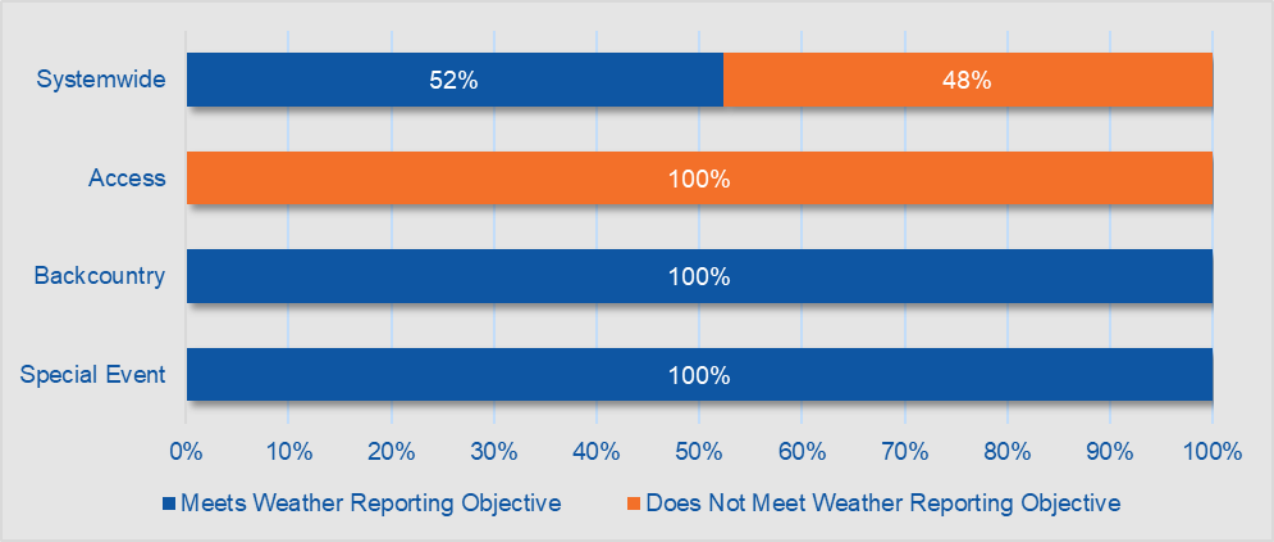


Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.9. Weather Reporting FSO

Non-NPIAS airports are evaluated to determine if the weather reporting capability at their airport is adequate based on the needs of their role. As shown in **Figure 7-16**, 52 percent of non-NPIAS airports meet this objective, with none of the Access airports, 100 percent of Backcountry airports, and 100 percent of Special Event airports having an adequate weather reporting system for the role they serve within the system. The development-related Weather Reporting objective for Access airports is to have, at minimum, an Automated Unicom, which transmits automated weather reports, radio check capability, and other airport advisory information to pilots. The Weather Reporting objective for Backcountry airports is "as appropriate," so whatever the existing weather reporting conditions are at these airports is considered adequate.

Figure 7-16: Percent of Non-NPIAS Airports Meeting the Weather Reporting Objective



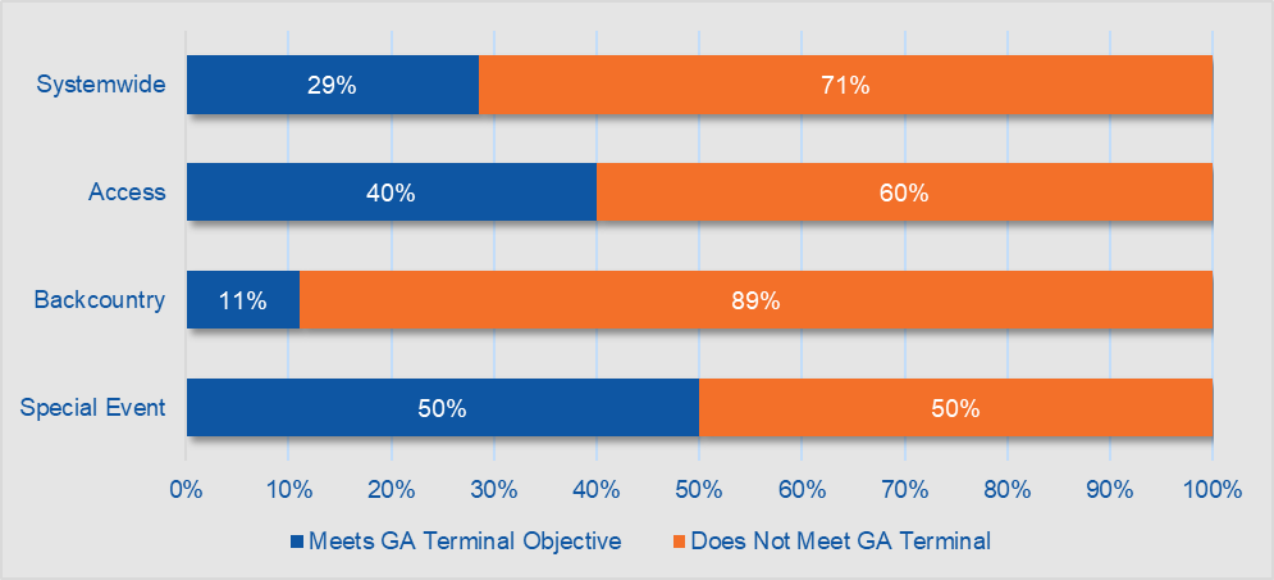
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.10. GA Terminal FSO

Non-NPIAS airports are evaluated to determine if their GA terminal is adequate based on the needs of their role, primarily in terms of providing restroom access. Providing a public restroom to airport users is considered a desired condition for all Access, Backcountry, and Special Event airports.

As shown in **Figure 7-17**, 29 percent of non-NPIAS airports report having a public restroom, and therefore meet this objective, with 40 percent of Access airports, 11 percent of Backcountry airports, and 50 percent of Special Event airports having a GA Terminal adequate for the role they serve within the system.

Figure 7-17: Percent of Non-NPIAS Airports Meeting the GA Terminal Objective



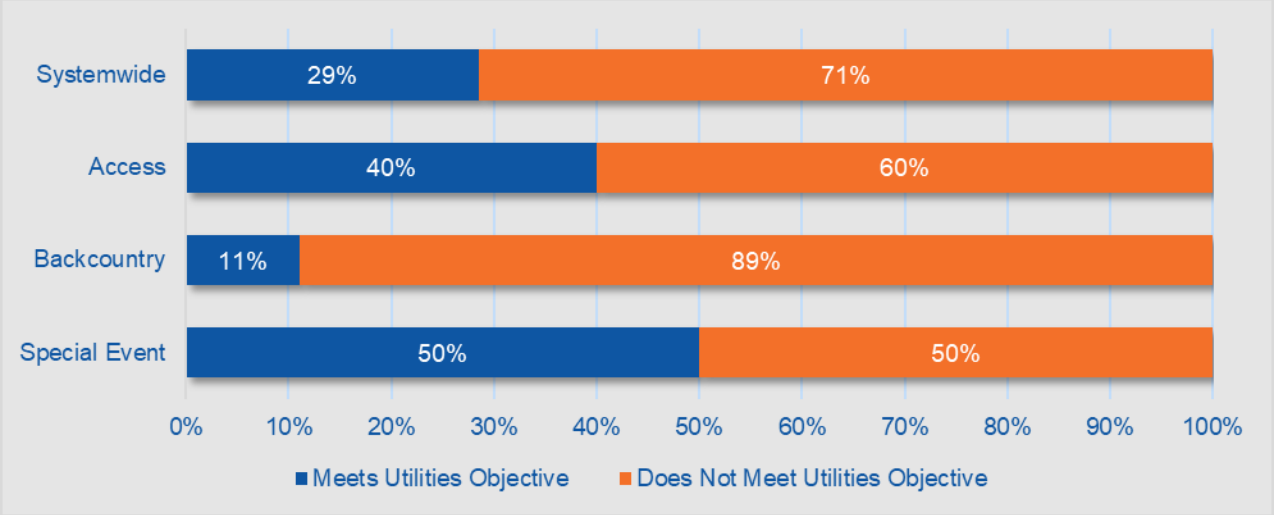
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.11. Utilities FSO

Non-NPIAS airports are evaluated to determine if the utilities present at their airport are adequate based on the needs of their role. According to the Utilities FSO, it is recommended that electricity and water utilities be available at all Access, Backcountry, and Special Event airports. These utilities primarily serve aviation development needs, such as providing power and running water to hangars or terminal buildings; however, these utilities can also be important for emergency response preparedness. For example, airports are not considered as able to support aerial firefighting operations without the provision of water, as access to water is critical for aerial firefighting operations and staging areas.

As shown in **Figure 7-18**, 29 percent of non-NPIAS airports meet this objective, 40 percent of Access airports, 11 percent of Backcountry airports, and 50 percent of Special Event airports have utilities to support the airport based on the role they serve within the system.

Figure 7-18: Percent of Non-NPIAS Airports Meeting the Utilities Objective



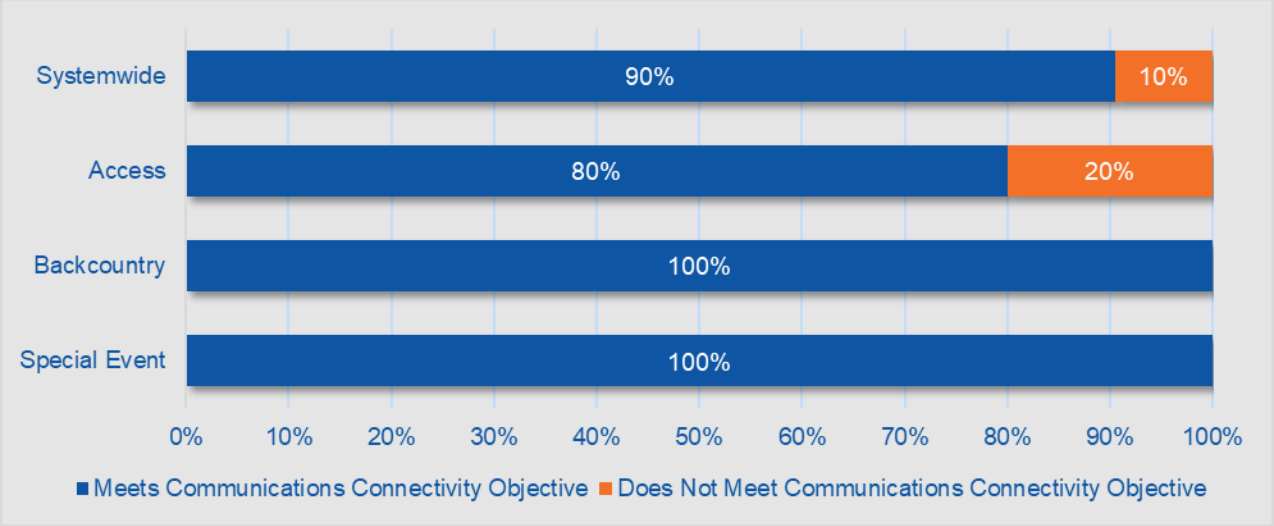
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.12. Communications Connectivity FSO

Non-NPIAS airports are evaluated to determine if the communications connectivity at their airport is adequate based on the needs of their role. The development-related Communication Connectivity objective pertains to Access airports, as it is recommended these airports provide, at minimum, a public phone or cellular service. Backcountry airports were not assigned a development-related objective for Communications Connectivity, so the airports' existing communications conditions are considered adequate.

As shown in **Figure 7-19**, 90 percent of non-NPIAS airports meet this objective, with 80 percent of Access airports, 100 percent of Backcountry airports, and 100 percent of Special Event airports having a communications connectivity adequate enough for the role they serve within the system.

Figure 7-19: Percent of Non-NPIAS Airports Meeting the Communications Connectivity Objective

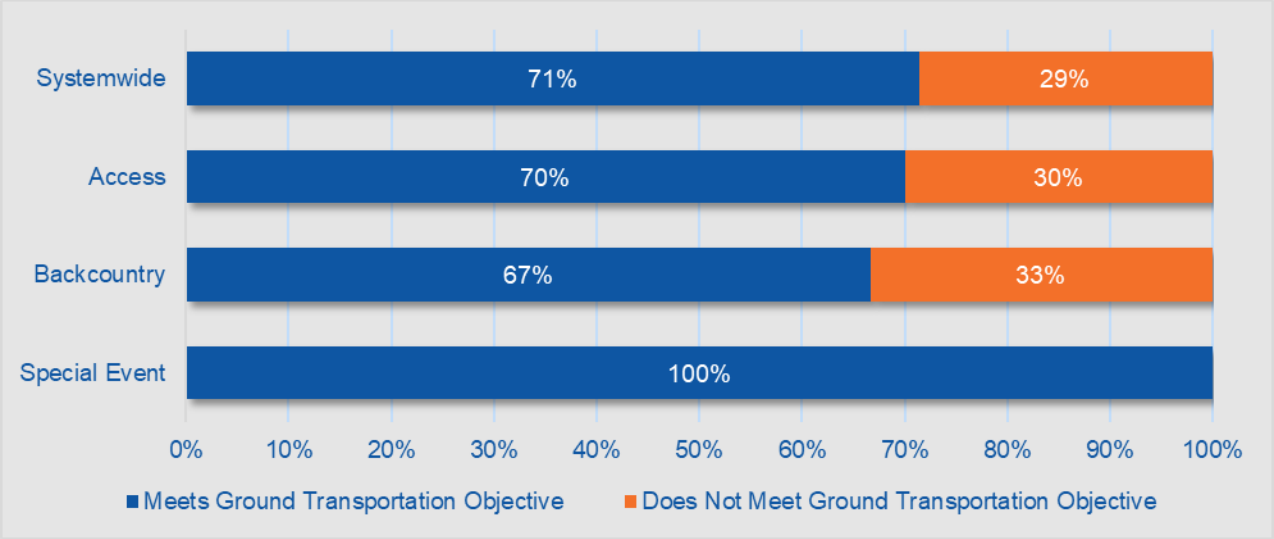


Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.13. Ground Transportation Services FSO

Non-NPIAS airports are evaluated to determine if the ground transportation service options provided at their airport are adequate based on the needs of their role. As shown in **Figure 7-20,** 71 percent of non-NPIAS airports meet this objective, with 70 percent of Access airports, 67 percent of Backcountry airports, and 100 percent of Special Event airports having a ground transportation services adequate enough for the role they serve within the system.

Figure 7-20: Percent of Non-NPIAS Airports Meeting the Ground Transportation Services Objective



Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

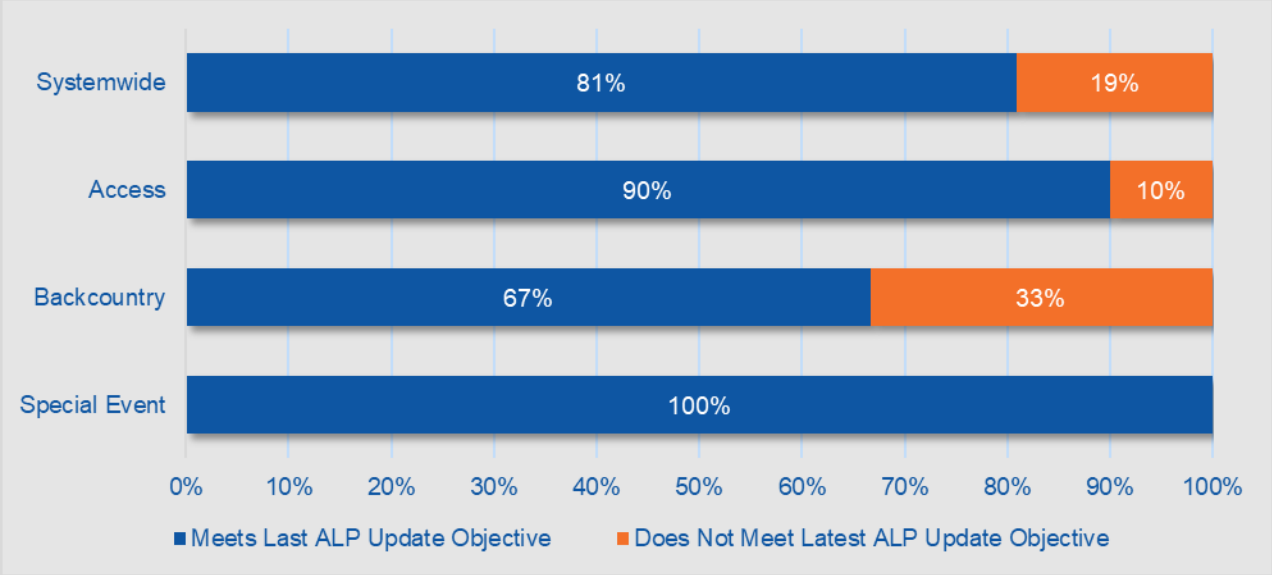
The Ground Transportation Services objective indicates that rental car or taxi/ride share opportunities or having a courtesy car available for airports users is adequate for Access and Backcountry airports. The Access and Backcountry airports meeting this objective all have a courtesy car available for airport users. It is important to note that the Special Event airports have an objective of “as appropriate” for the ground transportation objective, so the airports’ existing ground transportation conditions are considered adequate.

7.3.14. Last ALP Update FSO

Non-NPIAS airports are evaluated to determine if they have a recent ALP that is adequate based on the needs of their role. It is recommended that Access and Backcountry airports have an ALP that was developed more recently than 2013, and if an ALP is not developed then these airports should have an airport diagram, at minimum. Special Event airports are assigned an objective "as appropriate" for ALP or airport diagram development, which means the airports' existing ALP/airport diagram conditions are considered adequate.

As shown in **Figure 7-21**, 81 percent of non-NPIAS airports meet this objective, with 90 percent of Access airports, 67 percent of Backcountry airports, and 100 percent of Special Event airports having an ALP adequate to meet the objective of their role within the system.

Figure 7-21: Percent of Non-NPIAS Airports Meeting the Last ALP Update Objective



Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.4. Performance Measure (PM) Analysis Results

PMs were defined in **Chapter 1. System Goals and Performance Measures** and were developed to measure different aviation system components in a way that can trace directly back to the NAHSP goals. PMs provide a measurable way to evaluate goals and identify projects or policies that can improve the system's performance, as well as an individual airport's performance. This also allows monitoring of changes in performance once the PM-related projects are implemented, and progress can be tracked. PM recommendations are identified by establishing future performance targets.

The following sections are organized by goal and present the PM analysis results by NAHSP role and identify future performance targets, where applicable. It is important to note that not all PMs received a future performance target because not all PMs have a capital improvement project associated with the PM and/or NDOT Aviation Office cannot take action to impact an airport-level change in condition. Information regarding the considerations involved in identifying future performance targets are discussed, where appropriate. The information presented in the following subsections is utilized to develop project recommendations and cost estimates in subsequent chapters.

How Are Future Performance Targets Established?

A PM analysis identifies the percent (or number of NAHSP facilities) that either are or are not meeting a certain desired condition. For example, a PM may look at PCI over a certain threshold, with a PCI at or above that threshold being the desired condition. The results of the PM analysis may determine that 25 of 51 facilities (49 percent of facilities) in the system have an adequate PCI, which means that 26 facilities (51 percent of facilities) do not meet this desired condition. From this stage, a future performance target is identified by considering a number of factors and identifying the number of airports that may benefit from or is applicable to a certain improvement.

It is important to consider a variety of factors and not apply a future performance target of 100 percent for all PMs as not all airports need every single improvement. Regarding the PCI example, if there are 26 airports that do not meet the PCI threshold but 10 of those airports do not have paved runways, then it's logical that only 16 airports (or 31 percent of the system) could really benefit from a runway surface condition project recommendation. From here, the marginal percentage of airports receiving a project recommendation (31 percent of the system) is summed to the existing system performance percentage of 49 percent, making the future performance target for this PM 80 percent.

7.4.1. Enhance Safety

It is critical that aviation facilities in Nevada maintain a high standard of safety and continuously improve and promote aviation safety across the state. The results of the analysis of the five PMs developed for the Enhance Safety goal are presented in the following subsections:

- Percent of airports meeting applicable FAA design standards
- Percent of state land area and population within 30 minutes of airports with weather reporting capabilities
- Percent of land area and population within 30 minutes of airports with a paved runway

- Percent of airports that have a designated helicopter landing location
- Percent of airports that have broadband service

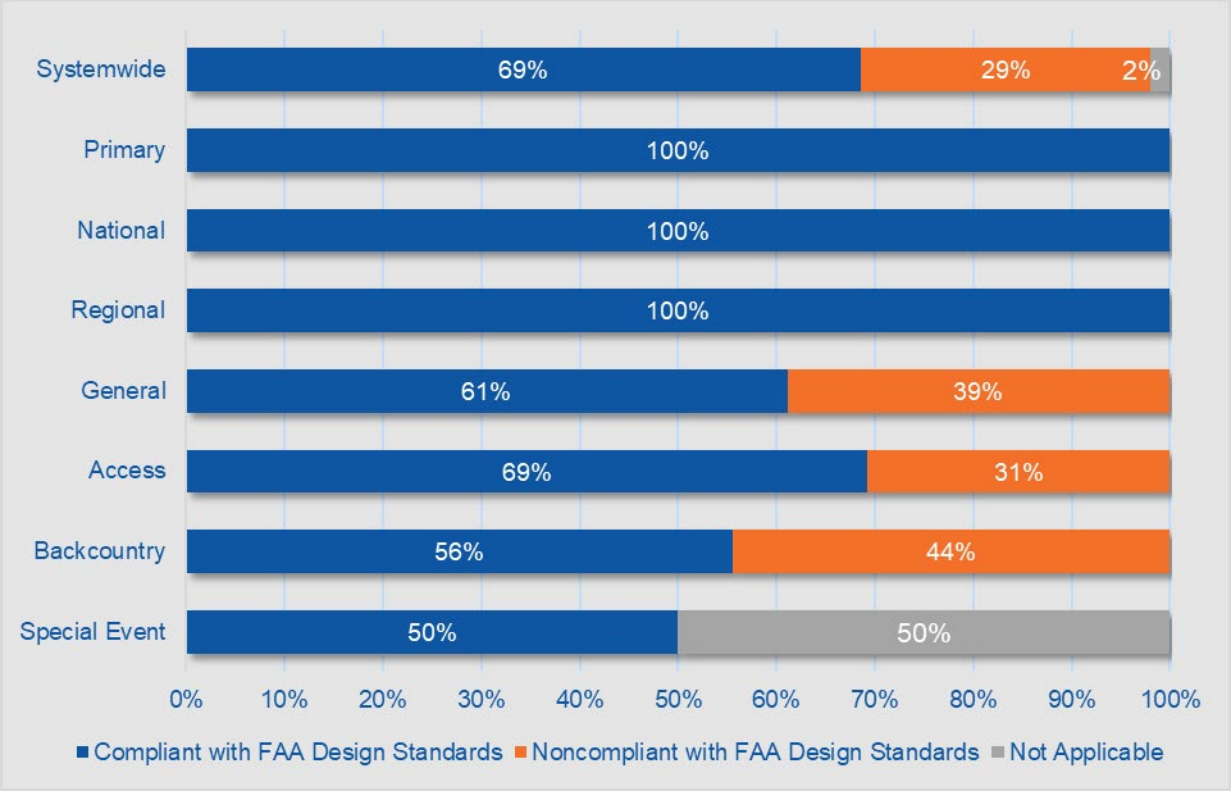
7.4.1.1. Percent of Airports Meeting Applicable FAA Design Standards

Three different FAA design standards are evaluated: Runway Safety Areas (RSAs), Runway Objective Free Areas (ROFAs), and separation standards. These three design standard components, as discussed in more detail in **Section 2.5**, are evaluated at the airport level by reviewing current Airport Layout Plans (ALPs) and information provided by airports during the inventory data collection effort. When ALPs were not available, a visual analysis is conducted using aerial imagery available on Google Earth.

Existing System Performance:

As shown in **Figure 7-22**, 69 percent of the system airports are meeting the referenced FAA design standards, even though all airports are not required to meet these standards since all airports are not included in the NPIAS.

Figure 7-22: Percent of Airports by Role Meeting FAA Design Standards



Sources: FAA AC 150-5300-13A; Google Earth; ALPs; Kimley-Horn 2021

All Primary, National, and Regional airports, as well as 61 percent of General, 69 percent of Access, 56 percent of Backcountry, and 50 percent of Special Event airports currently meet FAA design standards for the areas previously identified. Twenty-three of the 30 NPIAS airports in the system are meeting FAA design standards, which accounts for 76 percent of NPIAS airports. Dead Cow Lake Bed Airstrip is not evaluated as a part of this analysis, which accounts for the 50 percent of Special Event airports. Dead Cow Lake Bed Airstrip is a temporary facility open to the public during special events with prior

permission. Five airports are considered not meeting FAA design standards due to a deficiency in separation between the runway centerline and the aircraft holding position, with the deficiency between 50 and 80 feet. If these airports remedied this relatively minor deficiency, then 76 percent of the system would be considered meeting FAA design standards.

Future Performance Target:

Considering the importance of achieving and maintaining FAA design standards, the future performance target for this PM is set at 100 percent, meaning that all airports should strive for FAA design compliance as practical. It is recommended that non-NPIAS airports be included in this future performance target because theoretically these airports should still strive to operate at the highest level of safety. **Table 7-3** presents the future performance targets and number of airports that would need airfield design improvements in order to meet the future performance target.

Table 7-3: Future Performance Targets for FAA Design Standards at System Airports

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement
Systemwide (51)	67%	100%	16
Primary (4)	100%	100%	0
National (2)	100%	100%	0
Regional (3)	100%	100%	0
General (18)	56%	100%	8
Access (13)	69%	100%	4
Backcountry (9)	56%	100%	4
Special Event (2)	50%	100%	1

Source: Kimley-Horn 2021

7.4.1.2. Percent of State Land Area and Population Within 30 minutes of Airports with Weather Reporting Capabilities

Airports with weather reporting capabilities are generally able to support a wider range of aviation operations and some operators require weather reporting capabilities, such as emergency medical providers. Using a 30-minute drive-time service area provides an indication of how well the system is serving the population by determining the percent of the population that has reasonable access to these facilities.

Existing System Performance:

According to the VRV analysis and FSO related to weather reporting, all Primary, National, Regional, and General airports should have either an AWOS or ASOS, and Access airports should have an Automated Unicom for weather reporting. In order for all of the Primary through General airports to have weather reporting, an AWOS or ASOS would need to be installed at eight General airports and Automated Unicoms would need to be installed at 11 Access airports. The future performance target for this PM is established based on the additional population and land coverage percentage that can be captured if these 19 facilities acquired the appropriate weather reporting capabilities. As shown in **Table 7-4**, if all 19 facilities acquired weather reporting capabilities, then 95 percent of the population and 6 percent of state land would be within the 30-minute drive-time service area. Therefore, 95 percent of the population and 7 percent of the land is the future performance target for this PM, an increase of one percent of population and three percent of land area.

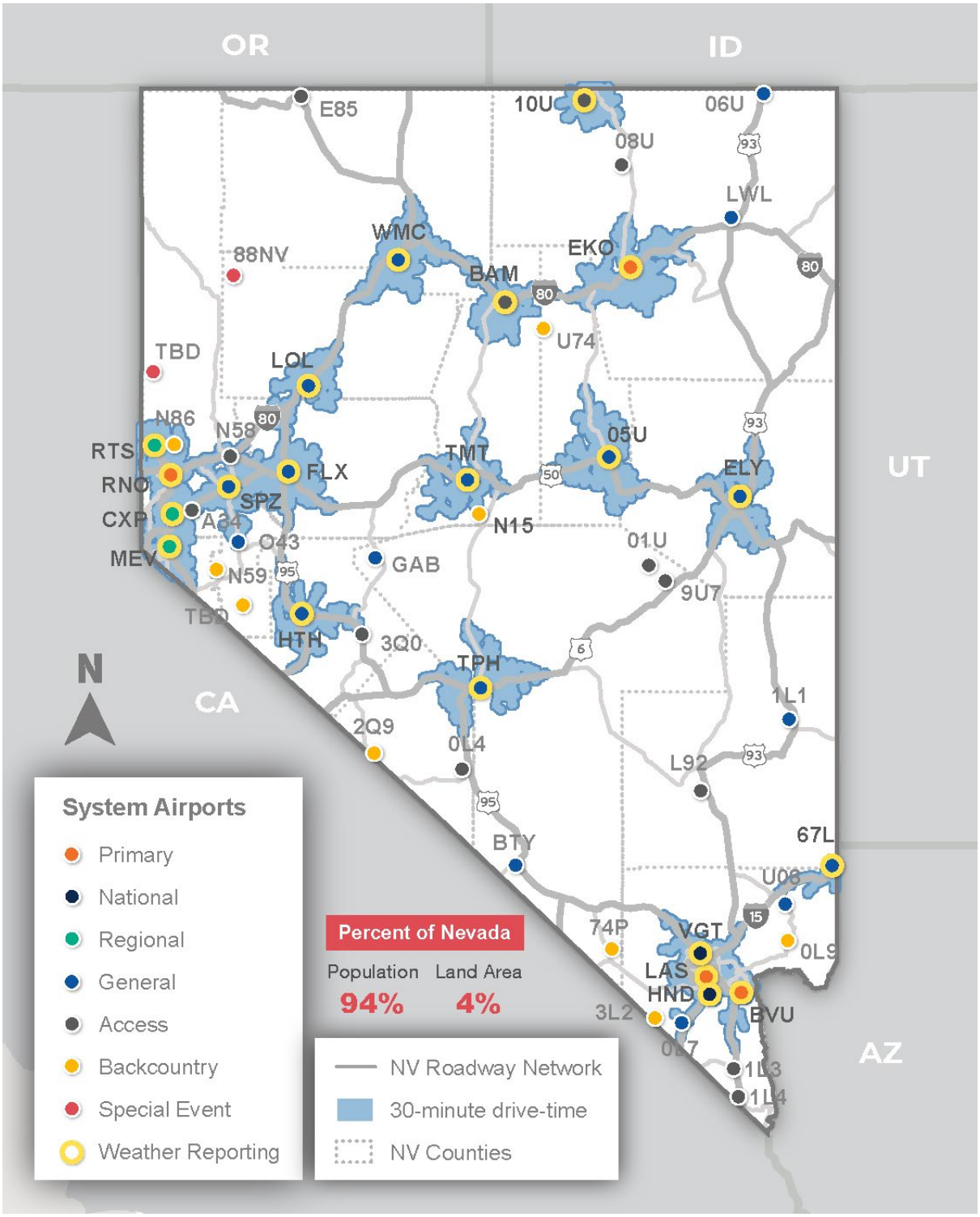
Table 7-4: Future Performance Targets for Weather Reporting at System Airports

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement	Future Population and Land Coverage Target
Systemwide (51)	41%	76%	19	Population: 95% Land Coverage: 7%
Primary (4)	100%	100%	0	
National (2)	100%	100%	0	
Regional (3)	100%	100%	0	
General (18)	55%	100%	8	
Access (13)	15%	100%	11	
Backcountry (9)	0%	Maintain Existing	0	
Special Event (2)	0%	Maintain Existing	0	

Source: Kimley-Horn 2021

As shown in **Figure 7-23**, 94 percent of Nevada's population (approximately 2.95 million people) is within a 30-minute drive of a system airport with weather reporting capability. This accounts for four percent of the state's land (4,078 square miles). It is important to note that these percentages align very closely with the population and land coverage accounted for when considering a 30-minute drive-time from all NAHSP facilities. Nevada is a largely expansive, yet rural state, with the majority of the population living within the larger metropolitan areas, which corresponds with the 97 percent of the population living 30 minutes from any NAHSP airport (including those without weather reporting) but only accounting for 7 percent of the state land. It is important to consider the population coverage within a 30-minute drive-time of all NAHSP facilities to better understand that 94 percent of the population within 30 minutes of an airport with weather reporting capability means that only three percent of the available population within 30 minutes of airport is outside of the weather reporting service areas.

Figure 7-23: Percent of State Land Area and Population Within 30 Minutes of Airports with Weather Reporting Capabilities



Sources: Airport Inventory Data Collection Survey,2021; ArcGIS, ESRI Business Analyst Community Profile, 2021; Kimley-Horn, 2021

Future Performance Target:

According to the VRV analysis and FSO related to weather reporting, all Primary, National, Regional, and General airports should have either an AWOS or ASOS, and Access airports should have an Automated Unicom for weather reporting. In order for all of the Primary through General airports to have weather reporting, an AWOS or ASOS would need to be installed at eight General airports and Automated Unicom's would need to be installed at 11 Access airports. The future performance target for this PM is established based on the additional population and land coverage percentage that can be captured if these 19 facilities acquired the appropriate weather reporting capabilities. As shown in **Table 7-5**, if all 19 facilities acquired weather reporting capabilities, then 95 percent of the population and 6 percent of state land would be within the 30-minute drive-time service area. Therefore, 95 percent of the population and 7 percent of the land is the future performance target for this PM, an increase of one percent of population and three percent of land area.

7.4.1.3. Percent of State Land Area and Population within 30 minutes of an Airport with a Paved Runway

The 30-minute drive-time service area analysis is also used to determine the system coverage of paved runways. There are 37 airports with at least one paved runway in the Nevada system. As shown in **Figure 7-24**, the service areas around these airports accounts for 97 percent of the population (3.04 million people) and five percent of the total land area in Nevada (5,417 square miles).

Future Performance Target:

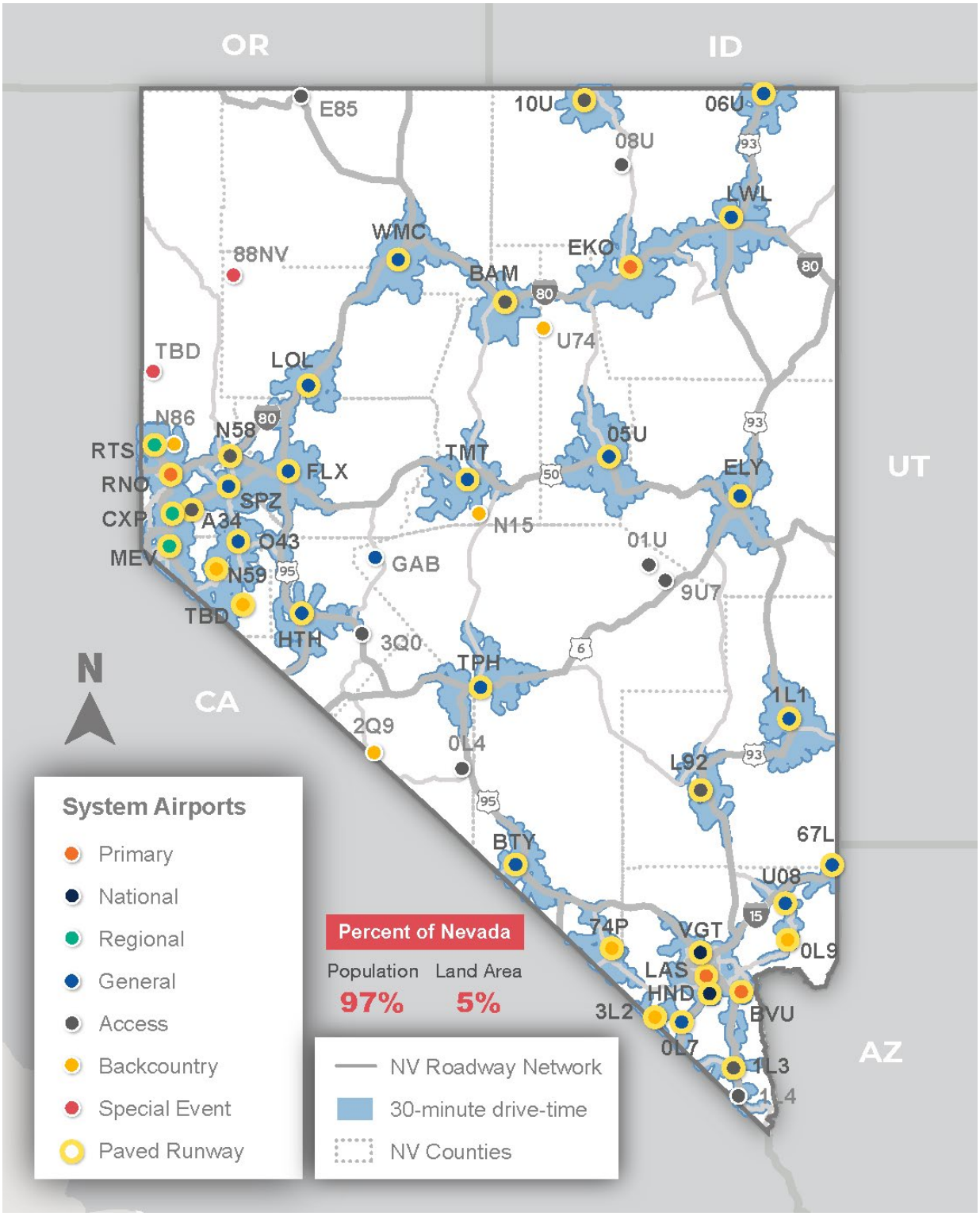
According to the VRV and FSO related to paved runways, it is recommended that all Primary, National, Regional, and General airports have a paved runway. Currently, all but one of these airports is equipped with a paved runway. As shown in **Table 7-5**, the future performance target includes developing a paved runway at this airport; however, the additional population and land area within the service area of the one unpaved General airport is not significant enough to account for an increase in the percentage of the population or land coverage.

Table 7-5: Future Performance Targets for Paved Runways at System Airports

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement	Future Population and Land Coverage Target
Systemwide (51)	41%	76%	1	Population: 97% Land Coverage: 5%
Primary (4)	100%	100%	0	
National (2)	100%	100%	0	
Regional (3)	100%	100%	0	
General (18)	94%	100%	1	
Access (13)	46%	Maintain Existing	0	
Backcountry (9)	55%	Maintain Existing	0	
Special Event (2)	0%	Maintain Existing	0	

Source: Kimley-Horn 2021

Figure 7-24: Percent of State Land Area and Population Within 30 Minutes of an Airport with a Paved Runway



Sources: Airport Inventory Data Collection Survey 2021; ArcGIS, ESRI Business Analyst Community Profile 2021; Kimley-Horn 2021

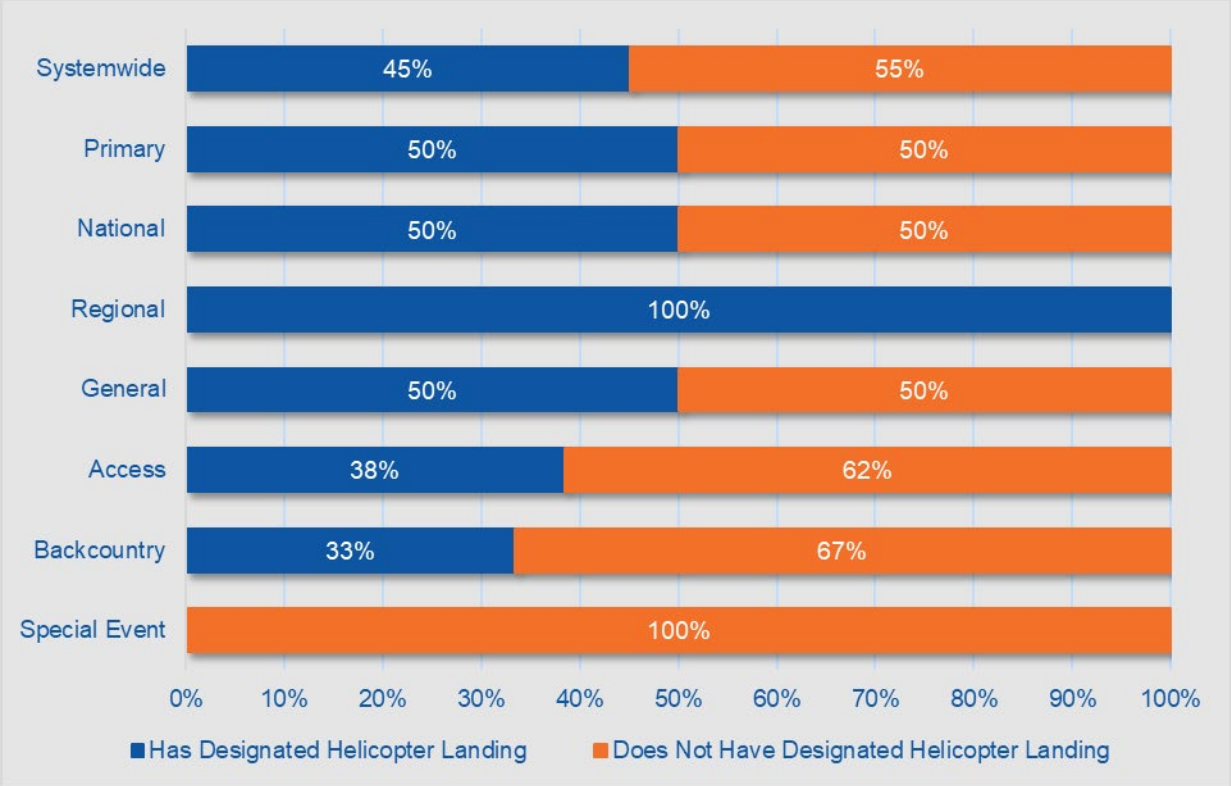
7.4.1.4. Percent of Airports That Have a Designated Helicopter Landing Location

A designated helicopter landing location can enhance safety at NAHSP airports because if and when rotorcraft need to land at an airport, there is a clearly marked space for that operation to occur. A designated landing location must be clearly marked, but can be paved, designated using portable pads, or may be a designated gravel area. An empty, unmarked, dirt location is not considered a designated helicopter landing location. Without a designated helicopter landing location, helicopter pilots may be required to land in unmarked and unpaved areas, land on apron or taxiway space that is reserved specifically for fixed-wing aircraft, or not land at all. There are safety concerns any time it is unclear where a rotorcraft or fixed-wing aircraft should land, taxi, or park; designated helicopter landing locations can eliminate this concern.

Existing System Performance:

As shown in **Figure 7-25**, 45 percent of system airports report having a designated helicopter landing location, which includes 50 percent of Primary airports, 50 percent of National airports, all Regional airports, 50 percent of General airports, 38 percent of Access airports, and 33 percent of Backcountry airports. None of the Special Event airports reported having a designated helicopter landing location.

Figure 7-25: Percent of Airports that have a Designated Helicopter Landing Location



Sources: Airport Inventory Data Collection Survey; Kimley-Horn 2021

It is important to note that 15 General through Primary airports responded that they do not have a designated helicopter landing area, but upon visual analysis of Google Earth imagery, five of those airports have helicopter parking. It is unclear whether the parking is reserved for private business tenants

only at two of these five airports. The two airports with designated helicopter parking that appears to be reserved for private tenant use only is not counted as meeting this PM.

Future Performance Target:

Since having a designated helicopter landing location can be critical to airfield safety, it is recommended that all airports are able to offer a designated helicopter landing location. As shown in **Table 7-6**, this translates to a future performance target of 100 percent for all NAHSP roles, accounting for improvements at 28 airports.

Table 7-6: Designated Helicopter Landing Location Future Performance Target at System Airports

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement
Systemwide (51)	45%	100%	28
Primary (4)	50%	100%	2
National (2)	50%	100%	1
Regional (3)	100%	100%	0
General (18)	50%	100%	9
Access (13)	38%	100%	8
Backcountry (9)	33%	100%	6
Special Event (2)	0%	100%	2

Source: Kimley-Horn 2021

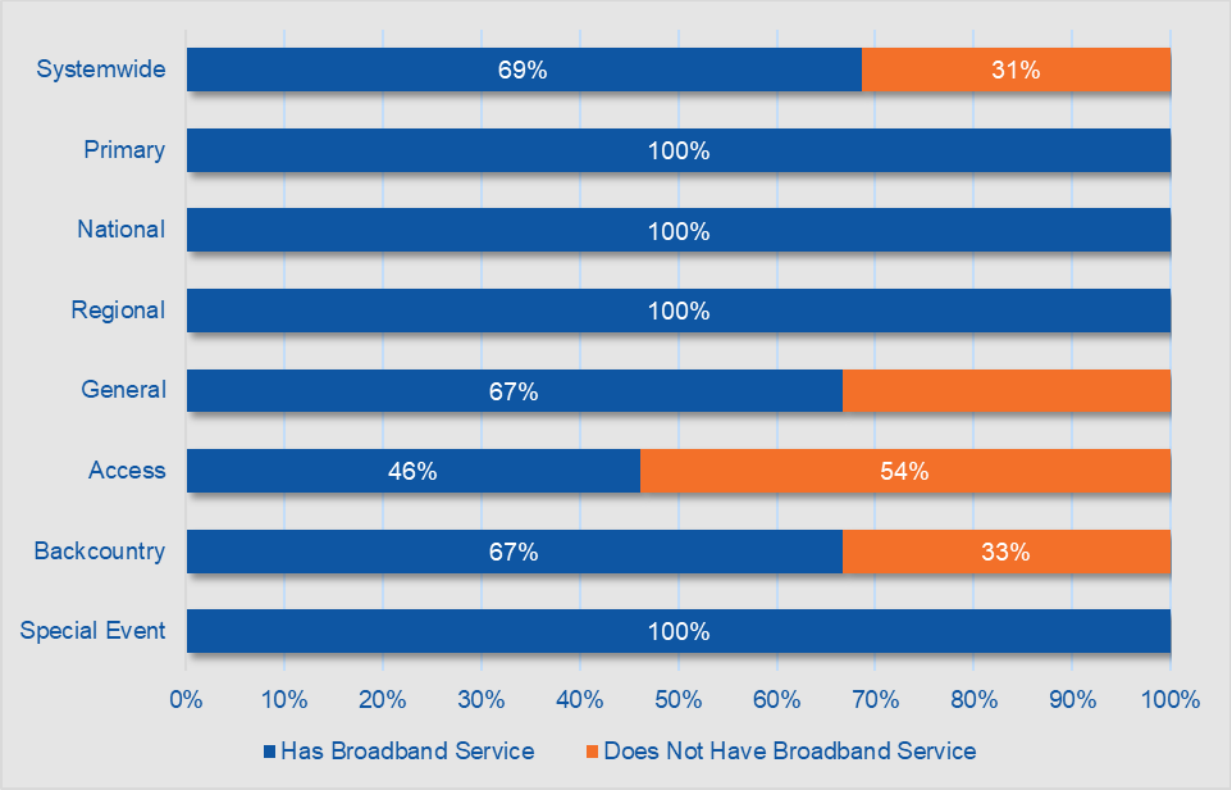
7.4.1.5. Percent of Airports That Have Broadband Service

Broadband service refers to high-speed internet service, which can be provided to users in a number of ways, including via a Digital Subscriber Line (DSL), cable modem, fiber, wireless (including mobile wireless internet via cellular towers), and satellite technology. Broadband, or internet service, is essential at system airports because many airports rely on internet connections for weather reporting updates, Notices to Airmen (NOTAMs) updates, and more. Having a strong internet connection is also important for communication purposes and for receiving important updates that could relate to airport safety.

Existing System Performance:

As shown in **Figure 7-26**, 71 percent of system airports reported having broadband connection at their airport, which includes all Primary, National, Regional, and Special Event airports, as well as 67 percent of General, 54 percent of Access airports and 67 percent of Backcountry airports.

Figure 7-26: Percent of Airports That Have Broadband Service



Sources: Airport Inventory Data Collection Survey; Kimley-Horn 2021

Future Performance Target:

Considering the importance of reliable internet access to airport safety, the future performance target for this PM is set at 96 percent. This also aligns with the recommendations made for broadband service in the ARV and FSO evaluations. As shown in **Table 7-7**, this corresponds to thirteen airports that would need to acquire broadband service in some capacity in order to meet this target in the future.

Table 7-7: Future Performance Targets for Broadband Service at System Airports

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement
Systemwide (51)	69%	96%	13
Primary (4)	100%	100%	0
National (2)	100%	100%	0
Regional (3)	100%	100%	0
General (18)	67%	100%	6
Access (13)	48%	100%	7
Backcountry (9)	67%	Maintain Existing	0
Special Event (2)	100%	Maintain Existing	0

Source: Kimley-Horn 2021

7.4.2. Preserve Infrastructure

It is critical that aviation facilities in Nevada preserve the infrastructure assets that make up the Nevada system. Preserving infrastructure may look different across system facilities, but includes activities such as adopting land use controls, conducting airport-level planning, and more. The following four PMs developed for the Preserve Infrastructure goal are analyzed in the following subsections:

- Percent of airports that have coordinated with their local land use authority to adopt appropriate land use controls
- Percent of airports that have an approved airport planning document that is completed after 2013
- Percent of airports having Pavement Condition Index (PCI) of acceptable (or rated G) or above
- Percent of airports that are under a Military Operating Area (MOA) in the National Airspace System

7.4.2.1. Percent of Airports That Have Coordinated with Their Local Land Use Authority to Adopt Appropriate Land Use Controls

Airports that adopt land use controls are better able to protect themselves from encroaching development or incompatible land use that could impact an airport's ability to operate at full capacity. Three distinct controls are assessed for this PM: land use, height hazard, and Part 77. Typically, land use and height controls must be adopted and enforced by the local planning authority through the use of zoning ordinances. Part 77 controls are enforced by the FAA and monitor obstructions occurring in the imaginary surfaces that extend upward and outward around the airport environment. The imaginary surface boundaries covered by Part 77 are dependent upon airport-specific factors, such as runway surface type, runway design code (RDC), approach type, and visibility minimums. New construction or alterations occurring within these boundaries must meet the criteria outlined by the FAA in the *Notification of Proposed Construction or Alteration on Airport*.[1] While Part 77 controls are effective in monitoring certain types of developments in the airport environment, these controls are not all inclusive. For this reason, it is important that airports work with their local zoning authority to establish more comprehensive land use controls that may account for incompatible land uses outside of those enforced by the FAA. Some examples of land uses that are incompatible with airports and could threaten an airport's operational capability include, but are not limited to, dense residential developments, heavy industry with tall stacks that emit fog, and event centers that attract high concentrations of people.

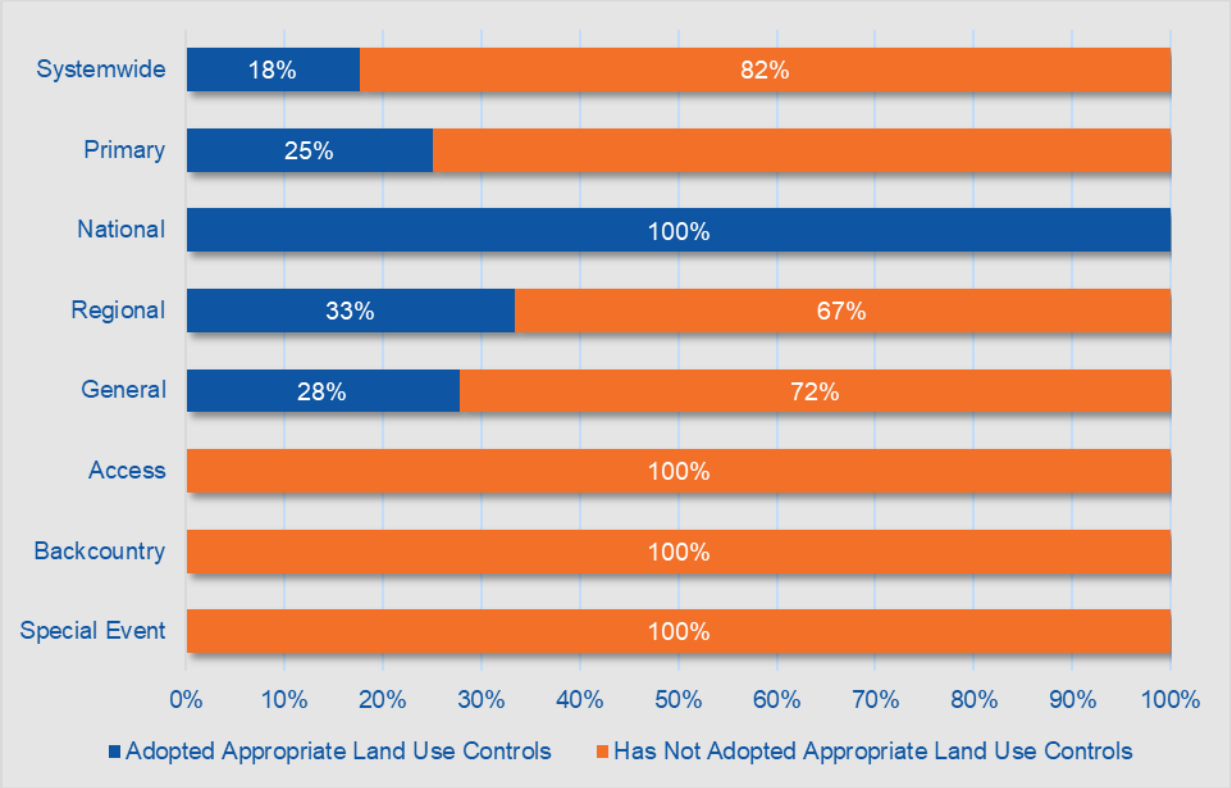
Airports were asked to report the type of land use controls that have been adopted for their airport. Airports that indicated their local jurisdiction(s) have adopted land use, height hazard, and Part 77 controls are considered as meeting this PM.

[1] https://www.faa.gov/airports/central/engineering/part77/

Existing System Performance:

As shown in **Figure 7-27**, 18 percent of airports reported have land use, height hazard, and Part 77 controls adopted to protect the airport, this includes 25 percent of Primary airports, all National airports, 33 percent of Regional airports, and 28 percent of General airports. None of the Access, Backcountry, or Special Event airports reported locally adopted land use, height hazard, or Part 77 controls.

Figure 7-27: Percent of Airports That Have Adopted Appropriate Land Use Controls



Sources: Airport Inventory Data Collection Survey; Kimley-Horn 2021

Future Performance Target:

While land use controls are important for protecting airports now and into the future, it is very difficult for many airports to establish or enforce land use controls as each locality has its own authority over local land use. The NDOT Aviation Program can only encourage adoption of controls but cannot take action to implement any controls. For this reason, there is no future performance target established for this PM; however, airports are encouraged to work with their local zoning authority to establish land use controls as needed based on their local circumstances.

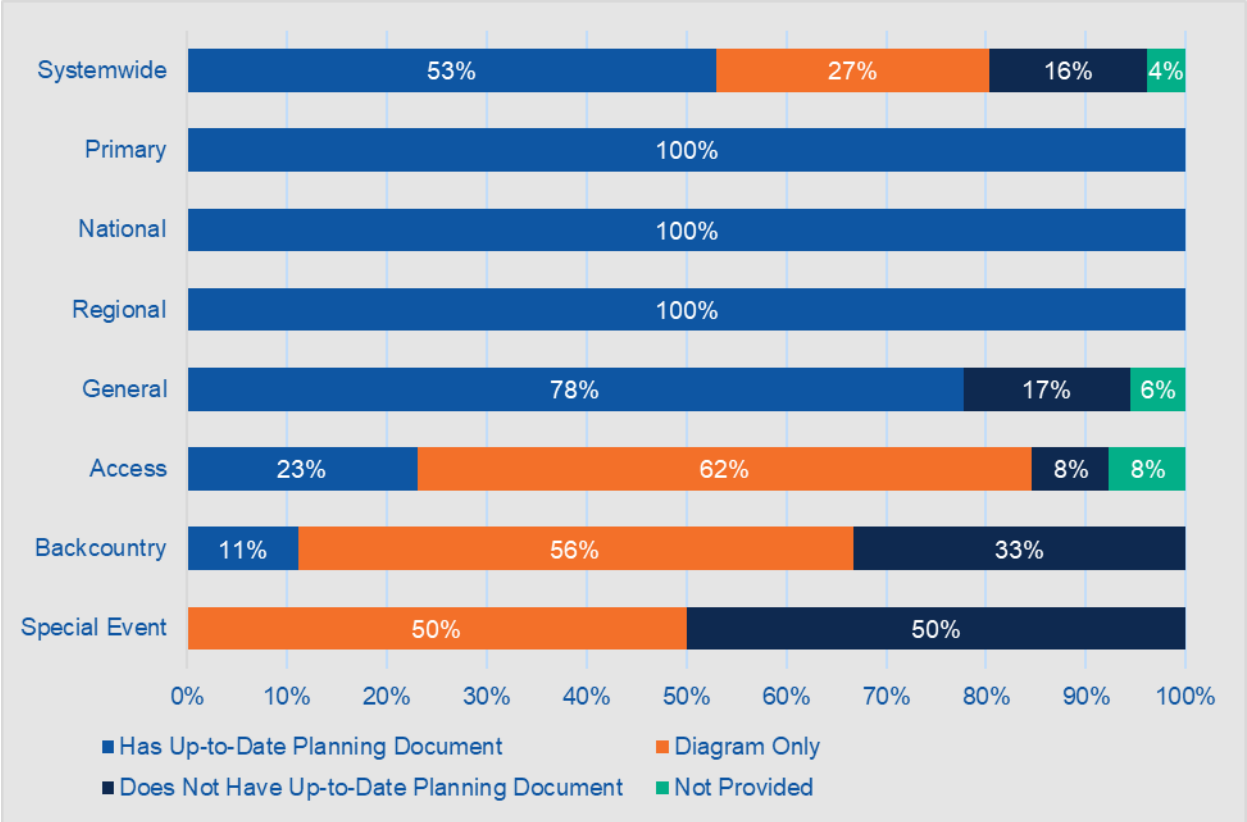
7.4.2.2. Percent of Airports That Have an Approved Airport Planning Document Completed After 2013

Airports conduct airport-level planning by completing Master Plans and Airport Layout Plans (ALPs). Both of these documents are considered critical planning tools that establish existing conditions and plan for future developments. NPIAS airports are required to maintain a current ALP and/or Master Plan in order to remain eligible for FAA Airport Improvement Program (AIP) funding. The FAA instituted significant airport design changes in 2013 that should be reflected in the latest ALP for each airport. Non-NPIAS airports are not required to produce a Master Plan or ALP; however, they are useful tools for airports of all sizes and activity levels.

Existing System Performance:

As shown in **Figure 7-28**, 53 percent of the system airports reported completing either a Master Plan or ALP since 2013; this includes all Primary, National, and Regional airports, as well as 78 percent of General, 23 percent of Access, and 11 percent of Backcountry airports. Four percent of the system is considered "Not Provided" for this analysis because one Access airport and one General airport did not provide adequate information during the data collection phase of this project to be evaluated for this PM. It is important to note that there are 21 non-NPIAS airports in Nevada's airport system and those airports are not required by the FAA to maintain a current Master Plan or ALP. Two of the 21 non-NPIAS airports completed an ALP in 2020, while 14 others completed an airport diagram, and the final three airports either completed an ALP pre-2013, have not conducted on ALP, or completed an airport diagram.

Figure 7-28: Percent of Airports that have an Approved Airport Planning Document Completed after 2013



Sources: Airport Inventory Data Collection Survey; Kimley-Horn 2021

Future System Performance:

The future performance target for the ALP PM indicates that all NPIAS airports develop and maintain a current ALP and all non-NPIAS airports develop, at minimum, an airport diagram. As shown in **Table 7-8**, the future performance target for this PM is split between NPIAS airports developing current ALPs and non-NPIAS airports that do not currently have an ALP or diagram completing an airport diagram. It is recommended that 63 percent of the system have a current ALP and the remaining 35 percent develop an airport diagram. The reason these future performance targets do not correspond to the percentage of NPIAS and non-NPIAS airports (59% NPIAS and 41% non-NPIAS) is because two non-NPIAS reported developing an ALP and the future performance target should account for those airports maintaining their ALPs.

Table 7-8: Future Performance Targets for Airport Planning Documents at System Airports

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement
Systemwide (51)	53% ALP 27% Diagram	63% ALP 35% Diagram	5 ALP 4 Diagram
Primary (4)	100% ALP	100% ALP	0
National (2)	100% ALP	100% ALP	0
Regional (3)	100% ALP	100% ALP	0
General (18)	78% ALP	100% ALP	4 ALP
Access (13)	23% ALP 62% Diagram	31% ALP 69% Diagram	1 ALP 1 Diagram
Backcountry (9)	11% ALP 56% Diagram	Maintain Existing ALP 88% Diagram	 3 Diagram
Special Event (2)	50% Diagram	Maintain Existing	0

Source: Kimley-Horn 2021

7.4.2.3. Percent of Airports' Primary Runway Meeting Pavement Condition Index (PCI) of Acceptable (or rated G) or Above

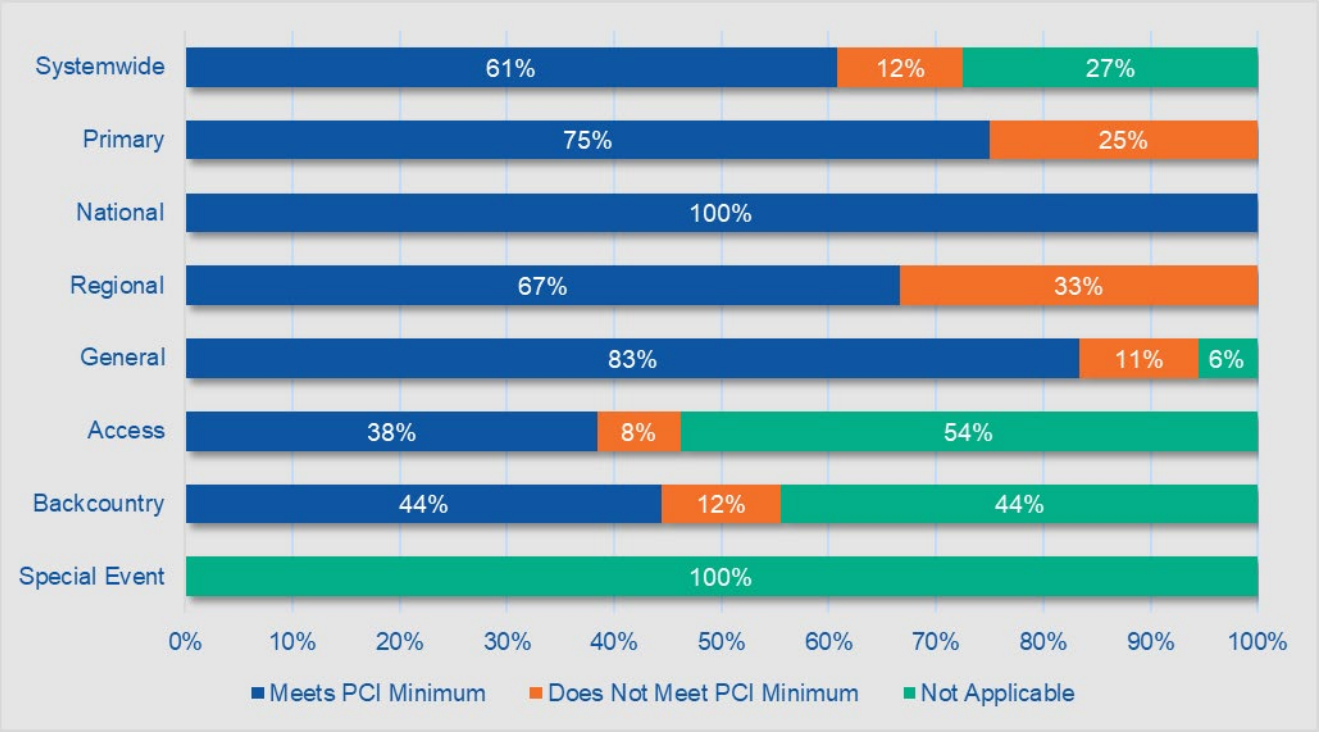
Maintaining airport pavement in good condition is critical for airport safety and usability as poor runway conditions can impact an airport's operational capability. It is important to monitor pavement condition because it is less expensive over time to conduct routine pavement maintenance and rehabilitation than it is to conduct a complete pavement reconstruction. Pavement condition is measured using PCI, an industry standard for measuring and presenting the condition of pavement. PCI assigns a value of 0-100 that corresponds to the pavement's condition, with 100 being "like new" pavement and 0 being failed pavement. NDOT Aviation Program conducted an Airport Pavement Management Study (APMS) in 2018 that evaluated pavement conditions at 22 NPIAS airports.[2] The APMS results are used in conjunction with Airport representative responses regarding primary runway PCI to evaluate this PM. In the event that primary runway PCI data was not available in the NDOT APMS or was not provided on an airport's data collection survey, then the airport's FAA Form 5010 record is referenced and runways with a rating of "G" for Good, or above, are considered as having adequate pavement condition for this PM.

[2] The 2018 APMS did not include Harry Reid International (LAS), Henderson Executive (HND), North Las Vegas (VGT), Reno/Tahoe International (RNO), Reno/Stead (RTS), Perkins Field (U08), Jean (0L7), and Gabbs (GAB)

Existing Performance:

As shown in **Figure 7-29**, 61 percent of the system has a PCI rating of good or better, this includes 75 percent of Primary, 100 percent of National, 67 percent of Regional, 83 percent of General, 38 percent of Access, and 44 percent of Backcountry airports. It is important to note that 14 airports in the system have unpaved runways and therefore are considered not applicable to this analysis.

Figure 7-29: Percent of Airports having Pavement Condition Index (PCI) of Acceptable (or rated G) or Above



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

As shown in **Table 7-9**, the future performance target for this PM recommends that all paved runways in the system should have a minimum PCI rating of "G" or above, which corresponds to a future performance target of 72 percent of the system. It is recommended that all paved runways maintain good pavement condition because deteriorating pavement across the system can be costly to improve and unsafe if not properly monitored and rehabilitated. A total of six airports need to increase their primary runway PCI by implementing a pavement maintenance project in order to meet the future performance target of 72 percent of the system with primary runway PCI of 70 or greater (or rated "G" for Good).

Table 7-9: Future Performance Targets for Pavement Condition Index at System Airports

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement
Systemwide (51)	61%	72%	6
Primary (4)	75%	100%	1
National (2)	100%	100%	0
Regional (3)	67%	100%	1
General (18)	83%	94%	2
Access (13)	38%	46%	1
Backcountry (9)	44%	55%	1
Special Event (2)	0%	0%	0

Source: Kimley-Horn 2021

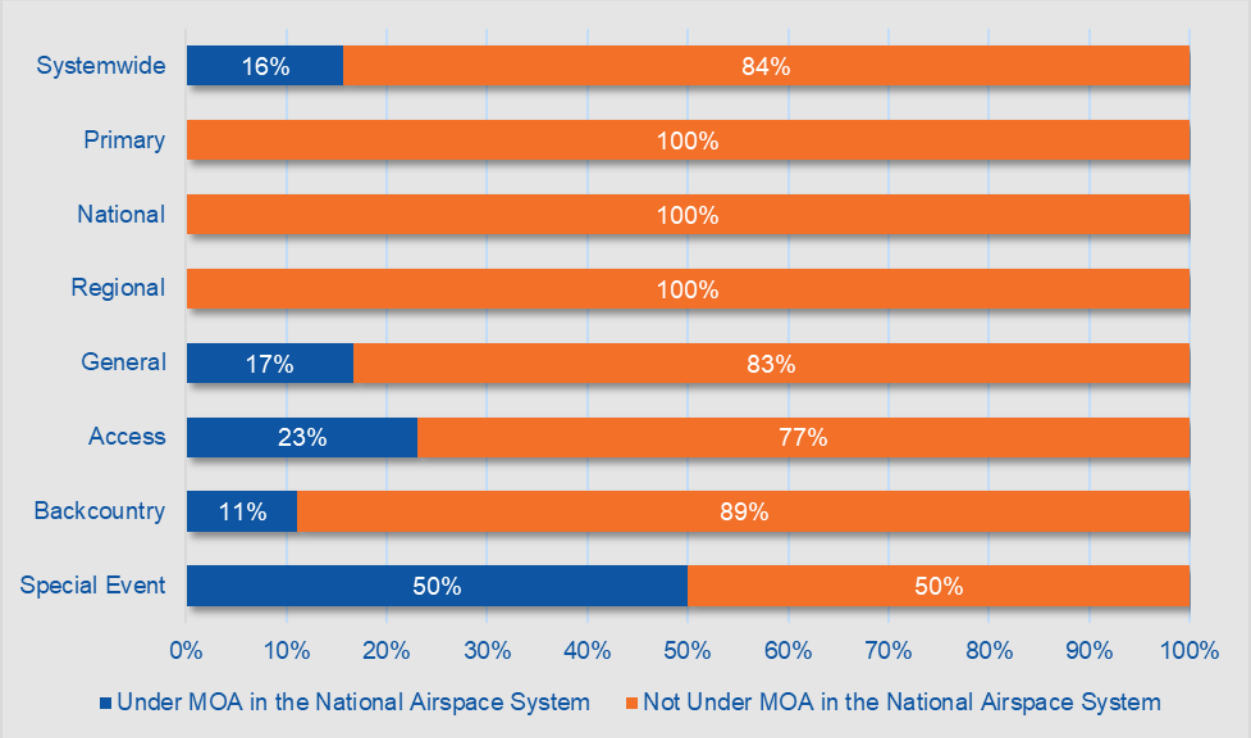
7.4.2.4. Percent of Airports That Are Under a Military Operating Area (MOA) in the National Airspace System

A MOA is airspace designated outside of Class A airspace that separates certain nonhazardous military activities from instrument flight rule (IFR) traffic and to identify for visual flight rules (VFR) traffic where MOA activities are being conducted. MOA activities are nonhazardous military flight activities, including but not limited to air combat maneuvers, air intercepts, and low altitude tactics. It is important that system airports are aware of their location respective to the MOAs across the state to improve situational awareness and promote safety. Moreover, airports that are under MOA may have operations impacted depending on the activities occurring within the MOA. A geospatial analysis is conducted to determine which system airports are under an MOA.

Existing System Performance:

As shown in **Figure 7-30**, 16 percent of the system's airports is under an MOA, which includes 17 percent of General, 23 percent of Access, 11 percent of Backcountry, and 50 percent of Special Event airports. None of the Primary, National, or Regional airports are under MOAs.

Figure 7-30: Percent of Airports That Are Under a Military Operating Area (MOA) in the National Airspace System



Sources: FAA Aeronautical Information Services 2021; ESRI ArcMap, Kimley-Horn 2021

Future Performance:

The purpose of this PM is to establish an understanding of the airports within the system that may be impacted by being under an MOA and use that information to educate those airports and airport users about the impacts of being under an MOA. No future performance target is established for this PM considering that NDOT Aviation Program does not have authority over military operations and cannot

influence the location of MOAs in the state. NDOT Aviation Program staff do monitor military actions and studies that address expansion of their airspace as Nevada has dedicated significant airspace to this activity.

7.4.3. Transform Economies

The purpose of this goal is to improve the contribution of the aviation system to Nevada's economic competitiveness through a supportive and innovative transportation framework. It is critical that aviation facilities in Nevada spur economic activity within their community and/or region. Participating in economic development will look different across system facilities and includes activities such as working closely with local development organizations, attracting business users to the area, and more. The following four PMs developed for the Transform Economies goal are analyzed in the following subsections:

- Percent of airports with active development partnerships
- Percent of airports with expansion/development potential
- Percent of airports that can support regular busines aircraft activities
- Percent of airports with tour operators, specifically utilizing helicopters

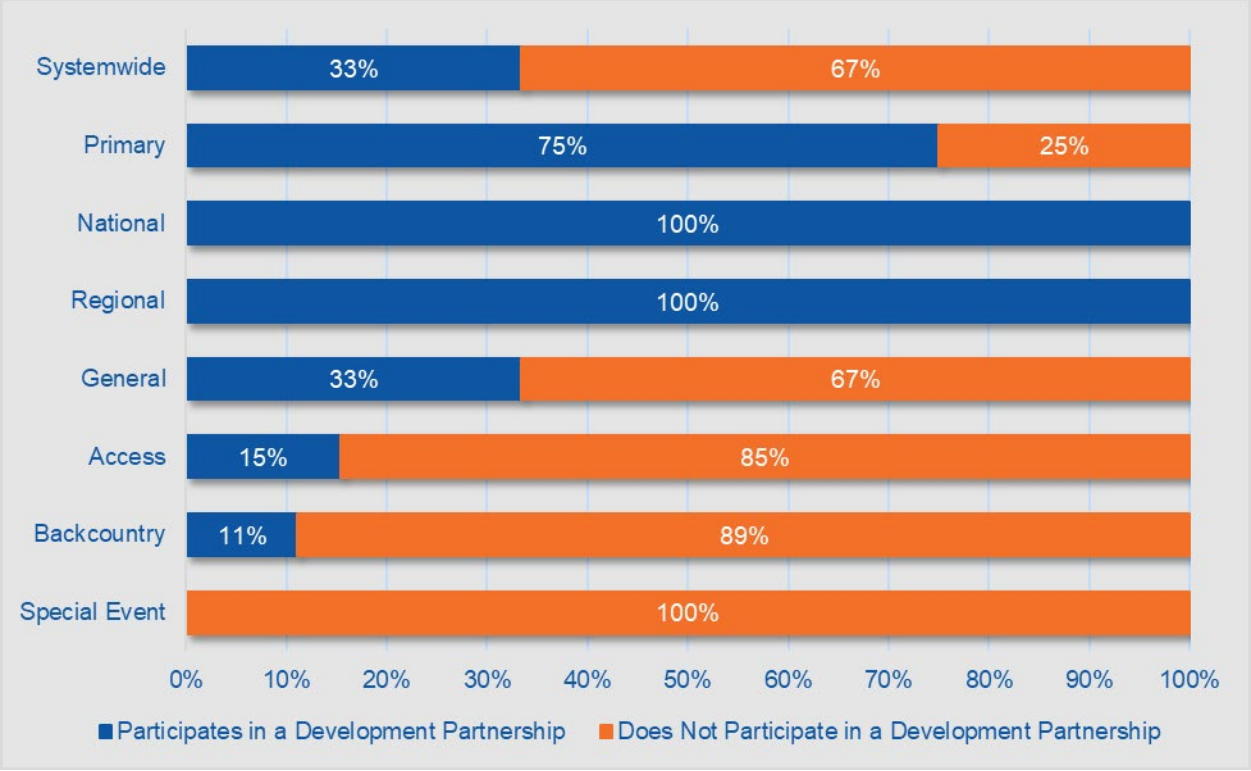
7.4.3.1. Percent of Airports with Active Development Partnerships

Active development partnerships between airports and other organizations facilitate mutually beneficial development of facilities or services toward shared goals. A development partnership may be one between an airport and a local chamber of commerce, or tourism bureaus, service organizations, industries, governments, and/or recreational users. Aviation facilities can leverage their position as an economic anchor by developing partnerships with these public or private entities to promote development of compatible land uses such as business parks, warehouses, and other uses nearby. These active development partnerships support shared goals across industries and encourage a greater mix of economic activity to occur within Nevada.

Existing System Performance:

As shown in **Figure 7-31**, 33 percent of the system airports reported participating in active development partnerships, which includes 75 percent of Primary, 100 percent of National, 100 percent of Regional, 33 percent of General, 15 percent of Access, and 11 percent of Backcountry airports. Neither of the Special Event airports reported that they participate in active development partnerships since these are temporary facilities.

Figure 7-31: Percent of Airports with Active Development Partnerships



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

No future performance target is established for this PM as NDOT Aviation Program cannot influence or enforce partnerships; however, whether or not a NPIAS airport engages in these partnerships impacts their VRV score under the Community Commitment VRV. For more information regarding the VRV

methodology see **Chapter 5. Airport Regional Value**, and to learn more about how NPIAS airports scored in Community Commitment VRV category see **Appendix A. Individual Airport Reports**.

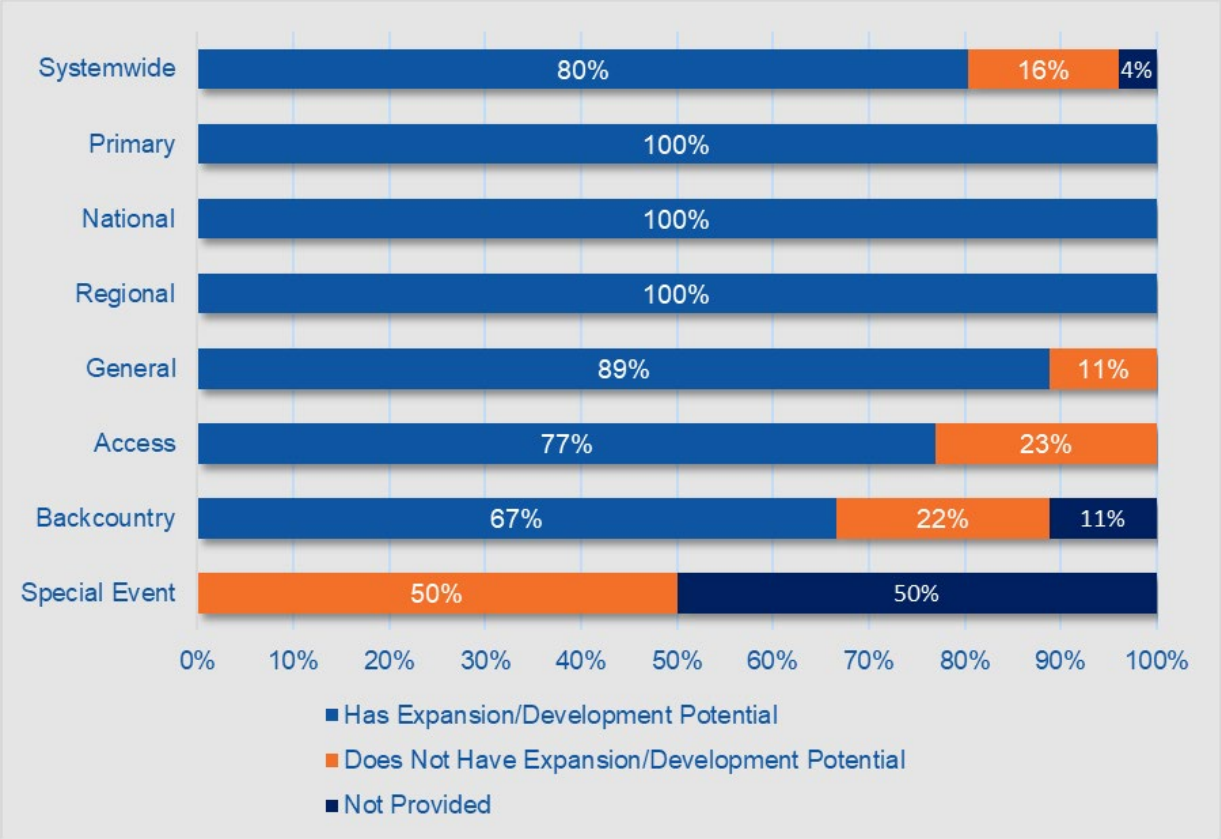
7.4.3.2. Percent of Airports with Expansion/Development Potential

Airports with expansion and development potential are well positioned for increases in aviation demand that may occur in the future or be able to support the development of non-aeronautical uses on airport property. Non-aeronautical uses could include development of business parks, warehouses, and/or light industry that is compatible to airport activity, and more. Developing for non-aeronautical uses can also contribute to an airport's ability to generate revenue through lease payments and tenant rent payments.

Existing System Performance:

Airports were asked to report the number of acres that are used for or have the potential to be used for non-aeronautical uses. Airports with 50 or more acres of land that can be or is currently being used for non-aeronautical uses are considered meeting the expansion/development potential PM. As shown in **Figure 7-32**, 80 percent of airports are considered as having expansion or development potential, including all Primary airports, all National airports, all Regional airports, 89 percent of General Airports, 77 percent of Access airports, and 67 percent of Backcountry airports. One Backcountry airport and one Special Event airport did not provide adequate data to be analyzed in this PM, which corresponds to four percent of the system being considered "Not Provided."

Figure 7-32: Percent of Airports with Expansion/Development Potential



Sources: Airport Inventory Data Collection Survey; Kimley-Horn 2021

Future Performance Target:

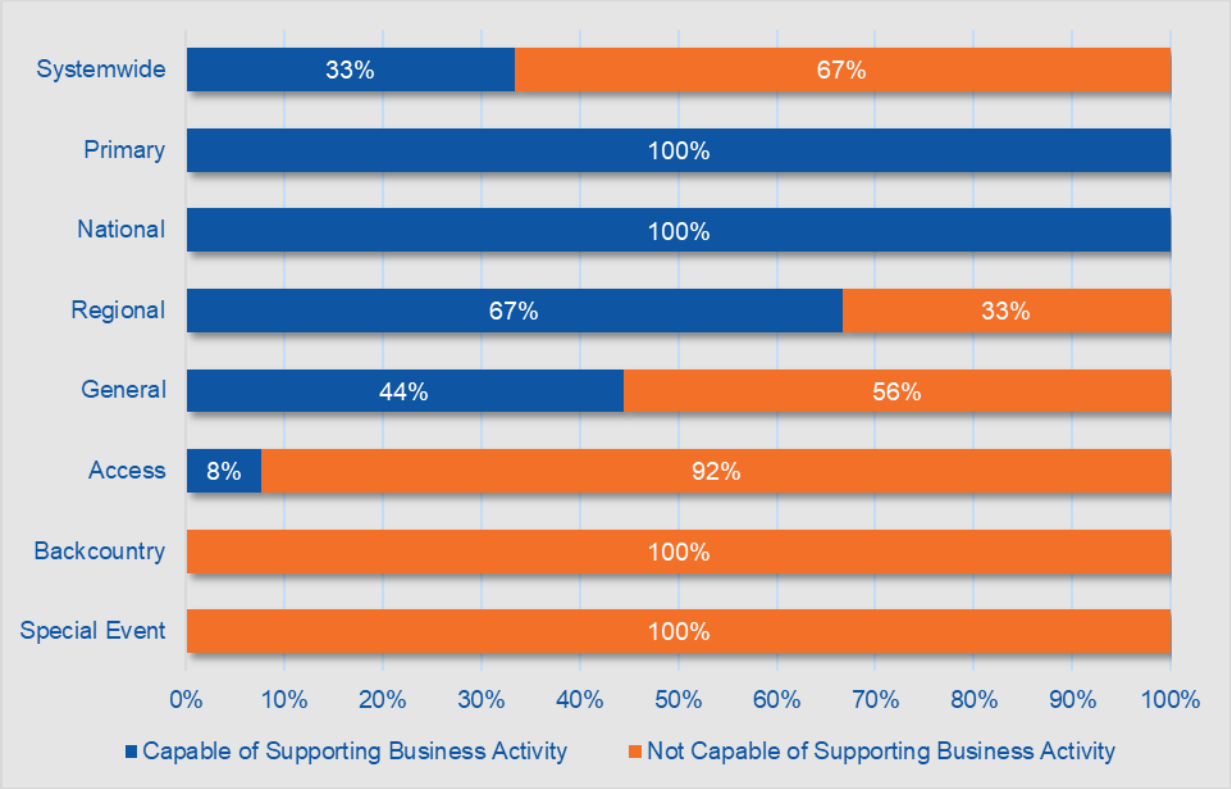
No future performance target is established for this PM because NDOT Aviation Program is not able to impact if an airport has or does not have land available for non-aeronautical development; however, NPIAS airports are assessed in terms of their ability to expand and develop both aeronautical and non-aeronautical uses as a part of the VRV assessment within the Airport Expandability VRV category.

7.4.3.3. Percent of Airports That Can Support Regular Business Aircraft Activity

Businesses of all sizes and from a variety of industries rely on the commercial service and GA airports in Nevada to support their business, whether for travel, shipping products, or otherwise. Airports that can support business/corporate aviation can contribute significantly to direct and indirect impacts on local economies. Airports are considered as being able to support regular business aircraft if they offer at least the minimum facilities and services including 5,000' runway, Jet A fuel, and an instrument approach procedure (IAP).

As shown in **Figure 7-33,** 33 percent of system airports are able to support regular business aircraft activity based on the three criteria, which includes all Primary, all National, 67 percent of Regional, 44 percent of General, and eight percent of access airports. None of the Backcountry airports or Special Event airports have the typical minimum facilities or services to support business aircraft activity on a regular basis.

Figure 7-33: Percent of Airports That Can Support Regular Business Aircraft Activity



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

The future performance target for this PM recommends that all Primary, National, and Regional airports have at least the minimum facilities and services required to support business aircraft activity. Additionally, there are two General airports that only needed one improvement in order to support business activity, so it is recommended that those two airports are considered as a part of the future performance target. In both instances, the improvement is upgrading the airports' approach from a visual approach to an IAP. As shown in **Table 7-10**, these recommended improvements correspond to a future performance target of 39 percent, which corresponds with making improvements at three system airports.

Table 7-10: Support Regular Business Aircraft Activity Future Performance Target

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement
Systemwide (51)	33%	39%	3
Primary (4)	100%	100%	0
National (2)	100%	100%	0
Regional (3)	67%	100%	1
General (18)	44%	55%	2
Access (13)	8%	Maintain Existing	0
Backcountry (9)	0%	Maintain Existing	0
Special Event (2)	0%	Maintain Existing	0

Source: Kimley-Horn 2021

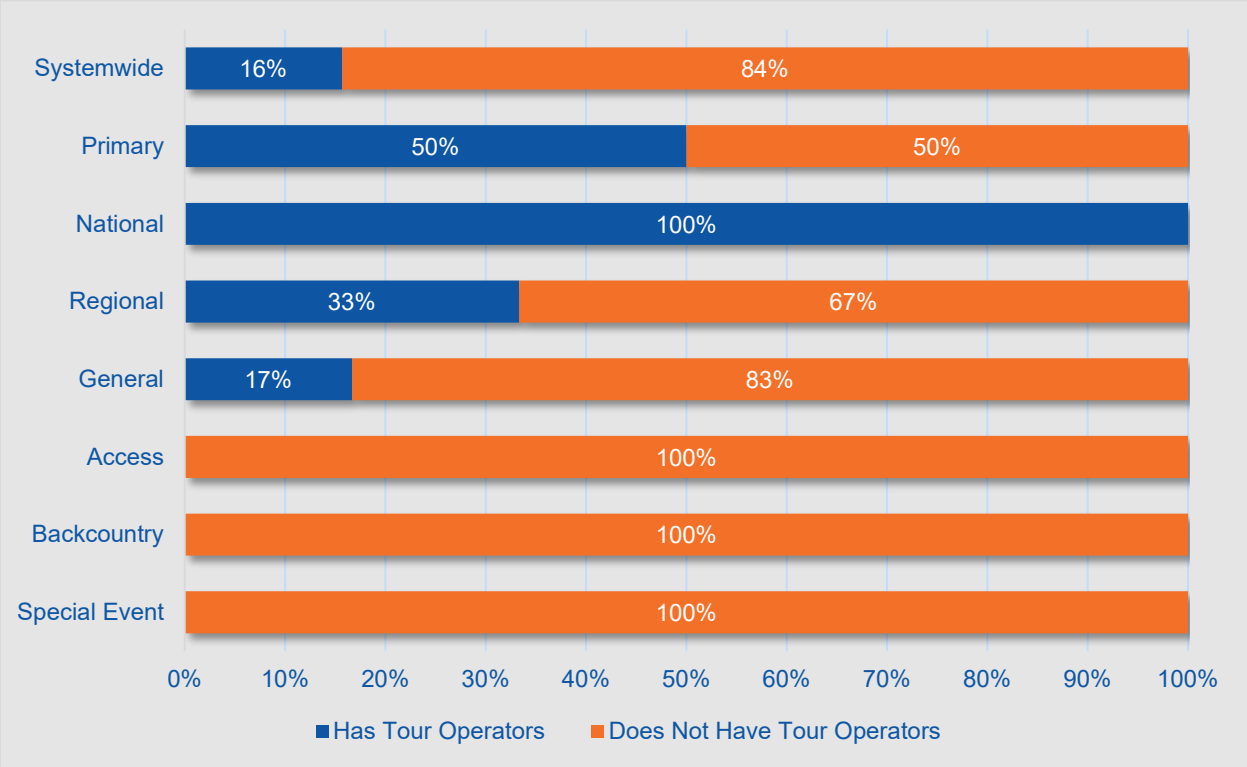
7.4.3.4. Percent of Airports with Tour Operators, Specifically Utilizing Helicopters

Visitors from within Nevada and surrounding regions flock to visit Nevada's national landmarks, experience the thrill of Las Vegas, discover the unique desert landscape, and more. With tourism being such a significant industry for the state, it is important that system airports are able to support this industry in any way they can. All Nevada system airports generally support the tourism industry as they facilitate in-state and out-of-state travel. Outside of supporting visitor travel, airports can contribute to the tourism industry by supporting aerial tour operators, specifically those utilizing helicopters, as helicopter tours are a great way to experience the great wonders that Nevada has to offer.

Existing System Performance:

As shown in **Figure 7-34**, 16 percent of the system reported having helicopter tour operators present at their airport, which includes 50 percent of Primary, all National, 33 percent of Regional, and 17 percent of General. None of the Access, Backcountry, or Special Event airports reported having a helicopter tour operator present at their airport.

Figure 7-34: Percent of Airports with Tour Operators, Specifically Utilizing Helicopters



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

While tour operators can provide a great benefit to an airport and its surrounding community, there are no future performance targets established for this PM as NDOT Aviation Program is not able to impact or influence whether an airport has a tour operator present at the airport.

7.4.4. Foster Sustainability

It is critical that aviation facilities in Nevada are managed and operated in a manner that fosters sustainability. The purpose of this goal is to develop an aviation network that reduces emissions while being environmentally, historically, culturally, and financially sustainable. Sustainable practices are those that focus on improving social equity by promoting access and opportunities for involvement from residents, reducing environmental impact by pursuing alternative energy sources, and pursuing financial opportunities that allow the system to run effectively. The following four PMs developed for the Foster Sustainability goal are analyzed in the following subsections:

- Percent of airports that have established public outreach protocols
- Percent of airports with or pursuing an alternative energy source
- Percent of airports with an airport manager to operate and maintain the airport
- Percent of airports that have received federal and/or state funding within the last five years

7.4.4.1. Percent of Airports That Have Established Public Outreach Protocols

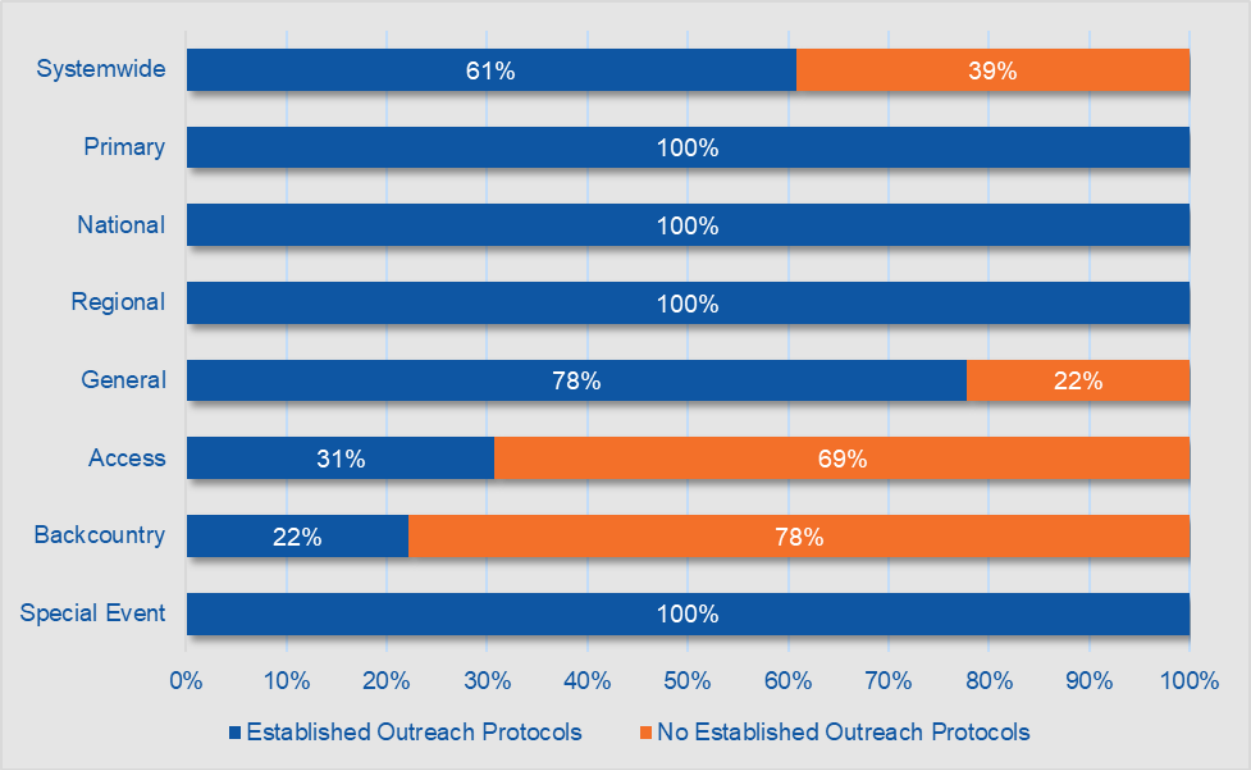
Establishing public outreach protocols contributes to a sustainable aviation system because it promotes social equity as it provides opportunities for the public to participate in the planning and development of their local airport. Public outreach protocols give residents the opportunity to share what is important to them in an aviation system and what challenges they may face in using their local airport. Encouraging the public to be involved in their local airport may lead to a better understanding of how the airport can optimize operations to benefit all users. Moreover, public outreach protocols can educate the public about the benefits of their local airport and/or the aviation system. The public outreach protocols assessed for this PM include:

- Hosting or Participating in Educational Programs
- Hosting an Airport Website
- Advertising the Airport
- Hosting Open Houses or Air Shows
- Hosting School Tours
- Sharing Positive Media Coverage of the Airport

Existing System Performance:

As shown in **Figure 7-35**, 61 percent of the system reported participating in at least one of the listed public outreach activities; this includes all Primary, National, and Regional airports, as well as 78 percent of General, 31 percent of Access, 22 percent of Backcountry, and both of the Special Event airports.

Figure 7-35: Percent of Airports that have Established Public Outreach Protocols



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

No future performance target is established for this PM because NDOT Aviation Program is not able to impact if an airport elects to participate in any public outreach activities; however, NPIAS airports are assessed in terms of their ability to engage with the public as a part of the VRV assessment within the Community Commitment VRV category.

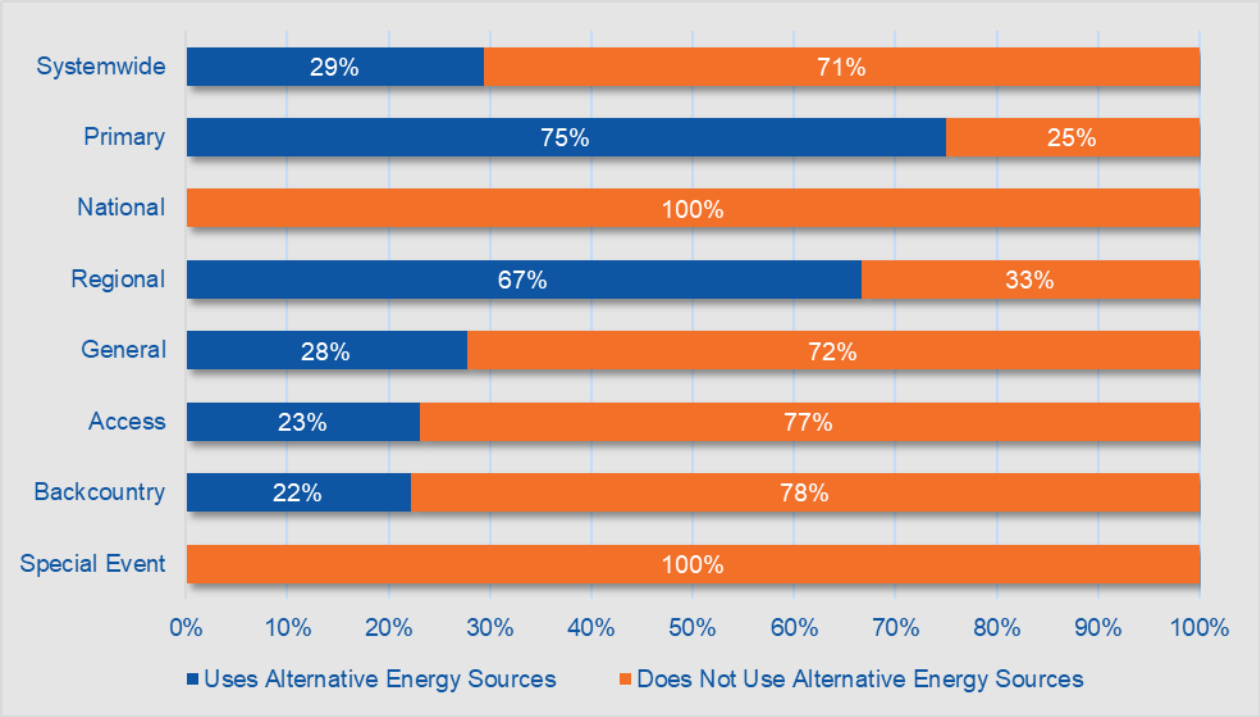
7.4.4.2. Percent of Airports with or Pursuing an Alternative Energy Source

The use of alternative energy sources is becoming more common as the emphasis on decreasing greenhouse gas emissions (GHGs) and becoming less reliant on fossil fuels grows. Alternative energy sources can include solar power, geothermal power, wind power, and hydropower. Solar power is an excellent alternative energy source for Nevada airports as solar power installations are compatible developments for the airport environment and Nevada's climate offers sunshine year-round. While solar power may be the most common, airports were asked if they have or plan to have any type of alternate energy sources at their airport.

Existing System Performance:

As shown in **Figure 7-36**, 29 percent of system airports reported having or pursuing some form of alternative energy source at their airport, including 75 percent of Primary, 67 percent of Regional, 28 percent of General, 23 percent of Access, and 22 percent of Backcountry airports. None of the National or Special Event airports reporting having or pursuing an alternative energy source.

Figure 7-36: Percent of Airports with or Pursuing an Alternative Energy Source



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

No future performance target is established for this PM because NDOT Aviation Program does not have the authority or the funding mechanisms to support this type of development at Nevada airports. NDOT will continue consulting with Nevada Department of Conservation and Natural Resources to determine policies that will achieve the required GHG emissions reduction outlined in Nevada Senate Bill 254, passed in June 2019. Senate Bill 254 mandates that policy options must be developed to achieve GHG emissions reductions of 28 percent below 2005 levels by 2025 and 45 percent below 2005 levels by 2030.[3]

[3] One Nevada Transportation Plan, Pg. 26, February 2020

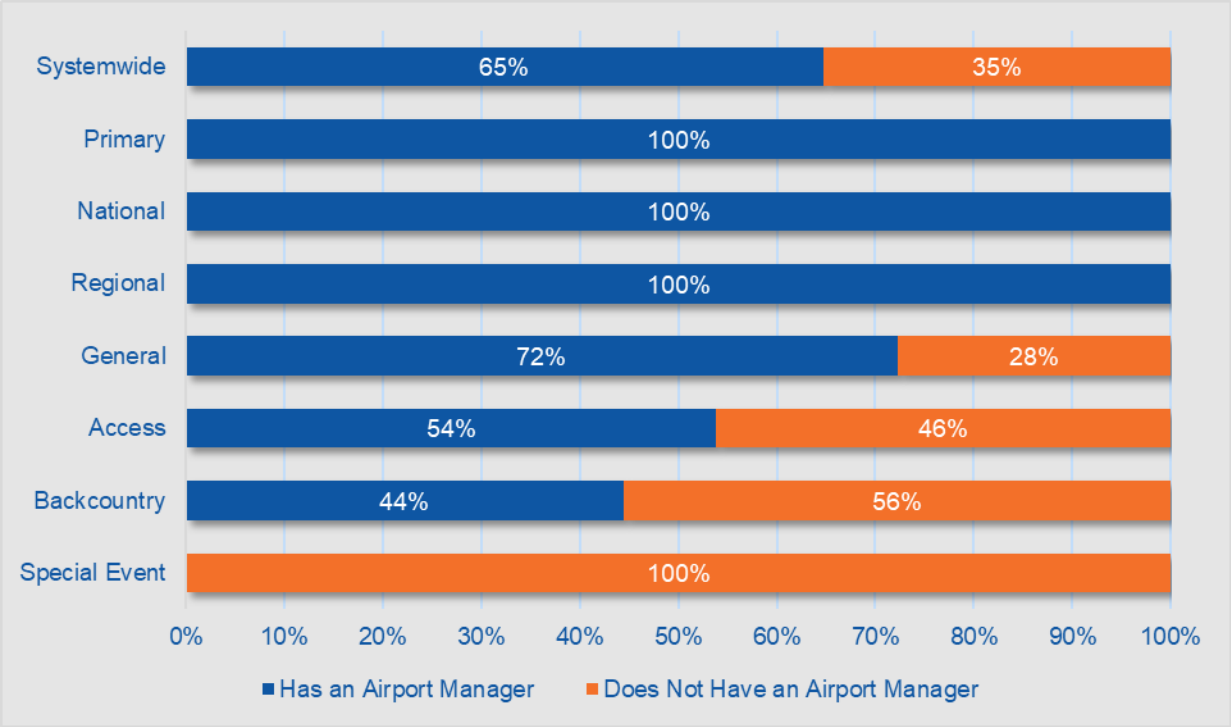
7.4.4.3. Percent of Airports with an Airport Manager to Operate and Maintain the Airport

On-site managers benefit airport operations by ensuring that daily operations are running smoothly, unexpected occurrences or issues are resolved efficiently, and airport visitors or users are provided with the support needed to carry out their activity or business at the airport. The role of an airport manager varies greatly across Nevada airports as the manager of a Primary airport will have different duties and responsibilities than that of a Backcountry airport manager. For the purpose of evaluating this PM an airport is considered as having an airport manager if managerial duties are conducted full- or part-time by an airport-sponsored manager, conducted by other airport staff whose main duties are something other than airport management, or by fixed-base operator (FBO) staff.

Existing System Performance:

As shown in **Figure 7-37**, 65 percent of the system reported having an airport manager, which includes all Primary, National, and Regional airports, as well as 72 percent of General, 54 percent of Access, and 44 percent of Backcountry airports. The two Special Events airports are temporary and do not require airport management in a traditional sense.

Figure 7-37: Percent of Airports with an Airport Manager to Operate or Maintain the Airport



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

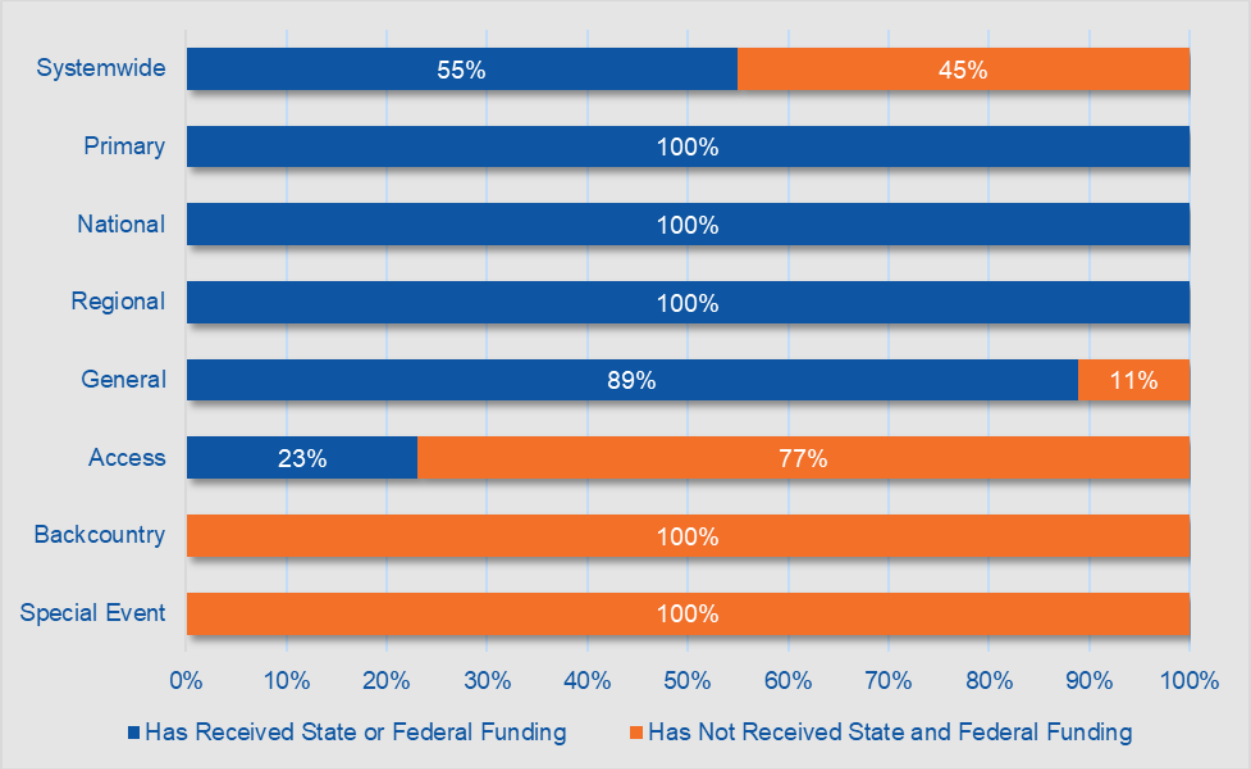
No future performance target is established for this PM because NDOT Aviation Program is not able to fund airport management positions at airports that currently do not have part- or full-time airport management; however, NPIAS airports are assessed in terms of their airport management status as a part of the VRV assessment within the Community Commitment VRV category.

7.4.4.4. Percent of Airports That Have Received Federal and/or State Funding Within the Last Five Years

State and federal funding is leveraged to support continued aviation maintenance and development so that Nevada airports can continue supporting user needs now and into the future. NPIAS airports have access to funding through the AIP, which is distributed by the FAA. NPIAS airports may also receive state match funding for AIP projects and require local resources as well. Non-NPIAS airports are not eligible to receive federal funding and must secure funding through state or local channels.

As shown in **Figure 7-38**, 55 percent of system airports received some form of public funding within the past five years, which include all Primary, National, and Regional airports, as well as 89 percent of General airports and 23 percent of Access airports. None of the Backcountry airports or Special Event airports reported receiving public funding within the last five years.

Figure 7-38: Percent of Airports that have Received Federal and/or State Funding Within the Last Five Years



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

No future performance target is established for this PM as the results of this analysis are for informational purposes only and NDOT Aviation Program cannot enforce which airports in the system apply for and receive public funding, especially federal funding. Nevada airports have long sought to increase state funding to allow more airports to participate and greater funding to support much-needed development in the state.

It is important to note that NPIAS airports are evaluated in terms of the amount of funding they receive and the cost of their historical capital improvements as a part of the VRV assessment, under the Community Commitment VRV category.

7.4.5. Connect Communities

The purpose of the Connect Communities goal is to enhance opportunity, livability, and quality of life through better connections between the aviation system and other modes. It is critical that aviation facilities in Nevada position themselves as anchors within their communities in order to connect local residents to the airport and facilitate critical connections between communities. Providing connections between communities is an essential component of a system plan as these connections support economic development, public safety, and access. The following four PMs developed for the Connect Communities goal are analyzed in the following subsections:

- Percent of airports capable of supporting aerial firefighting operations
- Percent of airports capable of supporting emergency (medical/police) operations
- Percent of the population within 30 minutes of any public-use airport
- Percent of airports providing access to remote communities

7.4.5.1. Percent of Airports Capable of Supporting Aerial Firefighting Operations

Airports play a critical role in wildfire management and suppression as specialized aircraft take-off from Nevada airports and respond to nearby fires burning in the region. In some instances, airports also serve as permanent or temporary bases for wildfire suppression activities, providing space for the specialized aircraft to base for refueling and to reload fire suppression solutions. Aerial wildfire fighters played a role in responding to the over 400,000 acres of wildfires that occurred in Nevada since 2020.[4] There are four airports in the system that reported having a temporary or permanent Bureau of Land Management (BLM) firefighting base on site. Many more airports support temporary operations during active fires depending on the location of the fire, available airport facilities, and other criteria used by BLM to decide how best to manage the wildfire.

In order for airports to support aerial wildfire fighting efforts it is recommended that the airport has the following facilities or services:

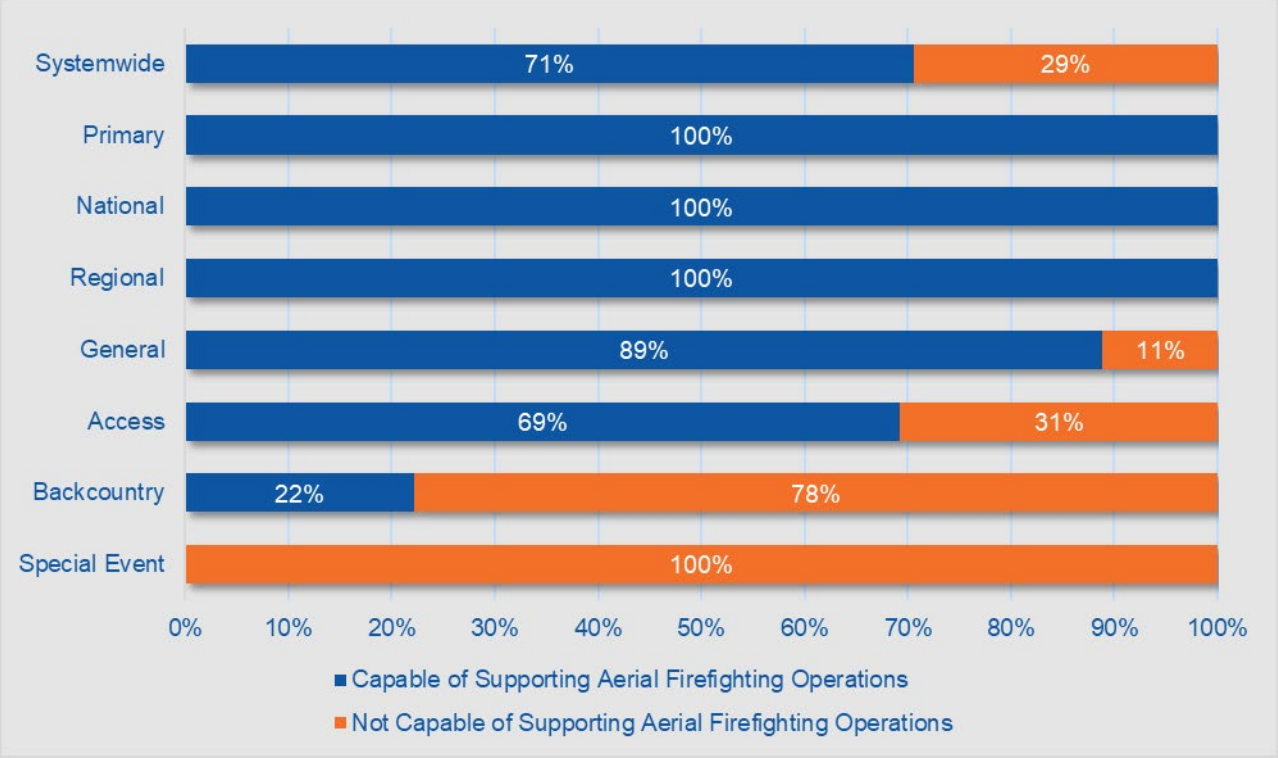
- 5,000’ runway
- Jet A fuel
- Weather reporting
- Water utilities

[4] https://www.rgj.com/story/news/2021/09/21/fire-season-isnt-over-but-so-far-nevada-has-dodged-bullet-2021/5802956001/

Existing System Performance:

As shown in **Figure 7-39**, 71 percent of the system either report aerial firefighting activity occurring at their airport or have the minimum facilities or services that would allow them to support these operations, which includes all Primary, National, and Regional airports, as well as 89 percent of General, 69 percent of Access, and 22 percent of Backcountry airports. Neither of the Special Event airports reported supporting aerial firefighting operations or have the minimum facilities and services required to support this type of activity.

Figure 7-39: Percent of Airports Capable of Supporting Aerial Firefighting Operations



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

The future performance target for this PM recommends that all Primary, National, Regional, and General airports are able to support aerial firefighting operations. As shown in **Table 7-11**, this corresponds with a future performance target of 74 percent, which includes two airports requiring some type of facility or service improvement to accommodate aerial firefighting from the General category. Access, Backcountry, and Special Event airports are fairly remote with limited facilities or services, so it is not necessary for these airports to support aerial firefighting, especially if all other airports in the system have the capability to support these critical activities.

Table 7-11: Capable of Supporting Aerial Firefighting Operations Future Performance Targets

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing an Improvement
Systemwide (51)	71%	74%	2
Primary (4)	100%	100%	0
National (2)	100%	100%	0
Regional (3)	100%	100%	0
General (18)	89%	100%	2
Access (13)	69%	Maintain Existing	0
Backcountry (9)	22%	Maintain Existing	0
Special Event (2)	0%	Maintain Existing	0

Source: Kimley-Horn 2021

7.4.5.2. Percent of Airports Capable of Supporting Emergency (Medical/Police) Operations

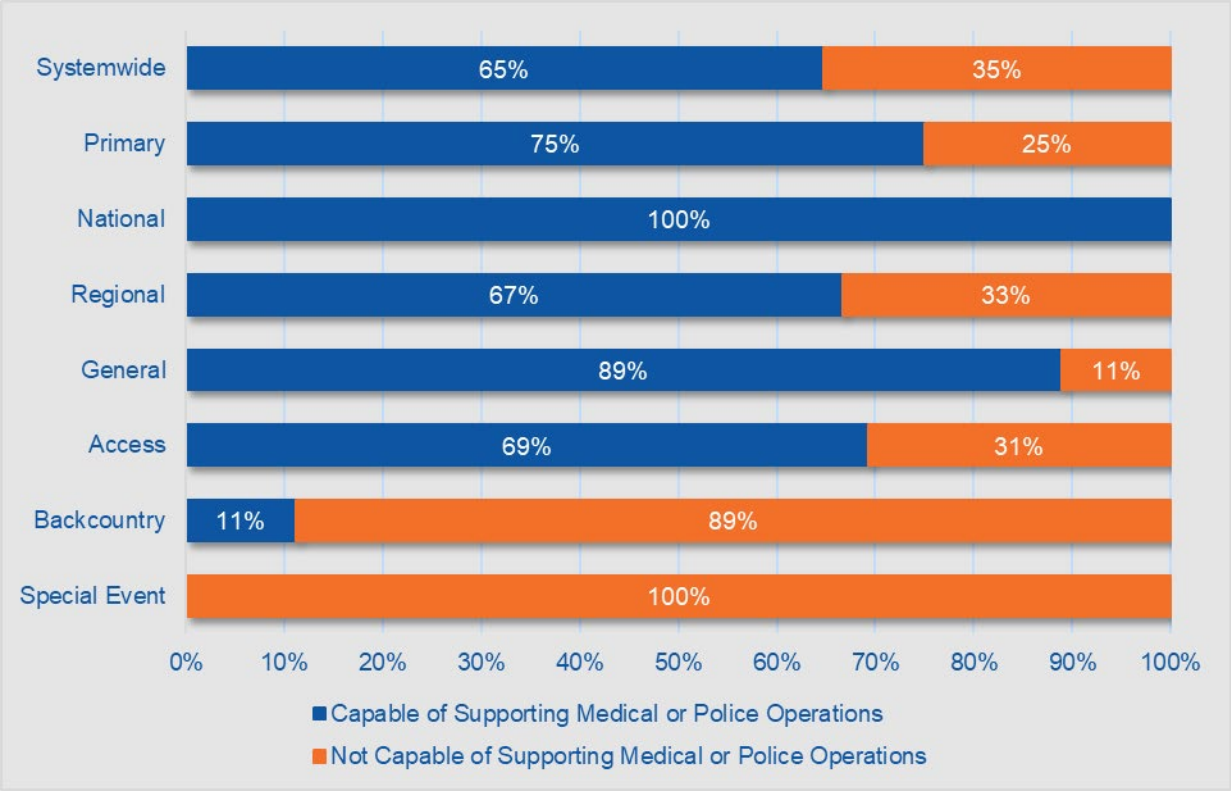
Similar to the critical role of airports in supporting wildfire suppression, airports also play a critical role in supporting emergency response related to medical or police emergency operations. Air medical operations include transporting a patient, medical staff, or medical equipment, and more. Police operations include search and rescue missions, crime scene investigation, transporting wards of the state, and more. Airports are considered as being able to support emergency operations if they reported experiencing any of these operations or reported having the following facilities or services at their airport:

- Weather reporting
- Jet A fuel
- Designated helicopter landing location

Existing System Performance:

As shown in **Figure 7-40**, 65 percent of the system reported supporting emergency operations or reported having the minimum facilities and services to do so, this includes 75 percent of Primary, 100 percent of National, 67 percent of Regional, 89 percent of General, 69 percent of Access, and 11 percent of Backcountry airports.

Figure 7-40: Percent of Airports Capable of Supporting Emergency (Medical/Police) Operations



Sources: Airport Inventory Data Collection Survey, FAA Form 5010, Kimley-Horn 2021

Future Performance Target:

The future performance target for this PM recommends that all Primary, National, Regional, and General airports are able to support emergency operations. As shown in **Table 7-12**, this corresponds with a future performance target of 72 percent, which includes four airports requiring some type of facility or service improvement to accommodate emergency operations. Access, Backcountry, and Special Event airports are fairly remote with limited facilities or services, so it is not as necessary for these airports to support emergency operations, especially if all other airports in the system have the capability to support these critical activities.

Table 7-12: Capable of Supporting Emergency Operations Future Performance Targets

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing an Improvement
Systemwide (51)	65%	72%	4
Primary (4)	75%	100%	1
National (2)	100%	100%	0
Regional (3)	67%	100%	1
General (18)	89%	100%	2
Access (13)	69%	Maintain Existing	0
Backcountry (9)	11%	Maintain Existing	0
Special Event (2)	0%	Maintain Existing	0

Source: Kimley-Horn 2021

7.4.5.3. Percent of the Population Within 30 Minutes of Any Public-use Airport

Public-use airports are an essential component of the state's multimodal transportation system. Airports support business activity, provide opportunities for recreation, and support critical operations that promote public safety and quality of life. In order to better understand the coverage of benefits that these airports provide, a 30-minute drive-time buffer is developed around each public-use airport. The population and land area within these buffers is then identified to determine the percent of the population that has reasonable access to Nevada's public-use airports.

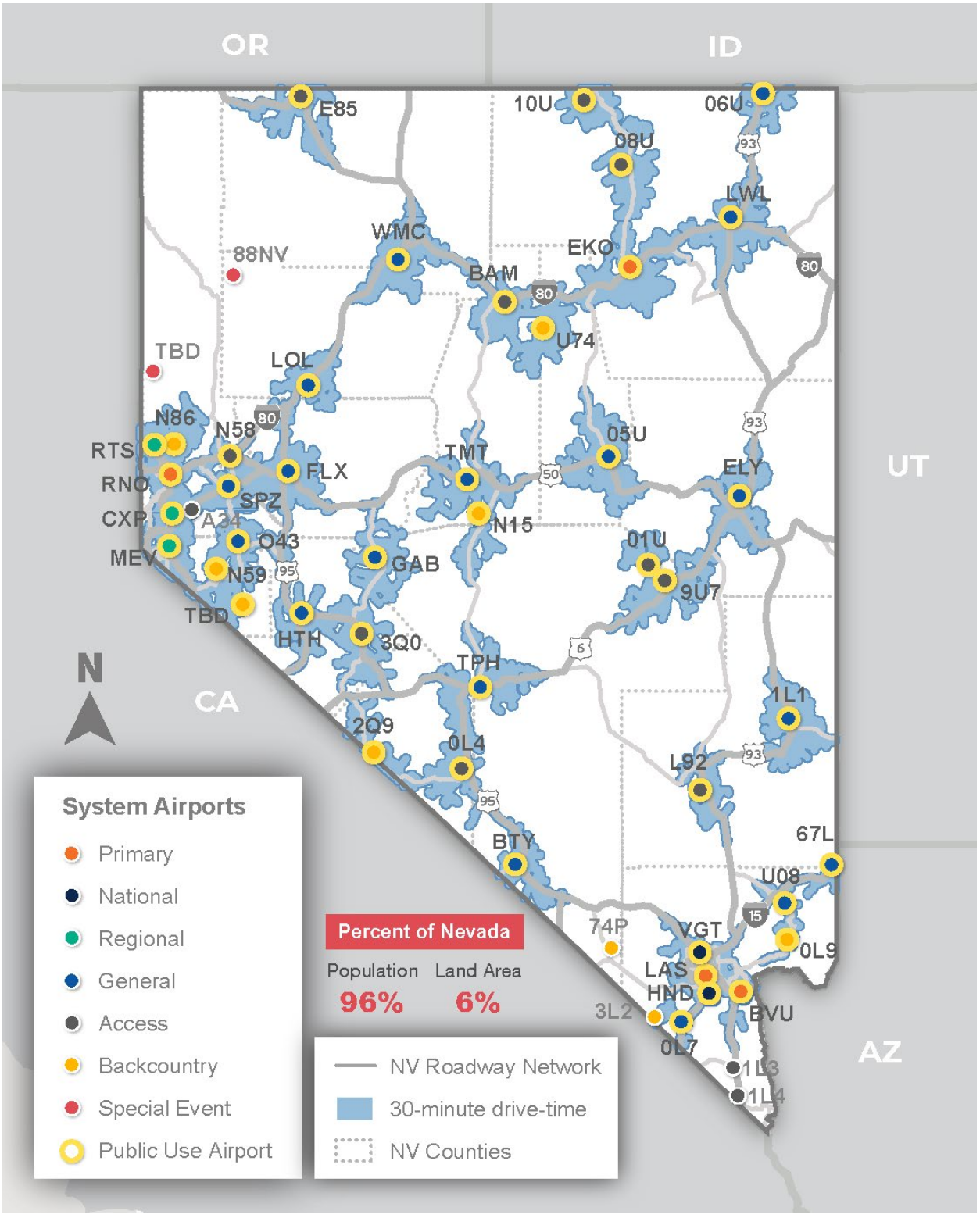
Existing System Performance:

As shown in **Figure 7-41**, 96 percent of Nevada's population (approximately 3.00 million people) and 6 percent of the total land area (approximately 7,135 square miles) are within the 30-minute drive-time service areas of all public-use airports. As mentioned in **Section 7.4.1.2.**, if 30-minute drive-time buffers were developed around all of Nevada's system airports, including the private airports, then 97 percent of the population (approximately 3.12 million people) and 7 percent of the total land area (approximately 7,436 square miles) would be within the 30-minute service areas. This indicates that almost the maximum number of people and land area possible are within 30 minutes of one of Nevada's public-use airports, with a limited population outside a 30-minute drive-time.

Future Performance Target:

No future performance target is established for this PM as the intent of this analysis is informational only.

Figure 7-41: Percent of Population Within 30 Minutes of Any Public-use Airport



Sources: ArcGIS, ESRI Business Analyst Community Profile 2021; Kimley-Horn 2021

7.4.5.4. Percent of Airports Providing Access to Remote Communities

Nevada's unique geographic and demographic nature results in the great majority of Nevada residents living in a few metropolitan regions with smaller remote communities scattered across the state. Remote communities may rely on their local airport in different ways than residents in the metropolitan area.

In order to identify which airports are serving remote communities in Nevada, a GIS layer showing Nevada urban areas[5] is presented in a map layout and a 25-mile buffer is developed around those urban areas. This 25-mile buffer aligns with the U.S. Census definition of a rural (or remote) area being 25 miles from an urban area. The airports within the 25-mile urban area buffers are identified as not serving remote communities, as they are considered as serving urban areas. The airports that are not within the 25-mile urban areas are considered as the airports in the system that provide access to remote communities. This aligns with the Census definition of rural areas being areas that are 25 miles outside of an urban center.

Existing System Performance:

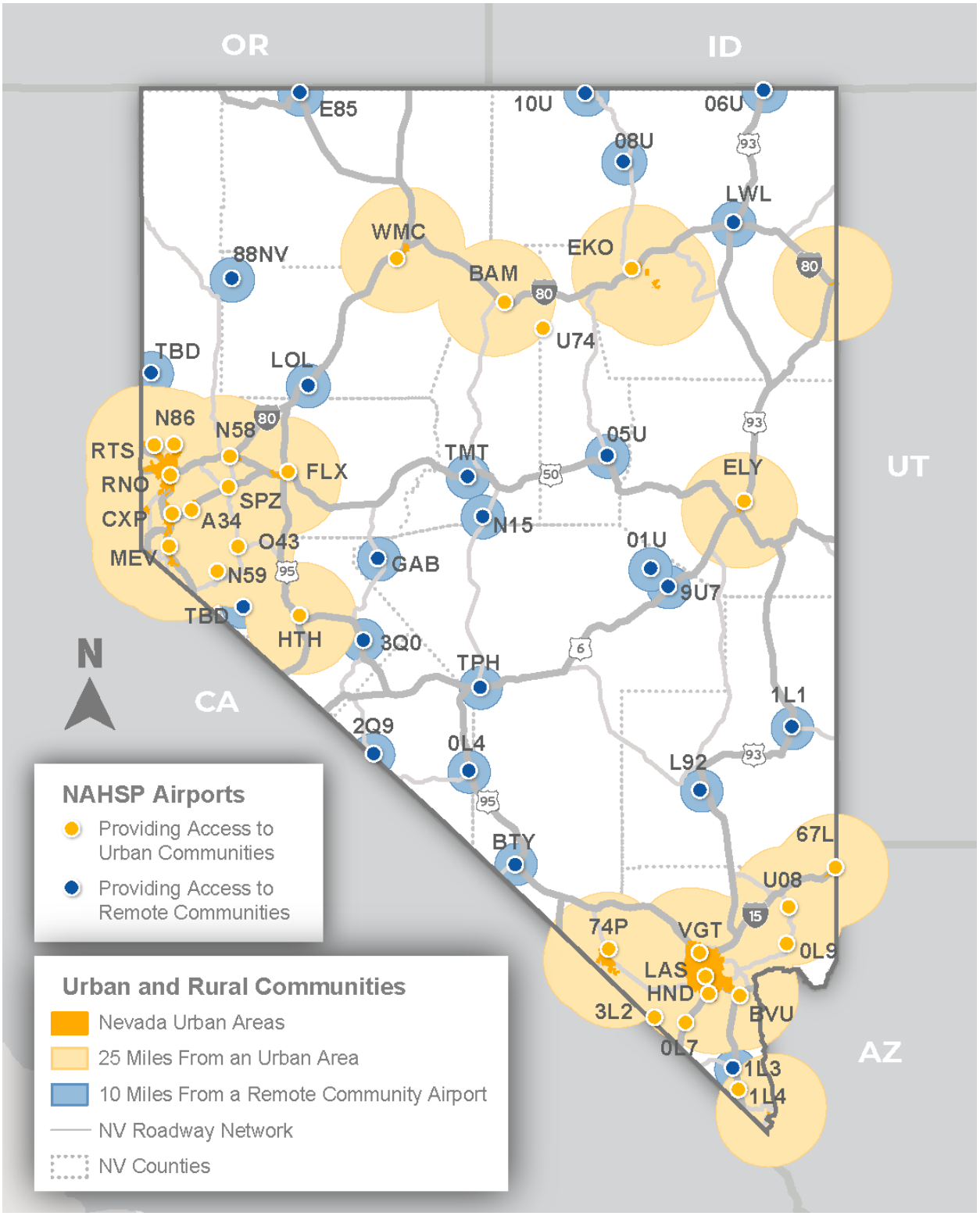
The results of this analysis are visually represented in **Figure 7-42**, which depicts the urban areas and the airports within those areas, and the airports outside of those urban areas that are considered as providing access to remote communities. A 10-mile buffer is developed around the airports that are considered as providing access to remote communities and it shows that approximately 16,000 people live within these buffers, which accounts for only 0.5 percent of Nevada's total population. According to this methodology, 45 percent of the system is considered as providing access to remote communities.

Future Performance Target:

There are no future performance targets associated with this PM as it intended for informational purposes only.

[5] United States Census Bureau, 2020 TIGER/Line Shapefiles: Urban Areas https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2020&layergroup=Urban+Areas

Figure 7-42: System Airports Providing Access to Remote Communities



Sources: U.S. Census Bureau 2021; ArcGIS 2021; ESRI Business Analyst Community Profile 2021; Kimley-Horn 2021

7.4.6. Optimize Mobility

It is critical that aviation facilities in Nevada optimize mobility across the state, which can be achieved by making strategic aviation investments that enhance mobility opportunities, better connections, and reliability expectations. The following three PMs developed for the Optimize Mobility goal are analyzed in the following subsections:

- Percent of Airports that are Adequately Accessible
- Percent of Airports that Provide Off-airport Transportation
- Percent of Airports that are Involved in UAS/UAV Activity

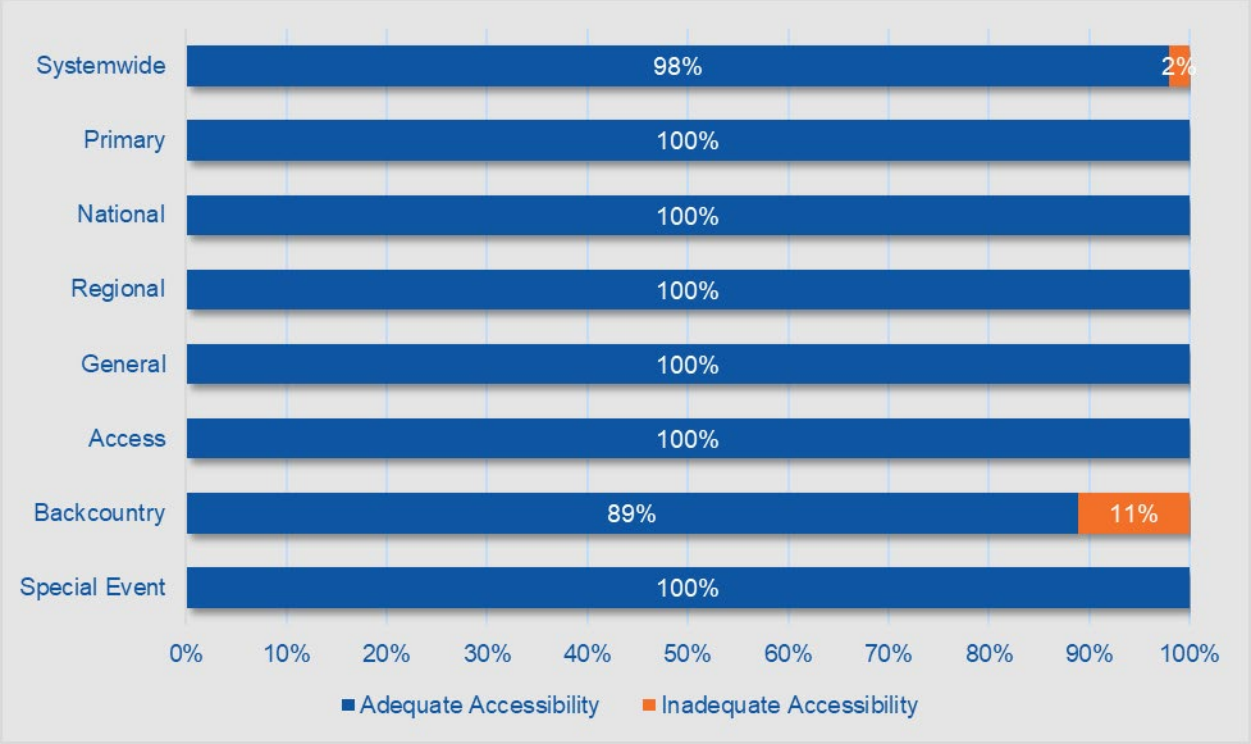
7.4.6.1. Percent of Airports That Are Adequately Accessible

Airport accessibility is key for optimizing mobility across the state because if airport users are not able to reasonably access an airport then airports in the state may go underutilized. An airport is considered as being adequately accessible if the airport access road type is considered a major or minor arterial, a major or minor collector, if the access road is a Nevada State Route or other highway, or if the airport reported that there is sufficient highway access to their airport during the data collection phase of the NAHSP.

Existing System Performance:

As shown in **Figure 7-43**, 98 percent of the system is considered to be adequately accessible, which includes all Primary, National, Regional, General, Access, and Special Event airports, as well as 89 of Backcountry airports.

Figure 7-43: Percent of Airports that are Adequately Accessible



Sources: Airport Inventory Data Collection Survey, Google Earth, Kimley-Horn 2021

Future Performance Target:

As shown in **Table 7-13**, the future performance target established for this PM is set to 98 percent, corresponding with the existing performance; therefore, no roadway connectivity improvements are needed at system airports.

Table 7-13: Future Performance Targets for Airports that are Adequately Accessible

NAHSP Classification	Existing Performance	Future Performance	Number of Additional Airports
Systemwide (51)	98%	98%	0
Primary (4)	100%	100%	0
National (2)	100%	100%	0
Regional (3)	100%	100%	0
General (18)	100%	100%	0
Access (13)	100%	100%	0
Backcountry (9)	89%	Maintain Existing	0
Special Event (2)	100%	Maintain Existing	0

Source: Kimley-Horn 2021

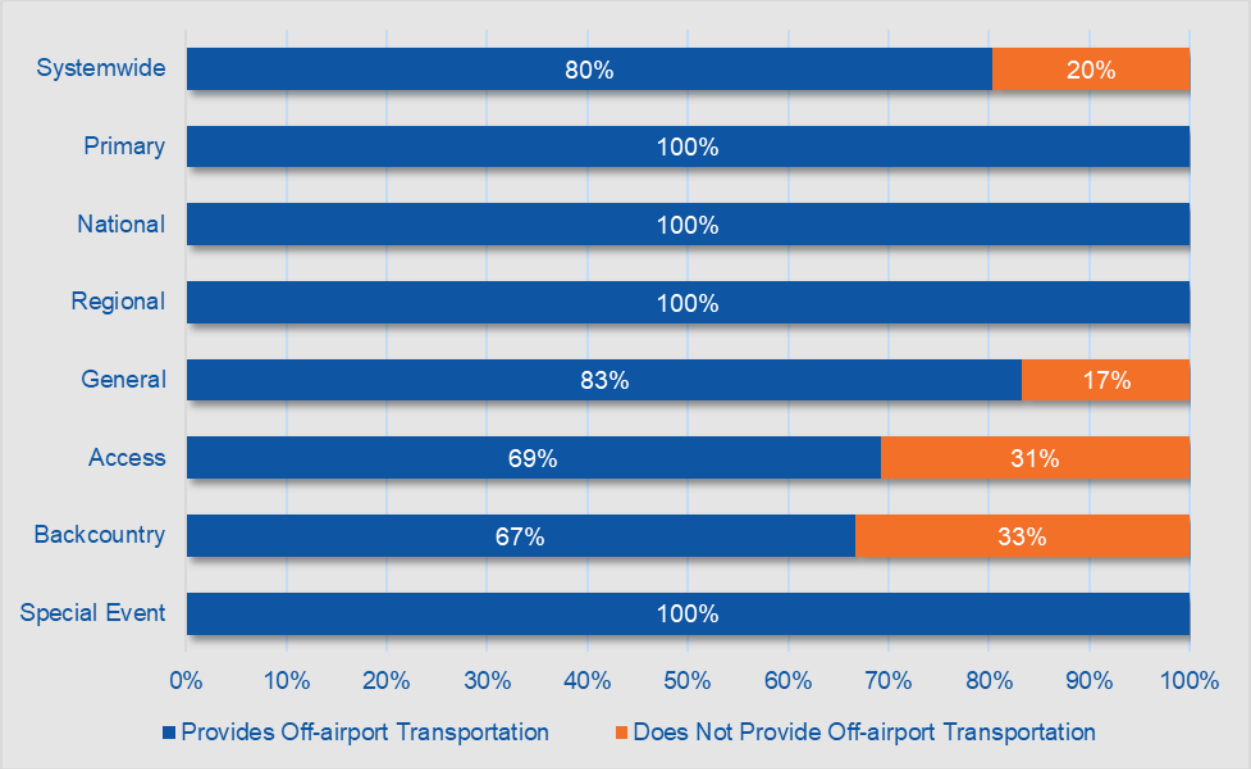
7.4.6.2. Percent of Airports That Provide Off-airport Transportation

Off-airport transportation at NAHSP airports is critical for connecting airport users from the airport to nearby communities or their final destination. Not offering off-airport transportation options can be a limiting factor as some airport users may not visit an airport if there are no ground transportation options available. Off-airport options vary across airports, with commercial service and urban GA airports offering multiple options, including transit connections, rideshare options, and rental cars, while rural GA airports may only offer users a courtesy car option.

Existing System Performance:

As shown in **Figure 7-44**, 80 percent of the system offers some form of off-airport transportation, which includes all Primary, National, Regional, and Special Event airports, as well as 83 percent of General, 69 percent of Access, and 67 percent of Backcountry airports.

Figure 7-44: Percent of Airports That Provide Off-airport Transportation



Sources: Airport Inventory Data Collection Survey, Kimley-Horn 2021

Future Performance Target:

As shown in **Table 7-14**, the future performance target for this PM is 100 percent, corresponding with 10 airports (including the airport that did not provide adequate data) needing to acquire some form of off-airport transportation in order to meet the future target. While NDOT Aviation Program may not be able to fund off-airport transportation options, it is still recommended that all airports acquire a courtesy car, at minimum.

Table 7-14: Future Performance Targets for Airports with Off-Airport Transportation

NAHSP Classification	Existing Performance	Future Performance	Number of Additional Airports
Systemwide (51)	80%	100%	10
Primary (4)	100%	100%	0
National (2)	100%	100%	0
Regional (3)	100%	100%	0
General (18)	83%	100%	3
Access (13)	69%	100%	4
Backcountry (9)	67%	100%	3
Special Event (2)	100%	100%	0

Source: Kimley-Horn 2021

7.4.6.3. Percent of System Airports That Are Involved in UAS/UAV Activity

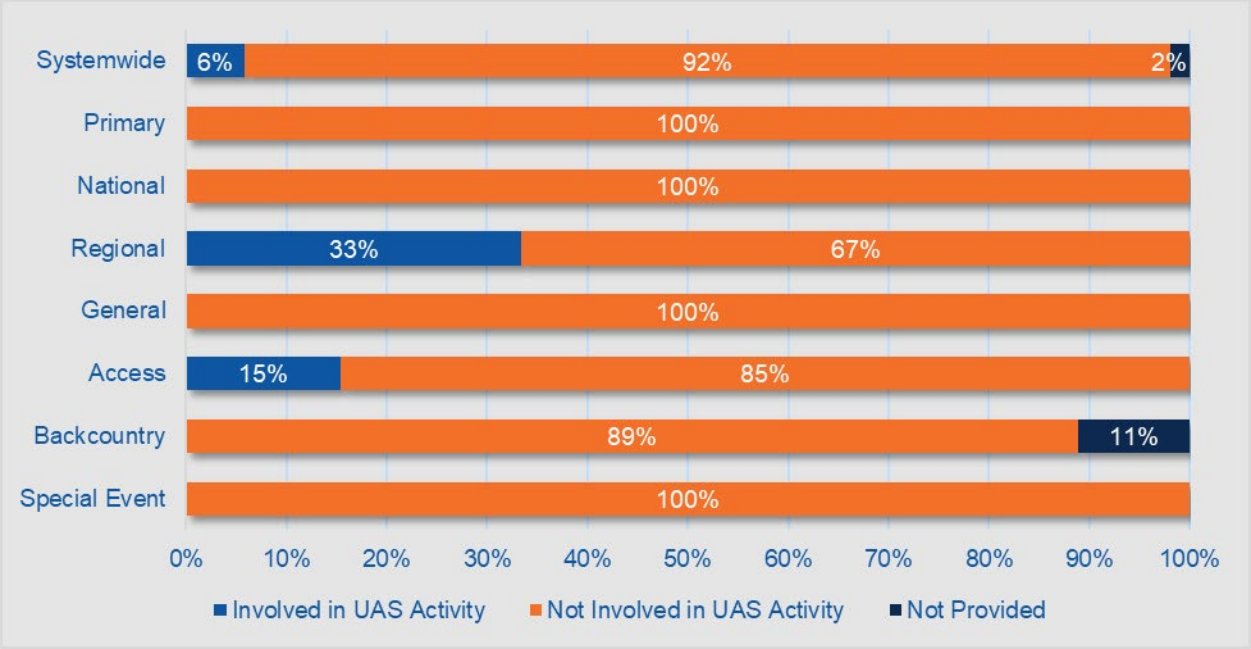
The use and applicability of unmanned aircraft systems (UAS) and unmanned aircraft vehicles (UAV) technologies continue to grow as the technologies become more advanced and readily available. UAS technology is used for a variety of commercial purposes, from public safety operations, to agricultural production, to construction site management, and more. As the technology becomes more widespread, so too does the opportunity for airports to get involved in the technology and monitor UAS activity nearby to ensure that the activity occurring does not pose a threat to on-airport activity. It is particularly important to monitor UAS/UAV activity in Nevada because Nevada was selected as one of seven UAS test sites by the FAA as a part of the UAS Test Site Program established under the FAA Modernization and Reform Act of 2012 (FMRA 2012). The intention of the UAS Test Site Program is to better understand the impacts of public and civil UAS activity on the national airspace. Test sites are also required to work with the FAA during development of certification standards, air traffic requirements, and other guidance.[6]

[6] https://www.faa.gov/uas/programs_partnerships/test_sites/

Existing System Performance:

As shown in **Figure 7-45**, six percent of the system reported having UAS activity present on their airport, which includes 33 percent of Regional airports and 15 percent of Access airports. None of the Primary, National, Regional, or Special Event airports reported being involved in or having UAS activity present at their airport. UAS activity is quite varied, and airports were asked to report if they are involved with any type of UAS activity. This could include developing formal procedures for monitoring UAS activity occurring on- or off-airport, posting signage to educate airport users about UAS operations, having a UAS tenant on the airfield, or simply experiencing UAS activity in the airport environment perhaps due to a nearby construction project, search and rescue mission, or other reason. The purpose of this metric is to better understand how many airports are interacting with UAS in any form across the State of Nevada. One Backcountry airport did not provide adequate data to analyze their UAS activity involvement, corresponding with two percent of the system showing as "not provided." While UAS activity appears low in Nevada based on data from the NAHSP, because it is considered one of seven test sites, it is likely UAS activity will grow.

Figure 7-45: Percent of Airports That Are Involved in UAS/UAV Activity



Sources: Airport Inventory Data Collection Survey, Kimley-Horn 2021

Future Performance Target:

As shown in **Table 7-15,** the future performance target for this PM corresponds with 100 percent of the system being involved in UAS activity. It is important to note that NDOT Aviation Program does not have the ability to directly impact whether an airport does or does not participate in UAS activity; however, it is recommended that, at a minimum, airport sponsors participate in UAS safety protocols in order to meet this future performance target. Participating in safety protocols may be as simple as posting informational posters or providing other literature to airport users regarding the impacts of UAS activity to airport safety. As UAS activity becomes more popular across a variety of industries and for recreational purposes, it is imperative that NAHSP airports, at a minimum, are aware of safety protocols related to these activities.

Table 7-15: Future Performance Targets for Airports Participating in UAS Safety Protocols*

NAHSP Classification	Existing Performance	Future Performance	Number of Additional Airports
Systemwide (51)	6%	100%	48
Primary (4)	0%	100%	4
National (2)	0%	100%	2
Regional (3)	33%	100%	2
General (18)	0%	100%	18
Access (13)	15%	100%	11
Backcountry (9)	0%	100%	9
Special Event (2)	0%	100%	2

**Future performance targets are only related to participating in safety protocols, at a minimum. Source: Kimley-Horn 2021*

7.5. Summary

This chapter provides a comprehensive review of NAHSP's existing system adequacy by presenting results from a variety of performance analyses. These results are presented at the NAHSP role and systemwide level to provide a broad understanding of how the system is meeting the needs of its users. This chapter includes summarized results of the VRV analysis for NPIAS airports and FSO analysis for non-NPIAS airports, as well as provides results of the PM analysis related to the six project goals. The results of the PM analyses are also used to develop future performance targets for applicable PMs. The delta between the future performance targets and the existing performance results becomes the basis for the project and policy recommendations presented in **Chapter 8. Airport Recommendations and Costs**. For more information regarding the ARV and FSO analysis, see **Chapter 5. Airport Regional Valu**e. For more information regarding how specific airports performed in the VRV and FSO analysis, see **Appendix A. Individual Airport Reports.**

Chapter 8. Recommendations and Investment Needs

8.1. Introduction

The Recommendations and Investment Needs chapter of the Nevada Airport and Heliport System Plan (NAHSP) is the culmination of the study's analysis. The information presented in this chapter is the result of establishing existing conditions, determining NAHSP airport roles or classifications, preparing aviation demand forecasts, analyzing system performance, and establishing future performance targets. It was necessary to conduct all of those steps in order to identify project recommendations and policy considerations that are supported by study analyses and can be used in informed decision making.

Before establishing the path forward in determining project recommendations and policy considerations, an analysis of potential future impacts to the system's needs was prepared which is presented first in this chapter. Potential future impacts include a review of socioeconomic factors and transportation projects that may impact system demand, as well as a review of potential future changes to the National Plan of Integrated Airport Systems (NPIAS) and airport roles, as well as consideration of potential new NPIAS airports. It is important to consider potential future impacts prior to establishing recommendations as the recommendations need to account for these potential impacts.

Following the assessment of potential future impacts, this chapter presents the recommendations and policy considerations organized in the following categories:

- NAHSP-related
  - Performance Measures (PMs)
  - Value Rating Variables (VRVs) and Facility and Service Objectives (FSOs)
- Non-NAHSP-related
  - Airport Capital Improvement Plans/Programs (ACIPs), Master Plans, and Other Studies
  - Large Commercial Service Airport Needs
  - Statewide Programs

Non-NAHSP-related projects and costs have several components and are important to include in the study, as possible, to better reflect the total state aviation investment needs anticipated over the next 20 years. Non-NAHSP projects and costs include those identified by study airports as available from sources such as ACIPs – typically more near term; master plans – typically include short-, mid-, and long-term projects; and other studies such as airport pavement management systems (APMS) conducted by individual airports or airport systems.

The NAHSP also recognizes that the two largest airports in the state, Harry Reid International (LAS) and Reno/Tahoe International (RNO) have significant capital needs, including pavement maintenance, many of which are not addressed through PMs, VRVs, FSOs, or other mechanisms. A separate section that specifically addresses the financial needs of these airports is provided in order to develop a statewide airport investment needs summary.

In addition to individual airport project needs, the NAHSP identifies current and potential statewide programs and their associated costs, including implementation of the Nevada Airport Pavement

Management System Update (APMS) and continuation of the program. All of these costs are summed to determine total system needs, with other recommendations identified including potential policy considerations that could enhance the system over time.

As with most needs-based analyses, the Nevada aviation system has far greater investment needs than historical funding has supported. Prioritization is essential in evaluating what projects should be funded in what order with the limited available funding. A high-level overview of funding sources and considerations for determining project prioritization is also included in this chapter.

See **Appendix A. Individual Airport Reports** for additional information regarding airport-specific investment need estimates.

8.2. Potential Future Impacts

The system evaluation in **Chapter 7. Existing and Future System Performance** focused primarily on the system's existing performance based on the analysis of PMs, VRVs, and FSOs. Beyond changes that will occur as a result of the system's development over time, there are other non-aviation factors that have the potential to impact future aviation demand and the aviation system's future needs. These "outside influences" can include a variety of potential conditions such as changes to population, improvements to the ground transportation network, and economic development opportunities. Additionally, airports themselves may experience changes to their role, which could also impact how the aviation system supports Nevada. These outside influences and potential role changes are discussed below.

8.2.1. Outside Influences

A variety of socioeconomic impacts could influence or impact operations and functionality of Nevada's aviation system. More people moving to the state, or from one part of the state to another, improved roadway connections, and economic development opportunities can influence an airport's activity levels.

Nevada population projections are significant, with a University of Nevada, Las Vegas (UNLV) Center for Business and Economic Research (CBER) report stating that an estimated one million people will relocate to the Southern Nevada region alone by 2060.[1] According to the same report, Southern Nevada has been experiencing a trend of people migrating from all over the country ever since the end of the Great Recession in 2009, with predictions that this trend will continue despite COVID-19 impacts. UNLV CBER states that this migratory trend has the potential to impact businesses not only in Southern Nevada, but also across the state. While population growth is most typical in urban areas, with Clark and Washoe counties being home to 95 percent of the state's overall population, Nye County experienced the fastest population growth of counties in Nevada according to the most recent U.S. Census, with a 17.4 percent increase.[2] These population forecast studies are conducted so that policy and decision-makers can understand future needs related to education, public safety, provision of utilities and services, and the transportation system, including aviation. It is important to monitor population changes in both rural and

[1] https://www.unlv.edu/news/release/unlv-report-forecasts-1m-more-residents-southern-nevada-2060
[2] https://www.usnews.com/news/best-states/nevada/articles/2021-08-12/nevada-becomes-more-populous-and-diverse-but-growth-slows

urban communities in Nevada to support informed decision-making about necessary aviation facility investments. More information regarding county-by-county population projections can be found in **Chapter 4. Aviation Activity and Demand Forecasts**.

Economic development activities impact population levels, and in turn, impact demand for housing, utilities, and transportation services. For example, the extension of Interstate 11 (I-11) into Nevada has the potential to improve connectivity and support economic vitality, attracting more people to the area. The I-11 corridor provides a major north-south corridor that will connect Nevada and the Las Vegas metropolitan area to Phoenix and is anticipated to extend north up to I-80. The I-11 Northern Nevada Alternatives Analysis from May 2018 showed additional options north of I-80 eventually connecting from locations in Mexico through Arizona and Nevada north to Canada. Moreover, significant growth in the northern part of Nevada, specifically Humboldt County, is expected due to recent and ongoing economic development activities, including the Thacker Pass Lithium Mine and large-scale salmon hatchery, West Coast Salmon, development.

Other economic development opportunities supported by the Nevada Governor's Office of Economic Development (GOED) offer additional growth potential. The GOED operates a variety of economic development opportunities that relate to rural and remote community development, incentives for new businesses such as tax abatements, and more. These GOED-supported initiatives complement economic development throughout the state, contributing to population increases and more demand for services. It is important to factor in any major economic development plans when conducting any type of aviation facility planning so that the future aviation facilities are equipped to accommodate changes in demand brought on by these developments.

Most of NDOT's current and planned intermodal improvements are focused on the major metropolitan areas of Las Vegas and Reno where the population growth will likely generate demand for increased capacity and access to the interstate and major arterial highway system, as well as along the interstate and major state highway system. **Table 8-1** shows the projected population growth rate of counties within Nevada that are expected to experience compound annual growth rates (CAGRs) of over one percent and their associated airports in the near term (through 2025). While not shown below, these same counties are projected to have growth above one percent over the long term (through 2040) and represent the highest county growth rates in the state.

Table 8-1: Counties with Projected Population Growth over 1 Percent CAGR

County	CAGR (2020-2025)	Associated City	Publicly Owned Airport
Carson City	1.46%	Carson City	CXP
Churchill	1.92%	Fallon	FLX
Clark	1.67%	Boulder City, Jean, Las Vegas (HND and LAS, Mesquite, North Las Vegas, Overton (Echo Bay and Perkins Field)	BVU, 0L7, HND, LAS, 67L, VGT, 0L9, U08
Elko	1.59%	Elko, Jackpot, North Fork, Owyhee, Wells	EKO, 06U, 08U, 10U, LWL
Eureka	1.90%	Crescent Valley, Eureka	U74, 05U
Humboldt	1.43%	Denio, Winnemucca	E85, WMC
Lincoln	1.26%	Panaca	1L1
Lyon	1.39%	Fernley, Silver Springs, Smith, Yerington	N58, SPZ, N59, O43
Nye	1.32%	Beatty, Currant, Duckwater, Gabbs, Tonopah	BTY, 9U7, 01U, GAB, TPH
Storey	1.70%	None	N/A
Washoe	1.26%	Reno (RTS, RNO, N86)	RNO, RTS, N86

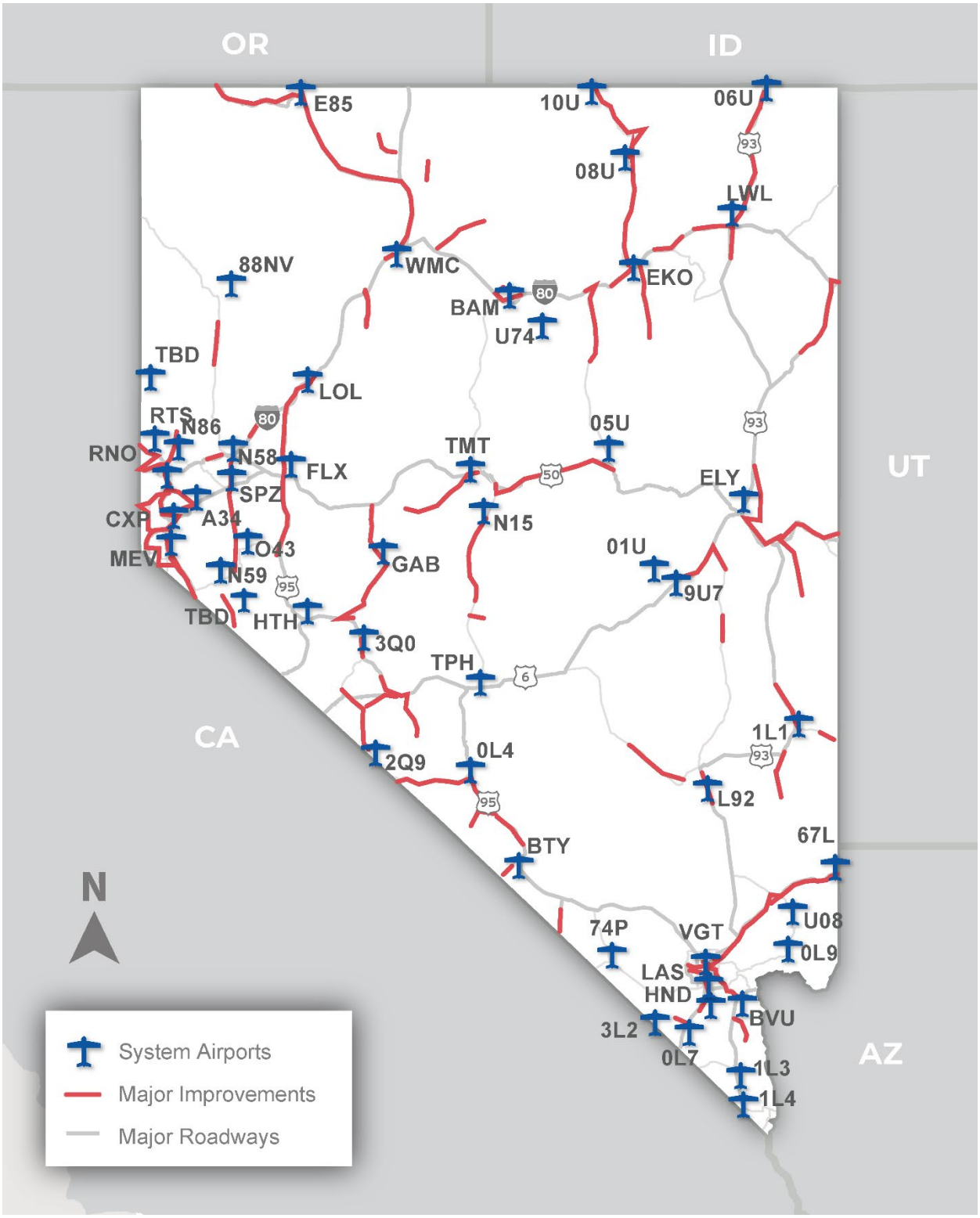
Sources: Woods & Poole Economics, Inc. 2020, Kimley-Horn 2021

Projects identified in the 2021 NDOT Work Program, which includes current fiscal year projects, short-range element projects (defined as two to four years), and long-range element projects that are in the planning stage but expected to be completed five years and beyond. **Figure 8-1** displays the general project areas of the 2021 NDOT Work Program.

As depicted, projects are identified throughout the state, with improvements to roadways including:

- I-15
- I-80
- I-515
- U.S. Route 93
- U.S. Route 95
- U.S. Route 50
- Nevada State Route 140
- Nevada State Route 361
- Nevada State Route 225

Figure 8-1: 2021 NDOT Work Program Map



Source: 2021 NDOT Work Program, Kimley-Horn 2022

There is also a high-speed rail project proposed for development by Brightline (or Brightline West), a privately owned passenger railroad, which is referred to as XpressWest. This project would connect Las Vegas to Los Angeles at final completion. There is currently no estimated timeline for this project.

While population growth is expected and will drive some of the proposed transportation improvements (and vice versa), the existing aviation system appears generally capable of accommodating these changes. The potential exception is in southern Nevada where proposed population growth, as well as associated and likely economic activity, is projected to impact commercial air service needs. Subsequent sections discuss the proposed Southern Nevada Supplemental Airport (SNSA), a long studied new airport site to supplement commercial service needs at LAS.

8.2.2. Evaluation of Potential Changes to the NPIAS

The Federal Aviation Administration's (FAA's) NPIAS is updated every two years, with airport classifications and roles updated based on aviation activity that is evaluated from nine to 12 months prior to the publication. Previous NAHSP chapters have identified the most recent FAA classifications for Nevada's 30 NPIAS airports from the *2021-2025 NPIAS*, as well as identified the NAHSP role of the 21 non-NPIAS airports included in Nevada's aviation system. Using more current data and the NPIAS classification criteria, a re-evaluation of facilities was conducted to identify any airports that may warrant a classification change in the next iteration of the NPIAS, scheduled to be the *2023-2027 NPIAS*. This evaluation of potential changes in NPIAS classification looked only at Nonprimary airports (as opposed to Primary commercial service airports whose hub classifications are examined every year based on enplanements) and non-NPIAS airports within the NAHSP using the criteria outlined in the *2021-2025 NPIAS Appendix C: Statutory and Policy Definitions; Data Sources*. The evaluation was conducted to determine if Nonprimary airports' classifications could possibly change and if non-NPIAS airports may be eligible for inclusion in the next NPIAS iteration.

With the criteria for each classification clearly defined, each airport's data, as gathered from the NAHSP and the FAA's database, was examined against these criteria to see if an airport might be reclassified to a higher or lower role in the next NPIAS iteration. For a reclassification to a higher role, an airport must meet all of the given criteria for the next highest role. For an airport to be reclassified to a lower role, they must fail to meet any one of the given criteria for their current role. **Table 8-2** presents the results of the NPIAS re-evaluation analysis for Nonprimary airports identifying that only one airport, Perkins Field, was found to be possibly eligible for a reclassification. This airport would change from a Basic airport to an Unclassified airport, based on having less than 10 based aircraft. It is important to note that the results of the NPIAS and non-NPIAS reclassification evaluation does not guarantee that the airport will experience any change in the upcoming NPIAS. Coordination between the airport sponsor (Clark County), NDOT, and the FAA is required before any airport will be included or excluded from the NPIAS.

Table 8-2: NPIAS Re-evaluation Results for NPIAS Airports in the NAHSP

Associated City	Airport Name	FAA ID	Existing NPIAS Classification	Potential Future NPIAS Classification	Justification*
Overton	Perkins Field	U08	Basic	Unclassified	Publicly owned: Yes Existing based aircraft: 1** Minimum required based aircraft: 10

*Notes: *FAA's Criterion 1 for Basic airports must meet both requirements: publicly owned; and 10 or more validated based aircraft for an airport. **While 1 based aircraft was reported through the NAHSP inventory effort, FAA's National Based Aircraft Inventory Program notes that 7 based aircraft were validated as of 11/13/2019. This is still less than the 10 required for the Basic classification. Sources: 2021-2025 NPIAS, NAHSP Data Collection Form 2021, Kimley-Horn 2022*

For non-NPIAS airports, each was evaluated based on the initial screening requirements outlined by the FAA in FAA Order 5090.5, *Formulation of the NPIAS and ACIP*. The 21 non-NPIAS airports included in the NAHSP were each evaluated for the following five criteria from this FAA Order:

- Public use and operated by a sponsor eligible to receive federal funds and meet obligations (likely publicly owned)
- Used by 10 or more operational and airworthy aircraft based on the airport
- At least 30 miles from the nearest NPIAS airport
- Included in a state or territory aviation system plan
- No significant airfield design standard deficiencies

In order to be considered for inclusion in the next iteration of the NPIAS, a non-NPIAS airport must generally meet all five of these given criteria or fulfill a unique role in the national system as defined by the FAA. While all 21 airports meet the state or territory aviation system plan inclusion, since they are all included in the NAHSP, the performance for the remaining four criteria is mixed, with none of the airports meeting all five criteria. The results of this evaluation indicate that none of the non-NPIAS airports will likely be considered for NPIAS inclusion in the next NPIAS iteration.

8.2.3. Potential Future Airport System

As mentioned in **Chapter 3. Airport Roles and Classification Analysis**, the airports that make up the NAHSP provide a unique array of facilities and services that together contribute to an aviation system that meets the needs of its users. Each NAHSP role is distinct and the airports within those roles serve diverse purposes, while also working together as a dynamic system that provides access to all parts of the state. The airports' individual and cumulative functions impact how well the system can serve community, regional, and state needs.

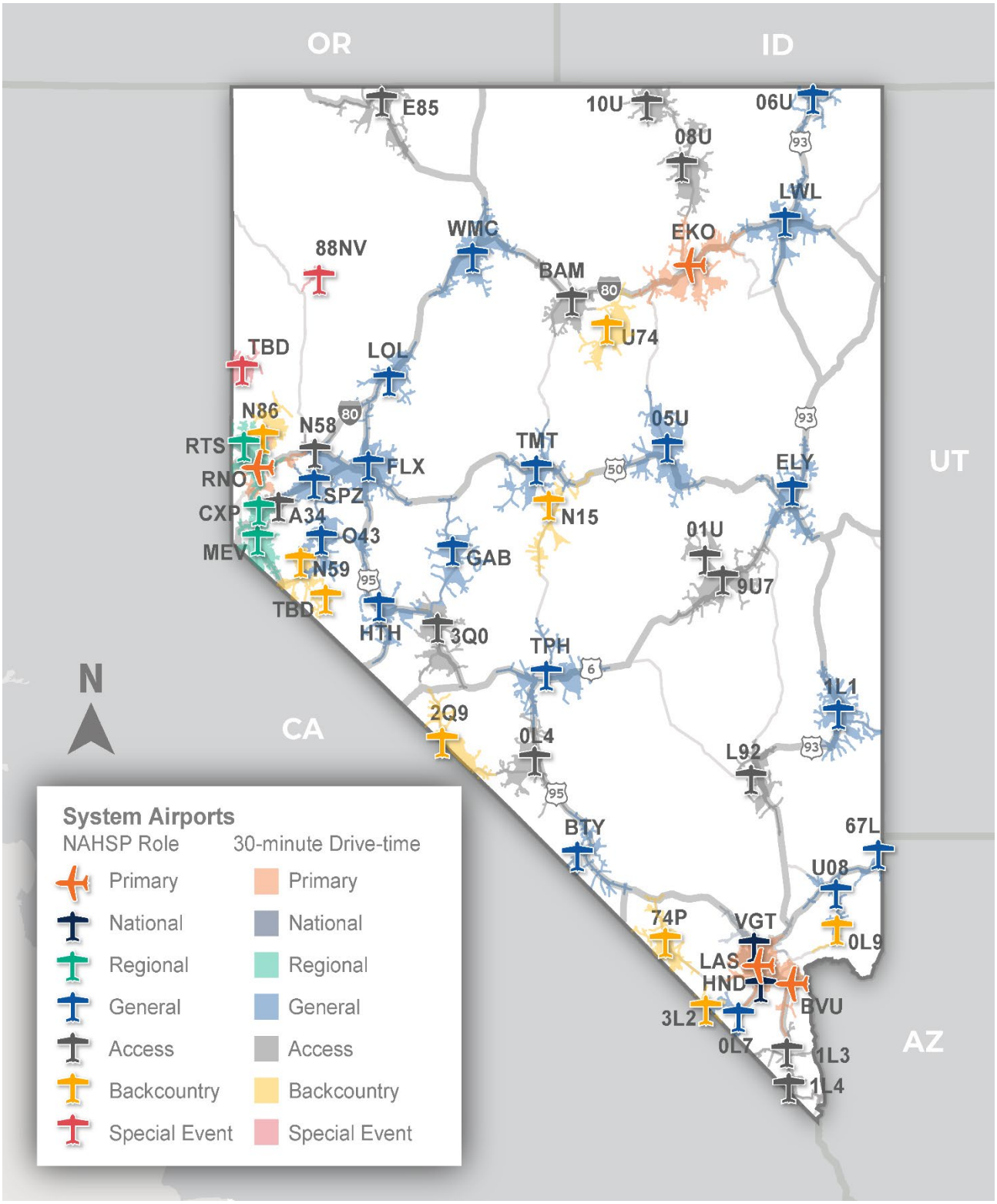
In order to better understand the level of service the NAHSP facilities provide, an analysis was conducted that identifies the percent of the population and land covered by airports that comprise each NAHSP role using 30-minute drive times for each airport. In instances when an airport's drive time extended into a bordering state, only Nevada population was counted. The results of this analysis are presented in **Table 8-3** and depicted in **Figure 8-2**. The four Primary airports in the system provide adequate access for 81 percent of the state's total population coverage and approximately one percent of the state's total land area. The 18 General airports and associated 30-minute drive time service areas account for the highest percentage of land area compared to the other six NAHSP roles, covering approximately three percent of the state's land area.

Table 8-3: Percent of State Population and Land Coverage Within 30 Minutes' Drive Time of Each NAHSP Role*

Roles	Population Served	Percent of Population	Land Coverage (sq miles)	Percent of Land Coverage
Primary (4)	2,520,800	81%	1,070	1%
National (2)	2,211,410	71%	490	0%
Regional (3)	535,300	17%	460	0%
General (18)	507,530	16%	3,420	3%
Access (13)	119,720	4%	1,910	2%
Backcountry (9)	450,660	14%	1,090	1%
Special Event (2)	30	< 0%	80	< 0%

*Notes: *Population and land coverage rounded to the nearest ten. Totals may not sum due to rounding.*
Sources: ESRI Business Analyst 2021, ArcMap 2021, Kimley-Horn 2021

Figure 8-2: Nevada Airport System Population and Land Area Coverage



Sources: ArcMap 2021, Kimley-Horn 2022

To build off of this analysis and further understand how NAHSP roles work together to contribute to a dynamic state aviation system, an analysis was conducted that shows the progression of population and land coverage as the NAHSP roles are merged, one by one, starting with the largest airports in the system until all of the roles are considered as one system. This analysis showcases how each airport classification's contribution to coverage is an integral component to the overall strength of the system. The results of this analysis, including an indication of the number of airports depicted in each combined analysis, are shown in **Table 8-4**.

Table 8-4: Progression of Population and Land Coverage Based on Merged NAHSP Roles*

Roles	Population Served	Percent of Population	Land Coverage (sq miles)	Percent of Land Coverage
Primary & National (6)	2,738,930	88%	1,140	1%
Primary, National, & Regional (9)	2,841,670	91%	1,400	1%
Primary, National, Regional, & General (27)	2,977,470	95%	4,710	4%
Primary, National, Regional, General, & Access (40)	2,997,770	96%	6,470	6%
Primary, National, Regional, General, Access, & Backcountry (49)	3,048,510	97%	7,310	7%
Primary, National, Regional, General, Access, Backcountry, & Special Event (51)	3,048,540	97%	7,390	7%

*Notes: *Population and land coverage rounded to the nearest ten. Totals may not sum due to rounding.*
Sources: ESRI Business Analyst 2021, ArcMap 2021, Kimley-Horn 2021

As shown, the 30-minute drive time service areas for Primary and National airports alone account for almost 90 percent of Nevada's total population, even though these airports' service areas only account for one percent of the total land area. Once all other airport roles' coverage is added, almost all of Nevada's population is within 30-minutes' drive of a system airport, as 97 percent of the population is within one of the service areas. Even with almost all of Nevada's population being 30 minutes from a system airport, these airports' service areas only account for seven percent of the state's total land area. A significant portion of the state's land area does not have adequate access to a public use airport.

As noted in **Chapter 4. State, Regional, and Local Airport Issues**, the federal government currently owns and maintains almost 82 percent of the land in Nevada through various departments such as the U.S. Forest Service (USFS), U.S. National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Land Management (BLM), and the Department of Defense (DOD). In terms of access, there are also many privately owned airports and heliports in the state that were not studied in the NAHSP but were identified in Table 2-2 and Figure 2-2, as well as heliports identified in Table 2-3 (all contained in **Chapter 2. Inventory of Aviation System Conditions**). Given the high percentage of coverage to the population, including to low-density areas of the state, this coverage suggests that no additional airports are needed from purely a geographic coverage perspective. Also identified in **Chapter 2. Inventory of Aviation System Conditions** were five airports that are located in four adjacent states but serve Nevada aviation needs due to proximity including:

- McDermitt State Airport, McDermitt, OR (26U)
- Wendover Airport, Wendover, UT (ENV)
- Lake Tahoe Airport, South Lake Tahoe, CA (TVL)
- Truckee-Tahoe Airport, Truckee, CA (TRK)
- Laughlin/Bullhead International Airport, Bullhead City, AZ (IFP)

These five airports provide additional coverage to Nevada residents and visitors and the coverage is mostly duplicative of what other Nevada airports provide except for 26U, ENV, and TRK, all of which provide additional access and coverage to the state's residents and visitors.

In addition to considering coverage based on the Nevada system airports and their existing NAHSP classifications, it is important to consider how proposed airports and airport ownership could impact system service area coverage in the future. Based on needs identified over the past 10 to 20 years, two new airports have been studied and even included in prior publications of the NPIAS. These include Pahrump and an additional commercial service airport for Las Vegas. The current 2021-2025 NPIAS does not include any new airports, but previous NPIAS reports have. A new airport in Pahrump was included in the 2009-2013 NPIAS, 2011-2015 NPIAS, and 2015-2019 NPIAS (but not the 2013-2017). A new airport for Las Vegas was identified in both the 2009-2013 NPIAS and 2011-2015 NPIAS.

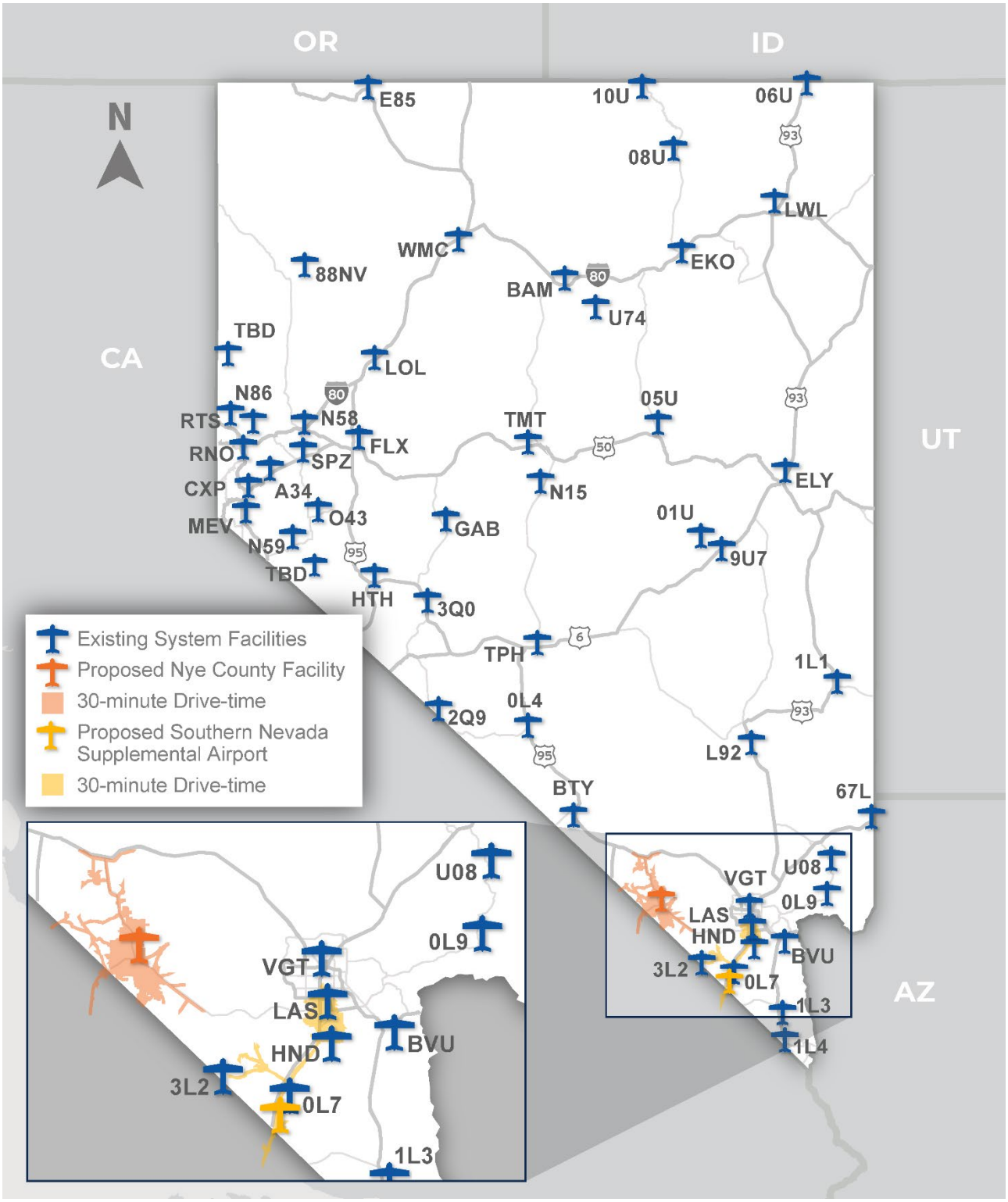
An existing privately owned public-use airport in Pahrump, Calvada Meadows (74P) serves general aviation (GA) activity, primarily the residences at this private residential airpark community. Studied off and on since 1987, a new airport in Pahrump has been evaluated starting with a Preliminary Airport Feasibility Study, through a Master Plan and Environmental Baseline Study, a Financial Feasibility Study, and initiation of an Environmental Impact Statement. FAA has not been involved since 2014, although there is local and state discussion of reconsidering a site selection study for a new publicly owned, public-use airport in Nye County, possibly near Pahrump and/or Pahrump Valley.

A new or supplemental Las Vegas metropolitan area airport was previously evaluated starting in 1997 and various efforts were undertaken through 2010 after the economic downturn and Great Recession from 2007-2009. While dropped from the FAA NPIAS starting with the publications in 2013, study of the needs in the area restarted in 2018, given the increase in aviation traffic, general population, and economic growth, as well as forecast for the Las Vegas area in the future and the inability to sufficiently expand LAS due to the densely developed areas surrounding the airport. The proposed commercial service airport is now referred to as Southern Nevada Supplemental Airport (SNSA), with a proposed location about 30 miles southwest of LAS, in the Ivanpah Valley.

The current SNSA location is being studied in terms of planning and environmental impacts. The timing of the construction of the proposed airport has yet to be determined. Of note, SNSA is being proposed as a supplemental airport. SNSA has the potential to provide significant aviation relief to the existing Clark County facilities, particularly LAS. This relief may become incredibly important as Las Vegas and surrounding areas continue to attract new residents, visitors, and economic development opportunities.

Figure 8-3 depicts the potential locations of the two new airport locations under consideration in Nevada.

Figure 8-3: Potential New Nevada System Airports



Sources: Clark County Department of Aviation, 2015-2019 NPIAS, ArcMap 2021, Kimley-Horn 2022

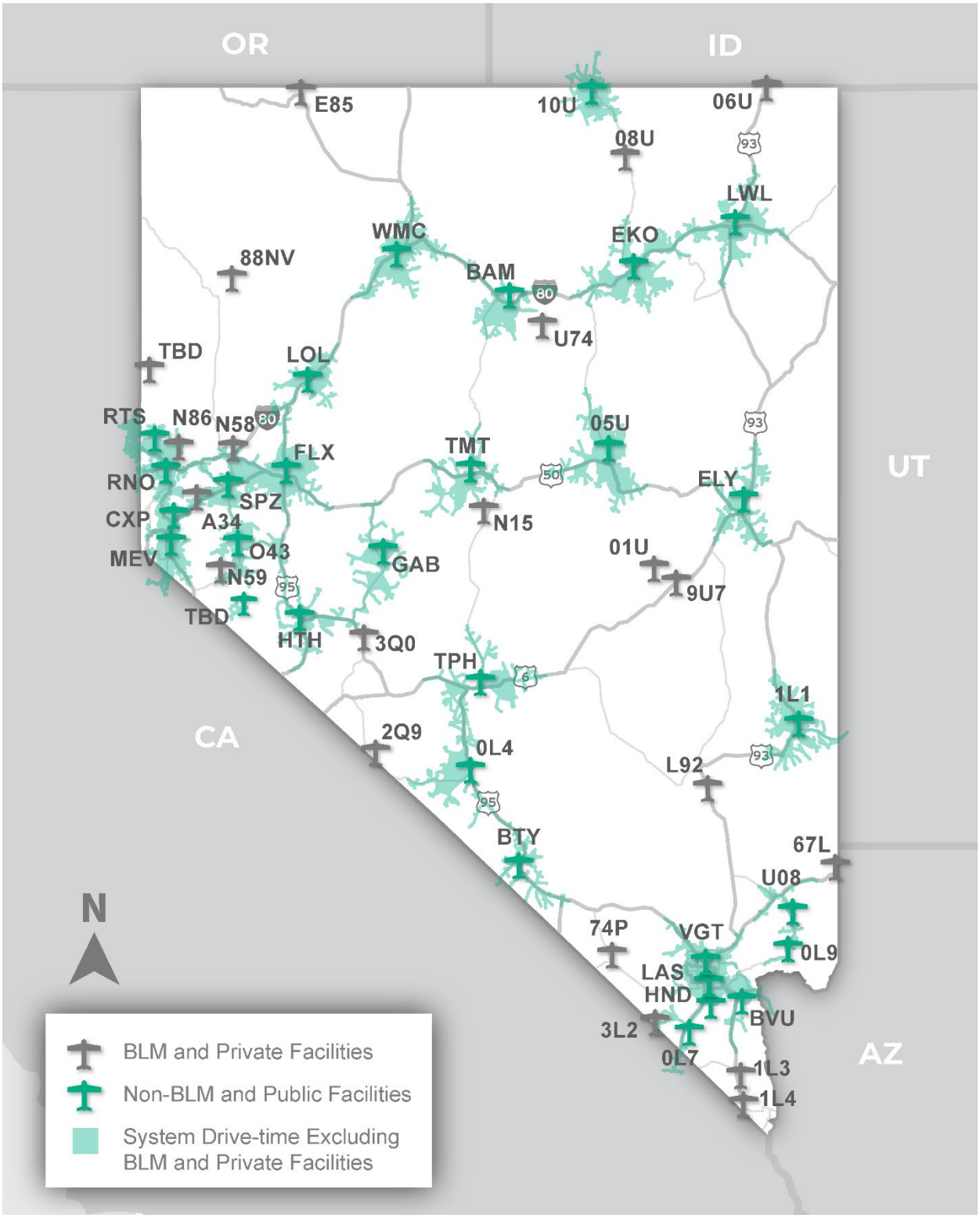
Aviation facility ownership and availability of airports for public use are also factors that could influence the future of Nevada's aviation system and its ability to serve residents and visitors. With 16 airports that are BLM controlled and another five privately owned airports in the system that are public use, there is potential that these airports may be removed from the system due to either BLM not renewing leases or private owners no longer wanting the responsibility of owning and maintaining these facilities. It is important to consider the impacts of this scenario becoming a reality as the impact of 21 airports not being available to public users and being removed from the system would greatly affect accessibility to residents and visitors. Removal of these 21 airports from the system would dramatically impact overall system coverage, both in terms of population and land area throughout the state as depicted in **Figure 8-4**. **Table 8-5** presents the population and total land coverage of facilities located on BLM land and other privately owned airports. Together, these 21 airports provide access for approximately 3 percent of Nevada's population and less than one percent of Nevada's total land area. The overlap between BLM and private facility service areas and other existing system service areas was removed before identifying the percent of population and land area lost if the BLM and private facilities were no longer open. If BLM and other private owners relinquish their lease and ownership of these facilities, there would be considerable impacts across the state for general accessibility and specifically to smaller and more distant areas of the state. **Section 8.3.1.5** provides additional context and policy considerations for the airports on BLM-leased land.

Table 8-5: State Population and Land Coverage of BLM-Owned and Privately Owned Facilities*

Ownership	Number of Facilities	Population Served	Percent of Population	Land Coverage (sq miles)	Percent of Land Coverage
BLM Leased Airports	16	30,700	1%	1,927	<1%
Other Privately Owned Airports	5	57,200	2%	340	<1%

*Notes: *Population and land coverage rounded to the nearest hundred. Totals may not sum due to rounding.*
Sources: ESRI Business Analyst 2021, ArcMap 2021, Kimley-Horn 2021

Figure 8-4: BLM Leased and Other Privately Owned Airports' Impact



Sources: ArcMap 2021, Kimley-Horn 2022

8.3. Investment Needs

Investment needs outlined in the following subsections include costs identified through NAHSP analyses and other individual airport costs obtained through review of available ACIPs, master plans, and airport pavement management analyses conducted by NDOT and others. A separate section is provided specific to LAS and RNO investment needs as these airports have large capital programs and the NAHSP recommendations specific to these two airports did not reflect the tremendous total needs of these two commercial service airports. This section concludes by summarizing needs and costs from each source to present a comprehensive estimate of investment needs for NASHP airports over the 20-year planning horizon. The following subsections present cost estimates from five different categories that are summarized in **Table 8-6**.

Table 8-6: Summary of Recommendations and Investment Needs Sources

Project Source	Description
NAHSP-related	
NAHSP Performance Measures (PMs)	Projects identified through analysis of the delta between existing performance and future performance targets of the PMs. PMs were established for each of the five project goals.
NAHSP Value Rating Variables (VRVs)/Facility and Service Objectives (FSOs)	VRVs and FSOs are mechanisms used to evaluate airports at the airport-level. VRVs include some qualitative information and are reserved for NPIAS airports. FSO focus only on capital improvement projects and are used for non-NPIAS airports only.
Non-NAHSP-related	
ACIPs, Master Plans, and Other Airport-Specific Studies	ACIPs are developed annually by NPIAS airports to determine their facility needs over the short-term. ACIPs were collected from responsive airports and costs were included in the NAHSP. In addition, if airports provided recent master plans, the short-, mid-, and long-term costs of those were also included.
Large Commercial Service Airport Needs	Information from LAS and RNO was obtained to include in the NAHSP to provide a better estimate of total statewide aviation needs, inclusive of projects that address capital needs that were not evaluated in the NAHSP.
Statewide Programs	The NDOT Aviation Program maintains an APMS program as well as an Airport Directory and Pilot's Guide.

Source: Kimley-Horn 2021

Once the NAHSP projects for PMs and VRV/FSOs were identified, it was necessary to establish cost estimates. The costs developed for PM and VRV/FSO projects are considered planning-level estimates, which means the costs are intended for planning purposes only and do not convey a commitment of local, state, or federal funding for a project. These costs should not be used to develop grant applications or for conducting project programming. Proper project justification is still required to support funding requests for these projects. These planning-level unit costs were developed based on general material costs and industry knowledge and were tiered to reflect cost differentials between types and sizes of airports. The NAHSP airport classifications were used for this purpose. For example, a unit cost at a National airport

may be more expensive than at a General airport. The unit costs were then multiplied by the necessary quantities (i.e., area, units, feet, etc.) of the proposed project to develop a cost estimate for that project. This planning-level exercise provides an order of magnitude estimate with some contingencies accounted for in the unit costs. More detailed project costs require additional analyses regarding the specific conditions found at each airport which is outside the scope of the NAHSP. It is important to note that costs for recommended projects that satisfy both a PM and a VRV/FSO are **bolded** in the tables presented in **Section 8.3.1**. Costs for these projects are shown twice, once under the applicable PM and once under the applicable VRV/FSO discussion. However, overlapping costs were not duplicated when presenting total system needs.

The costs related to the non-NAHSP elements such as ACIPs, airport master plans, APMS recommendations, and large commercial service airport projects were obtained directly from these unique sources, primarily provided by the airports and NDOT. In the event that a NAHSP project was included in an ACIP, master plan, APMS, or large commercial airport list, as well as recommended as a result of the NAHSP PM and VRV/FSO analyses, duplicate costs were removed from the total cost estimates presented in **Section 8.3.4**. For more information regarding airport-specific cost estimates, including those from the NAHSP, ACIPs, master plans, and APMS cost estimates, please see **Appendix A. Individual Airport Reports**.

8.3.1. NAHSP Performance Measure Recommendations and Needs

PM project recommendations were identified by comparing each airport's existing performance to the future performance established for the PM, as presented in **Chapter 7. Existing and Future System Performance**. Identifying the difference between how many airports are meeting a PM and how many should meet the PM in the future is the basis for the recommendations. It is important to note that not all PMs result in a capital project recommendation because the PM may not correspond to a physical airport project that NDOT can support. In these instances, policy considerations and recommendations are presented following the cost estimates. Cost estimates and policy considerations are presented by Goal in the following six subsections. Performance measures in bold in the tables indicate that the project recommendation associated with these cost estimates also satisfies a VRV/FSO metric.

8.3.1.1. Enhance Safety Goal

The results of the system performance analysis and future performance target evaluation identified capital project recommendations for all the PMs associated with the Enhance Safety goal. It is important to note that costs were not developed for all projects needed to address FAA design and safety standards as many of these are very airport-specific terrain or other complex issues. Also, costs were not developed at the local airport level for obtaining broadband service, as the state is pursuing development of comprehensive broadband infrastructure through other means. The total cost estimate for projects related to the Enhance Safety goal is $13,419,000. Projects for this goal include installing weather reporting systems, remarking runway hold positions, paving runways, and establishing helicopter landing locations. The cost estimate for each PM is presented in **Table 8-7**.

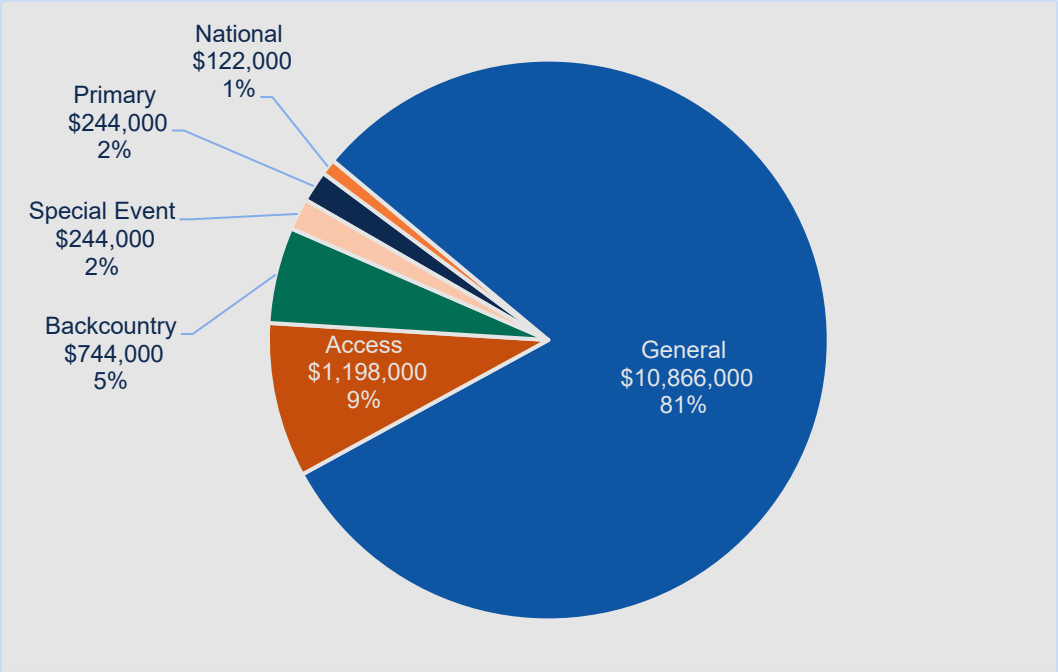
Table 8-7: Enhance Safety Goal: Project Costs by PM

NAHSP Performance Measure	Existing Performance	Future Performance Target	Total Estimated Cost	% of Total
Percent of airports meeting applicable FAA design and safety standards*	67%	100%	$41,000	< 1%
Percent of state land area and population within 30 minutes of airports with weather reporting capabilities	41%	76%	$2,220,000	17%
Percent of state land area and population within 30 minutes of an airport with a paved runway	41%	76%	$7,735,000	58%
Percent of airports that have a designated helicopter landing location	45%	100%	$3,423,000	26%
Percent of Airports that have Broadband Service**	90%	100%	Not Applicable	
Total Enhance Safety Goal PM Costs:			**$13,419,000**	

*Notes: *Due to limited information, costs were only presented as it relates to airfield markings to improve separation standards.*
***Costs were not able to be developed at the airport level for broadband service. Source: Kimley-Horn 2022*

Figure 8-5 presents the cost of Enhance Safety goal's projects by NAHSP role. General airports have the largest portion of costs under this goal, with $10,866,000 (81 percent). After General airports, Access and Backcountry airports have the next largest portion, with almost $1.7 million and $744,000 respectively. It should be noted that Regional airports currently do not have any estimated project costs for this goal and are therefore not shown within the figure.

Figure 8-5: NAHSP Enhance Safety Goal Investment Needs by Role*



*Notes: *Due to limited information, costs were only presented as it relates to airfield markings to improve separation standards. Costs were not able to be developed at the airport level for broadband service. Source: Kimley-Horn 2022*

8.3.1.2. Preserve Infrastructure Goal

The results of the system performance analysis and future performance target evaluation identified capital project recommendations for two of the four PMs associated with the Preserve Infrastructure goal. The cost estimates related to the capital projects of these two PMs are presented in **Table 8-8**. The total cost estimate for the Preserve Infrastructure goal project recommendations is $9,138,000. Projects for this goal including updating ALPs or acquiring a new airport diagram and pavement maintenance projects that improve PCI to the recommended threshold.

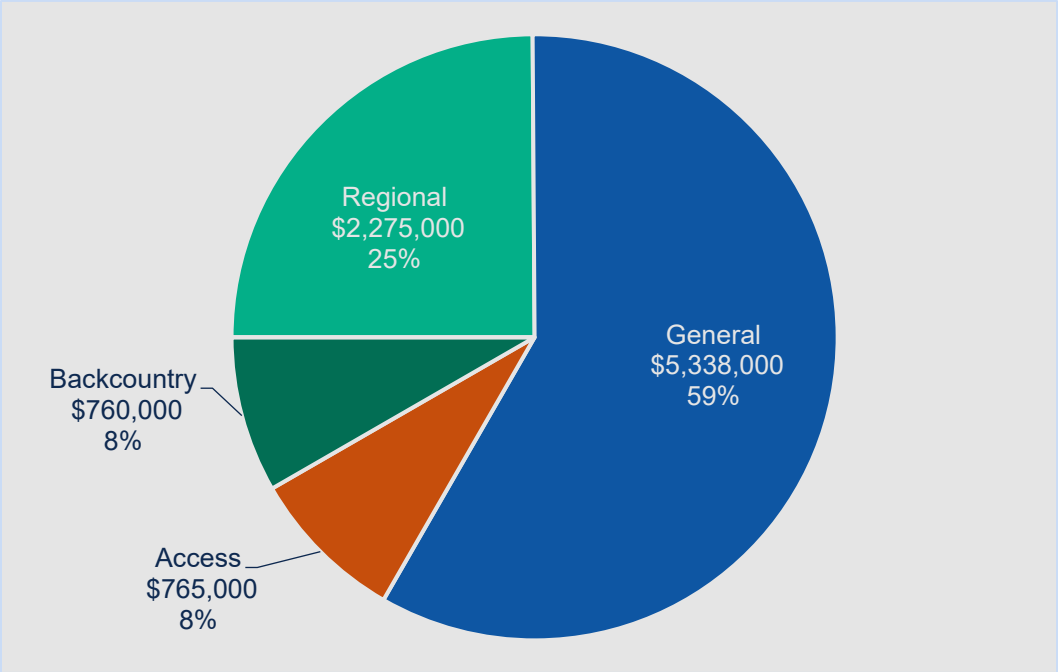
Table 8-8: Preserve Infrastructure Goal: Project Costs by PM

NAHSP Performance Measure	Existing Performance	Future Performance Target	Total Estimated Cost	% of Total
Percent of airports that have an approved airport planning document that was completed after 2013*	ALP: 53%	ALP: 63%	$1,800,000	14%
	Diagram: 27%	Diagram: 37%	$40,000	< 1%
Percent of airports' primary runway meeting pavement condition index (PCI) of acceptable or good (G)**	59%	73%	$7,298,000	85%
Total Preserve Infrastructure Goal PM Costs:				**$9,138,000**

*Notes: *The ALP costs only account for airports that require an ALP update to meet the PM. Costs related to ALP updates for all NPIAS airports over the 20-year planning horizon are presented in Section 2.6. **The pavement maintenance costs only account for rehabilitation costs required to meet the PM future performance target. Comprehensive costs related to pavement reconstruction to account for the 20-year planning horizon are presented in Section 8.3.2.2 and pavement maintenance costs outlined in the Nevada Airport Pavement Management System Update (2019 APMS) are presented in Section 8.3.3.1. Source: Kimley-Horn 2022*

Figure 8-6 presents the cost of Preserve Infrastructure projects by NAHSP role. General airports have the largest portion of costs under this goal, with $5,338,000 (59 percent). After General airports, Regional, Backcountry, and Access airports make up the remaining $3,800,000 of the total cost estimates for capital projects related to the two PMs for Preserving Infrastructure. There are no reported capital projects for Primary, National, or Special Events airports related to this goal.[3]

Figure 8-6: NAHSP Preserve Infrastructure Goal Investment Needs by Goal



Source: Kimley-Horn 2022

There are two PMs in the Preserve Infrastructure goal that did not result in capital project recommendations or cost estimates; however, the following recommendations have been developed to assist the NDOT Aviation Program in supporting infrastructure preservation at Nevada airports:

Percent of Airports with Appropriate Adopted Land Use Controls

Establishing appropriate land use controls requires individual airport representatives to work with their local zoning authority to establish ordinances and/or zoning to reflect protection of the airport as well as people and property near the airport. While NDOT cannot enforce or directly influence these actions, NDOT can support airports in these efforts in a number of ways. NDOT can provide verbal support of these needs in statewide communications and coordinate with airport representatives on their land use ordinance and/or zoning needs, available resources, and general guidance during airport 5010 data updates. Moreover, NDOT can prepare a Land Use Zoning template that outlines the types of land and height controls that would contribute to compatible development near the airport environment. Other

[3] As previously identified in the chapter, separate costs for reconstructions of all primary runways one time during the 20-year planning period are accounted for in Section 8.3.2.2 and projects included in the 2019 APMS are accounted for in Section 8.3.3.1.

states have developed such templates so that airport representatives can easily download the template from an online source and fill out the airport specific information before presenting it to their local zoning authority. NDOT can also develop additional guidance for airports and communities that will promote and improve land use compatibility around airports.

Percent of Airports Under a Military Operations Area (MOA)

There is little that NDOT or an airport representative can do to remedy the circumstances of being underneath an MOA; however, NDOT can continue its work with federal and state elected officials to gain support to limit the expansion of MOAs in the future, further impacting airports and their ability to develop. In addition, NDOT and airports can coordinate with FAA military liaisons to communicate challenges and concerns that Nevada airports have regarding existing and future special use airspace. NDOT can also support airports within MOAs to educate them on future proposed MOA changes and get them assistance to protect their airport's surrounding airspace, such as identifying local elected officials and drafting letters to those officials about the importance of the local airports and the impact of MOA restrictions on their operation.

8.3.1.3. Transform Economies Goal

The results of the system performance analysis and future performance target evaluation identified capital project recommendations for one of the four PMs associated with the Transform Economies goal. The total cost estimate for projects related to the Transform Economies goal is $750,000, which includes projects related to improving airport approaches to at least a non-precision approach. The cost estimate for this PM is presented in **Table 8-9.**

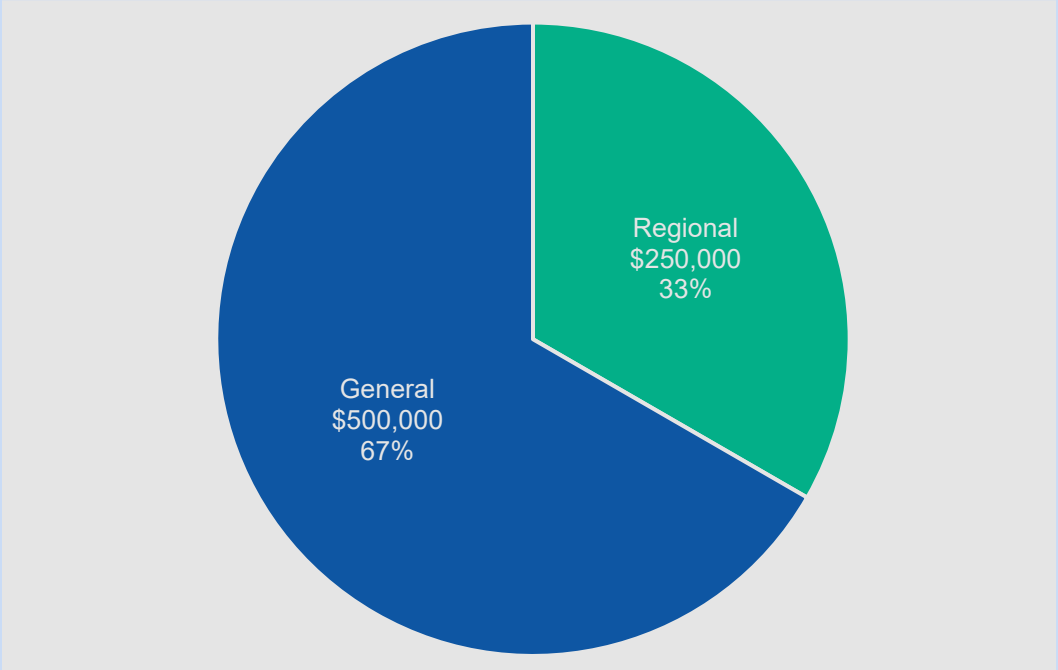
Table 8-9: NAHSP Transform Economies Goal: Project Costs by PM

NAHSP Performance Measure	Existing Performance	Future Performance Target	Total Estimated Cost	% of Total
Percent of airports that can support regular business aircraft activities	33%	39%	$750,000	100%
Total Transform Economies Goal PM Costs				**$750,000**

Source: Kimley-Horn 2022

Figure 8-7 presents the cost of Transform Economy projects by NAHSP role. General airports have the largest portion of costs under this goal, with $500,000 (67 percent). The only other category of NAHSP airports which have capital projects related to Transforming Economies PMs is Regional airports, with $250,000 in estimated costs. It should be noted that Primary, National, Access, Backcountry, and Special Event airports currently do not have any estimated project costs for this goal and therefore are not shown within the figure.

Figure 8-7: NAHSP Transform Economies Goal Investment Needs by Role



Source: Kimley-Horn 2022

There are three PMs in the Transform Economies goal that did not result in capital project recommendations or cost estimates; however, the following recommendations have been developed to assist the NDOT Aviation Program in supporting transforming economies at Nevada airports:

Percent of Airports with Active Development Partnerships

While NDOT cannot force any airport to participate in partnerships with local development organizations, NDOT can support these efforts in a number of ways. NDOT could opt to host a webinar or produce a flyer that could be distributed to all system airports detailing why these types of development partnerships are critical for continued aviation economic sustainability. In addition, NDOT could provide each airport with a list of local chambers of commerce, tourism agencies, and other development organizations that airport representatives could engage with. To support this engagement, NDOT could develop a template email or letter that airports could access and send to the groups identified in their local area. Providing airports with information on local agencies and providing them with a communication template could reduce some of the limitations in establishing these partnerships. Moreover, airports and NDOT can look to the Nevada Aviation Association (NVAA) for support and strategies to establish and maintain relationships with development organizations.

Percent of Airports with Expansion/Development Potential

Expansion and development potential can increase opportunities for aeronautical and non-aeronautical development that could produce revenue-generating opportunities to the airport and/or attract new airport users. The level of expansion and development potential will vary across system airports, but airports should work to evaluate if there is potential for expansion and determine strategies for attracting development to that area. NDOT can support these efforts by promoting these development opportunities in statewide communications and with local and regional economic development organizations.

Percent of Airports with Tour Operators, Specifically Utilizing Helicopters

Nevada is home to a strong tourism industry, with Las Vegas, Reno, and Lake Tahoe attracting visitors, as well as the dynamic desert landscape attracting outdoor enthusiasts from across the country and the globe. While airports play a critical role in supporting this industry by providing air transportation for visitors, airports can also support this industry by hosting tour operator tenants, particularly helicopter tourism operators. NDOT can be supportive of these efforts by spreading general awareness of these operators, partnering with local development organization to promote this business, and by supporting requests to provide the necessary facilities for these operators, either from FAA or other appropriate sources.

8.3.1.4. Foster Sustainability Goal

None of the PMs associated with the Foster Sustainability goal produced capital project recommendations; therefore, no cost estimates are associated with this project goal. Instead, the following recommendations and considerations were developed that relate to the Foster Sustainability goal PMs.

Percent of Airports That Have Established Public Outreach Protocols

Airports with established outreach protocols are better positioned to attract new visitors, maintain a high level of user satisfaction, and are better equipped to respond to user needs. NDOT could encourage airports to establish appropriate public outreach controls during airport 5010 data updates. There are a number of outreach protocols that airports can participate in, including establishing an airport website, advertising their airport, hosting open houses or fly-ins, hosting school tours, or even sharing positive media coverage about the airport. NDOT could also contribute to airport awareness and public engagement by sharing positive news about system airports through various social media platforms.

Percent of Airports with or Pursuing an Alternative Energy Source

NDOT will continue consulting with Nevada Department of Conservation and Natural Resources to determine policies that will achieve the required greenhouse gas (GHG) emissions reduction outlined in Nevada Senate Bill 254, passed in June 2019. Senate Bill 254 mandates that policy options must be developed to achieve GHG emissions reductions of 28 percent below 2005 levels by 2025 and 45 percent below 2005 levels by 2030.[4] NDOT can also participate in industry working groups and industry organizations that are working on aviation emerging technologies that aim to reduce the environmental

[4] One Nevada Transportation Plan, Pg. 26, February 2020

footprint of the aviation industry. NDOT can spread this information and educate airports on actions that they can take to work towards the GHG emission reduction goal outlined in Senate Bill 254.

Separately, as electric aircraft, including electric vertical takeoff and landing (eVTOL) aircraft, are certified by the FAA and move into widespread manufacturing and use, these aircraft can assist with reducing some of the emissions. However, these new aircraft also generate additional electricity needs at airports, including installation of new electric aircraft charging stations which are not yet eligible for funding by the FAA and for which a standard is not yet available.

Percent of Airports with an Airport Manager to Operate and Maintain the Airport

While NDOT is not able to fund airport manager positions, NDOT can take actions to encourage an increase in airport managers at system airports. NDOT could check in with airport sponsors during airport 5010 data updates and work with those sponsors who do not have a dedicated airport manager to determine strategies for establishing an airport manager role, even if only part-time. NDOT can also educate sponsors on the airport manager role and the values of different airport manager styles so that the airport sponsor can make informed decisions about the type of management best suited for their airport.

Percent of Airports That Have Received Federal and/or State Funding Within the Last Five Years

Securing funding is critical for the continued preservation and performance of NAHSP airports. Securing funding for NPIAS airports is often much more straightforward than securing funding for non-NPIAS airports. In recent years, additional federal funding has been made available to NPIAS airports through programs such as the Coronavirus Aid, Relief, and Economic Security (CARES) Act, the Coronavirus Response and Relief Supplemental Appropriations (CRRSA) Act, and American Rescue Plan Act (ARPA). Each of these funding sources has different amounts available to airports, unique eligibility rules on how the funds can be spent, and different rules on how long the funds are available for airports to utilize. In addition to these pandemic-relief related programs, the Bipartisan Infrastructure Law (BIL) was passed in late 2021 to provide funding for transportation, including airports. Through the airport infrastructure grants (AIG), each NPIAS airport is eligible to receive funding for up to five years to address capital needs. In Fiscal Year 2022, Nevada's airports will receive $58.6 million in BIL AIG funding, with nearly $44 million going to LAS and almost $7 million to RNO, while nonprimary GA airports are allocated between $110,000 and $763,000.[5] In addition to the AIG, there is an opportunity for airports to compete for additional funding through the Airport Terminal Program (ATP) and to receive funding through the Air Traffic facilities component.

NDOT can contribute to NPIAS airports' ability to secure federal and state funding by participating in the FAA's ACIP meetings to coordinate on behalf of NPIAS system airports. Information provided in the NAHSP can be used to help guide the airports on projects that can benefit the entire airport system, improving the system's performance. NDOT can also collect and review ACIPs and provide feedback that might be beneficial to airports when developing these documents in light of the NAHSP and other recent information. NDOT can also coordinate with elected officials and legislators to educate them on the

[5] www.faa.gov/bil/airport-infrastructure

importance of providing the local and state funding matching for FAA grants and how to leverage additional funding for Nevada.

NDOT also assists NPIAS airports by supporting FAA grants with a partial match. The percentage of local match required in Nevada is 6.25 percent, less than the standard 10 percent, because of the significant federal ownership of 82 percent of land in the state. The NDOT Aviation Program administers the Nevada Fund for Aviation (formerly known as the Nevada Aviation Trust Fund), which provides grants for NPIAS airports to match FAA grants, with $100,000 a year available. This fund "is intended to assist rural general aviation airports" and the maximum grant amount is $50,000 to any one airport.[6] A request was submitted through Nevada's State Treasurer's Office for $5 million of American Rescue Plan Act (ARPA) funding be allocated to the Nevada Fund for Aviation to support matching requirements.

NDOT can support the funding needs of non-NPIAS system airports by discussing their funding needs and project recommendations to better understand state or local grant programs that may be leveraged to secure funding. At this time there is no aviation funding available to non-NPIAS system airports.

8.3.1.5. Connect Communities Goal

The results of the system performance analysis and future performance target evaluation identified capital project recommendations for two of the four PMs associated with the Connect Communities goal. The total cost estimate for projects related to the Connect Communities goal is $5,956,000, which include costs related to installing Jet A fuel farms, installing credit card readers on aviation fuel pumps, installing Automated Weather Observing System (AWOS)/Automated Surface Observing System (ASOS) equipment, as well as establishing a helicopter landing location and runway extensions to support jet aircraft. The cost estimate for each PM is presented in **Table 8-10**.

Table 8-10: NAHSP Connect Communities Goal: Project Costs by PM

NAHSP Performance Measure	Existing Performance	Future Performance Target	Total Estimated Cost	% of Total
Percent of airports capable of supporting aerial firefighting operations	71%	74%	$4,234,000	71%
Percent of airports capable of supporting emergency (medical/police) operations	65%	72%	$1,722,000	29%
Total Connect Communities Goal PM Total Costs:			**$5,956,000**	

Source: Kimley-Horn 2022

The total cost of $5,956,000 estimated for the Connect Communities related projects are all associated with General airports.

[6] Nevada Fund for Aviation Grant Program Policy and Procedures Manual, 2015.

There are two PMs in the Connect Communities goal that did not result in capital project recommendations; however, the following recommendations have been developed to assist the NDOT Aviation Program in connecting communities to their local NAHSP facility:

Percent of the Population Within 30 Minutes of Any Public-Use Airport

As mentioned in **Section 8.2.3**, there are 16 NAHSP airports that are currently BLM controlled, whether through a lease or ownership, and five other airports that are privately owned. In the event that these facilities close, there could be considerable loss of public-use airport service area coverage. Many of the airports leased by the BLM provide essential access to remote communities and many remote communities are reliant on their local airport. If these airports were closed or transitioned to private use only, the impact to the surrounding communities could be significant as approximately 3 percent of Nevada's population live within these airports' service areas. NDOT can use the findings from this analysis, and representation of other needs, to rally public and political support for public-use aviation facilities in Nevada, particularly those in remote areas.

Percent of Airports Providing Access to Remote Communities

Nevada is home to a number of remote and tribal communities, and it is critical that access to and from these communities remains available. Having adequate access to remote parts of the state is critical for participating in the local and regional economy, accessing emergency and non-emergency services, and more. NDOT could continue supporting airports that provide access to remote communities and encourage those airports to participate in local or regional planning studies that may impact the future of their airport.

8.3.1.6. Optimize Mobility Goal

The results of the system performance analysis and future performance target evaluation identified capital project recommendations for one of the three PMs associated with the Optimize Mobility goal. Existing performance for the "percent of airports that are adequately accessible" measure meets the future performance target, so no capital project recommendations were developed. The total cost estimate for projects related to the Optimize Mobility goal, specifically the "percent of airports that provide off-airport transportation" measure, is $225,000, which relates to the cost of acquiring courtesy cars at system airports that did not report having a courtesy car program. The cost estimate for each PM is presented in **Table 8-11.**

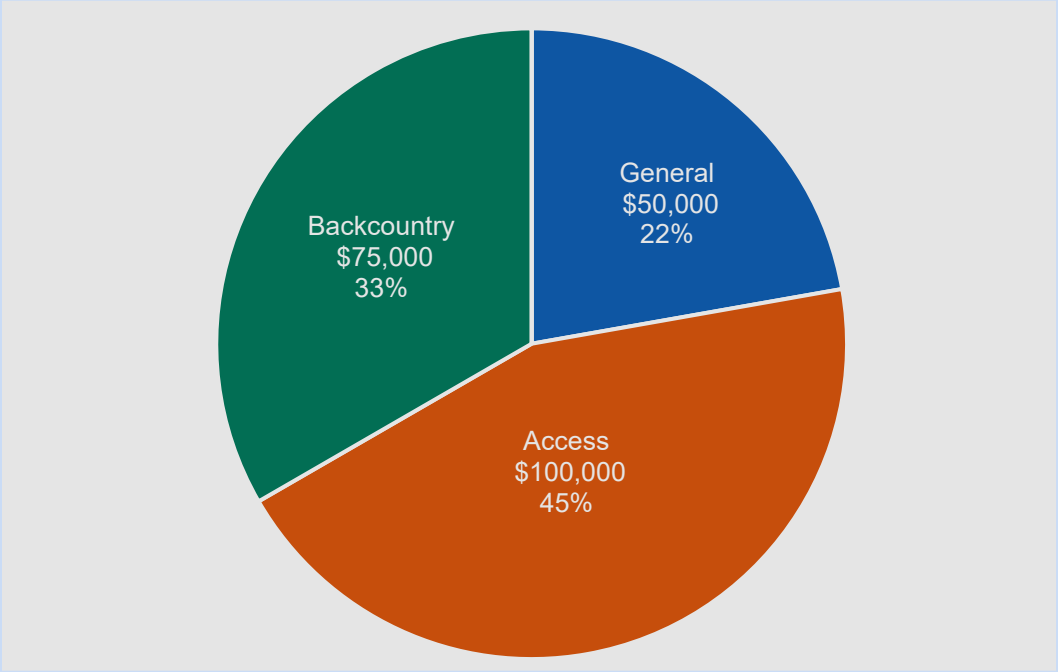
Table 8-11: NAHSP Optimize Mobility Goal: Project Costs by PM

NAHSP Performance Measure	Existing Performance	Future Performance Target	Total Estimated Cost	% of Total
Percent of airports that are adequately accessible	98%	98%	$-	-%
Percent of airports that provide off-airport transportation	80%	100%	$225,000	100%
Total Optimize Mobility Goal PM Total Costs:				**$225,000**

Source: Kimley-Horn 2022

Figure 8-8 presents the cost of Optimize Mobility projects by NAHSP role. Access airports have the largest portion of costs under this goal, with $100,000 (50 percent). General and Backcountry airports make up the remaining cost estimates for the PMs related to Optimizing Mobility. It should be noted that Primary, National, Regional, and Special Event airports currently do not have any estimated project costs for this goal and therefore are not shown within the figure.

Figure 8-8: NAHSP Optimize Mobility Goal Investment Needs



Source: Kimley-Horn 2022

There is one PM in the Optimize Mobility goal that did not result in capital project recommendations; however, the following considerations have been developed to assist the NDOT Aviation Program in preparing NAHSP facilities for unmanned aircraft system (UAS) proliferation:

Percent of Airports That Are Involved in UAS/UAV Activity

As a UAS Test Site established under the FAA Modernization and Reform Act of 2012 (FMRA 2012), it is critical that the state of Nevada continue to support the advancement of UAS activity. NDOT can support these efforts in a number of ways. For example, NDOT could develop a UAS safety awareness flyer that is distributed to all of the airports so that airports are participating in educating airport users about the impacts of UAS on airport safety. NDOT could also host a webinar sharing similar safety information. In addition, NDOT can participate in FAA working groups and other programs that are intended to educate and spread awareness about the functionality and benefits of UAS. NDOT can also work to identify the industries in the state that use or rely on UAS and determine if there are any actions that NDOT or airports can take to support UAS advancement and proliferation in Nevada.

8.3.1.7. Summary of NAHSP PM Investment Needs

The total estimated investment needs specific to project costs for each of the six goals of the NAHSP are shown in **Table 8-12**. As shown, the Enhance Safety goal comprises the largest portion of the total estimated needs, with nearly $14 million, almost half of all estimated project costs. Following this goal, Preserve Infrastructure and Connect Communities goals, respectively, have the next largest portions of the total estimated needs, with over $9 million and almost $6 million respectively. The remaining portions of the total estimated project costs are divided among transforming economies and optimizing mobility, with a total between the goals of just under $1 million.

Table 8-12: Summary of NAHSP PM Investment Needs

Goal	Estimated Project Costs	Percent of Total
Enhance Safety	$13,419,000	46%
Preserve Infrastructure	$9,138,000	30%
Transform Economies	$750,000	3%
Foster Sustainability	$0	0%
Connect Communities	$5,956,000	20%
Optimize Mobility	$225,000	1%
Total NAHSP PM Costs	**$29,487,000**	**100%**

Note: Totals may not sum due to rounding. Source: Kimley-Horn 2022

8.3.2. Value Rating Variable and Facility and Service Objective Recommendations and Investment Needs

The VRV and FSO projects were identified by comparing an airport's existing condition to the objective set for various facilities or services based on that airport's role. If and when the project is completed, the airport would then be considered as meeting that objective. The VRV and FSO evaluations are closely related, with the VRV evaluation focusing on quantitative and qualitative factors at NPIAS airports and the FSO evaluations focusing only on the same quantitative factors at non-NPIAS airports. The following sub-sections present the capital project cost estimates and policy considerations identified through the VRV and FSO evaluations, presented by VRV/FSO category. It is important to note that the investment needs presented include costs for NPIAS and non-NPIAS airports, whereas the qualitative recommendations relate specifically to the VRV evaluations which only include NPIAS airports. Additionally, some of the components of the VRV/FSO evaluations were accounted for in PM investment needs presented in **Section 8.3.1** and details are provided to indicate as such.

8.3.2.1. Regional Significance

The results of the VRV and FSO analysis identified capital project recommendations for four of the Regional Significance variables/objectives. **Table 8-13** presents the cost estimates for these project recommendations. The total cost estimate for projects related to the Regional Significance VRV/FSO is $58,201,000. Projects for this VRV/FSO category include extending runways, constructing more hangars, installing aviation fuel pumps, and improving instrument approaches.

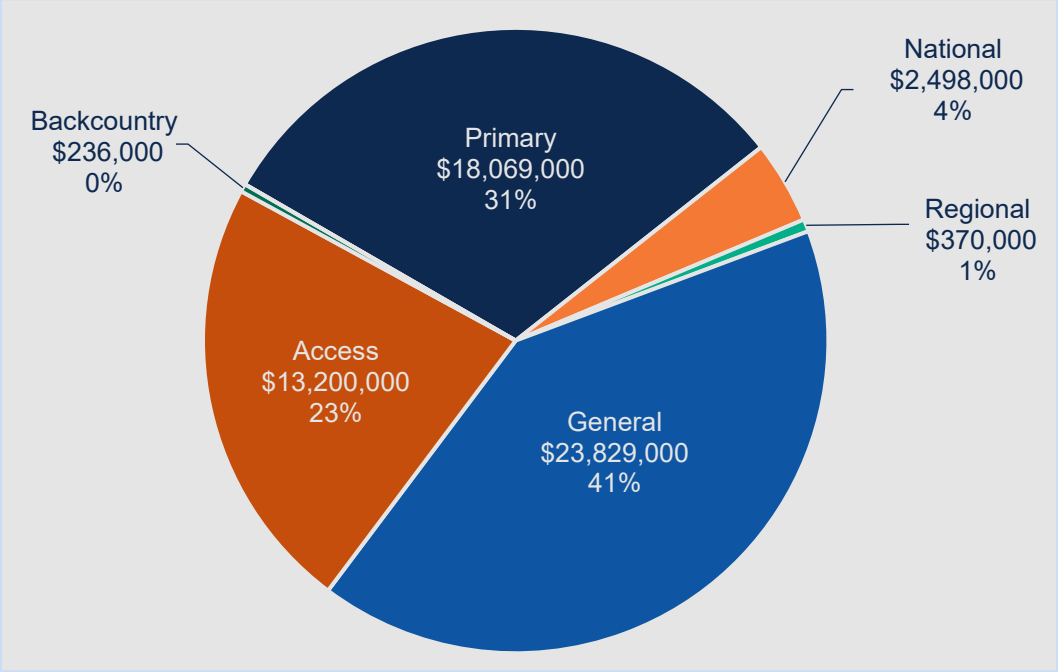
Table 8-13: Investment Needs for the Regional Significance VRV/FSO Category

Regional Significance VRV or FSO	Total Estimated Cost	% of Total
Longest Runway	$19,298,000	33%
T-Hangar Ratio	$4,433,000	8%
Fuel Availability	$15,600,000	27%
Instrument Approach	$18,870,000	32%
Regional Significance Total Costs	**$58,201,000**	**100%**

Source: Kimley-Horn 2022

Figure 8-9 presents the cost of Regional Significance projects by NAHSP role. General airports have the largest portion of costs under this goal, with $23,829,000 (41 percent). After General airports, the two other largest portions of cost estimates are for Primary and Access airports, with over $18 million and $13 million, respectively. It should be noted that Special Event airports currently do not have any estimated project costs related to the Regional Significance VRV/FSO and therefore are not shown within the figure.

Figure 8-9: Regional Significance VRV/FSO Investment Needs



Source: Kimley-Horn 2022

There are four variables/objectives in the Regional Significance category that did not result in capital project recommendations; however, the following recommendations have been developed to assist the NDOT Aviation Program:

Airport Ownership

Recommendations regarding securing an appropriate airport manager were discussed in **Section 8.3.1.4**. Other recommendations regarding airport ownership relate to the 16 airports that are leased from the BLM and the seven airports that are owned privately. As discussed in **Section 8.2.3**, approximately 2 percent of the population and two percent of Nevada's total land area are provided access to the air transportation system by these 23 airports. In the event that BLM or private owners no longer have an interest in leasing or owning these facilities, the system could be at risk of decreasing its overall service area. NDOT could continue to be proactive about coordinating with the BLM and continue discussions with BLM regarding real estate transactions if the BLM is no longer interested in supporting an airport. The same level of coordination could apply to the airports that are privately owned as well. Moreover, NDOT can consider assisting with transfer of these airports to local airport sponsors from BLM or from private owners. In general, NDOT can continue to bring in support from elected officials, when necessary, to secure continuity of the airport system and provide access for Nevada residents and visitors.

Airport Uses

While there is little that NDOT can do to impact the type of activities or uses supported at each NAHSP airport, NDOT can continue to coordinate with NAHSP airports to determine if there are gaps in critical services, such as business activity, emergency medical service (EMS), and aerial firefighting operations. In the event a gap in any of these, or similarly critical services, emerges then NDOT can work with the airport to determine if any necessary projects are eligible for certain funding opportunities, or provide other support to those airports.

Nearest Airport

There are no specific recommendations associated with this VRV; however, NDOT can continue to monitor system needs as it relates to airport locations and distance between airports. In the event that new facilities are suggested or that the two potential new airports in Nye County and at SNSA continue to be considered and evaluated, NDOT could be part of the study of these new facilities to address their potential impact on the overall state airport system.

Aircraft Maintenance

Having an aircraft maintenance provider is an airport asset for many system airports. Not only does providing this service attract and retain airport users, but it can also contribute to an increase in airport revenues. NDOT could continue monitoring the number and location of facilities offering these services. If it is identified that more of these services are required across the state, then NDOT could continue coordinating with these airports and provide any non-monetary support possible.

8.3.2.2. Airport Facilities

The results of the VRV and FSO analysis identified capital project recommendations for nine of the Airport Facilities variables/objectives. **Table 8-14** presents the cost estimates for these project recommendations. The total cost estimate for projects related to the Airport Facilities VRV/FSO is $603,118,000. It is important to note that the costs related to the runway surface/type condition VRV/FSO not only include routine maintenance needs based on the PCI deficiency identified during the VRV/FSO analysis, but also include the necessary cost estimates for one complete pavement reconstruction per primary runway at each airport with a paved runway over the 20-year planning horizon. Other projects in this VRV/FSO category include remarking runway hold positions and installing appropriate runway lighting, weather reporting systems, and other visual aids. This category also accounts for recommendations related to establishing or improving utility connections and making terminal improvements. It is important to note that the Weather Reporting VRV/FSO also evaluated the need for an Air Traffic Control Tower (ATCT), which accounts for $14,000,000 of the Weather Reporting costs presented in **Table 8.14**.

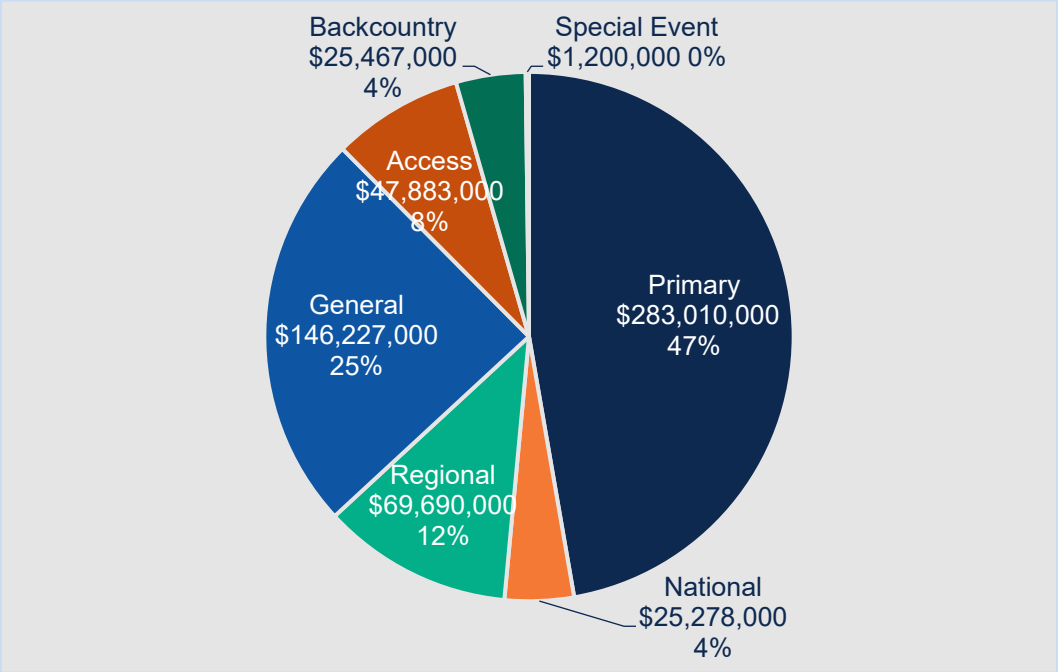
Table 8-14: Investment Needs for the Airport Facilities VRV/FSO Category

Airport Facilities VRV or FSO	Total Estimated Cost	% of Total
FAA Design Standards	$41,000	<1%
Runway Surface/Type Condition*	$552,687,323	92%
Runway Lighting	$2,732,000	<1%
Taxiways	$16,362,000	2%
Visual Aids	$560,000	<1%
Weather Reporting	$16,220,000	2%
GA Terminal	$7,915,000	1%
Utilities	$6,600,000	1%
Security/Wildlife Fencing**	$-	0%
Communications Connectivity	$-	0%
Airport Facilities Total Costs	**$603,118,000**	**100%**

*Notes: *The runway surface/type condition costs here only account for rehabilitation and reconstruction costs identified through NAHSP analyses. Pavement maintenance costs relating to the 2019 APMS are presented in Section 8.3.3.1. **Fencing needs at the individual airport level were not evaluated for project recommendations or cost estimates. Fencing needs should be identified at the airport level during future facility planning. Source: Kimley-Horn 2022*

Figure 8-10 presents the cost of Airport Facilities VRV/FSO projects by NAHSP role. Primary and General airports have the largest portions of costs under this goal, with $283 million (47%) and $146 million (25%), respectively. Beyond those classifications, Access and Regional airports each have over $47 million in estimated costs, with National and Backcountry airports having over $25 million.

Figure 8-10: Airport Facilities VRV/FSO Investment Needs



Source: Kimley-Horn 2022

8.3.2.3. Airport Protection

None of the VRV factors in the Airport Protection category resulted in capital project recommendations. Instead, the following considerations have been developed for NDOT:

Height Hazard

Considerations related to height hazard concerns and height zoning ordinances are presented in **Section 8.3.1.2**.

Obstruction Mitigation

Airports should be aware of the specific details relating to any controlling obstructions present in their airport's airspace. Being aware of these details will help in mitigating the issues, where possible. Mitigation may require lighting and marking permanent obstructions or remove less-permanent obstructions. Mitigation may be difficult for obstructions that are off airport property so airports should work with local landowners, when needed, to mitigate or eliminate obstructions. NDOT can support these efforts by assisting with local landowner coordination on behalf of, or with, the airport sponsors.

Airspace Restrictions

While there is little an airport or NDOT can do about existing airspace restrictions, it is important for airports to identify the limitations imposed by these restrictions to understand the complexity that users face when approaching or departing from the airport that is impacted. NDOT could continue to coordinate with the FAA and other stakeholders regarding new airspace restrictions that may occur in the future so that proactive steps can be taken where possible and so appropriate communication to impacted airports can be made.

Runway Protection Zone

Runway protection zones (RPZ) are critical for maintaining a safe environment at any system airport. Airports should strive for complete control of RPZs through fee-simple ownership or easement acquisition. In the event that an RPZ expands onto privately owned property, then airport sponsors should actively engage with those property owners and use tools such as right of first refusal so that the airport is better positioned to acquire that property if the opportunity arises in the future. If acquisition is not possible, airport sponsors should strive for open communication with the controlling entity in order to advocate for airport needs. NDOT can assist airport sponsors with RPZ acquisition by providing general support to airports, whether that is getting them in contact with the state or local agency that owns the land where the RPZ is located or drafting a letter to a property owner on behalf of NDOT informing them on the situation, or other potential options.

Land Use Compatibility

Recommendations and considerations related to land use compatibility are presented in **Section 8.3.1.2**.

8.3.2.4. Airport Access

The results of the VRV and FSO analysis identified capital project recommendations for one of the Airport Access variables/objectives. **Table 8-15** presents the cost estimates for these project recommendations. The total cost estimate for projects related to the Airport Access VRV/FSO is $225,000, which include acquiring courtesy cars at system airports that did not report having a courtesy car program.

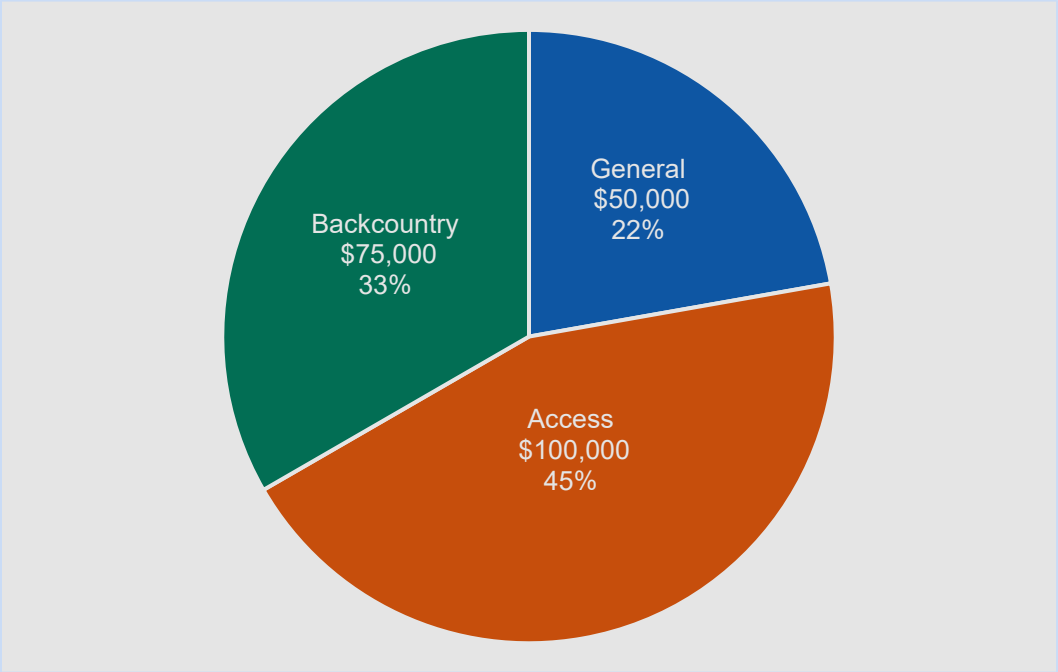
Table 8-15: Investment Needs for the Airport Access VRV/FSO Category

Airport Access VRV or FSO	Total Estimated Cost	% of Total
Ground Transportation	$225,000	100%

Source: Kimley-Horn 2022

Figure 8-11 presents the cost of Airport Facilities projects by NAHSP role, which corresponds directly to **Figure 8-8** presented in **Section 8.3.1.6**. It should be noted that Primary National, Regional, and Special Event airports currently do not have any estimated project costs related to the Airport Access VRV/FSO and therefore are not shown within the figure.

Figure 8-11: Airport Access VRV/FSO Investment Needs



Source: Kimley-Horn 2022

There are four variables/objectives in the Airport Access category that did not result in capital project recommendations; however, the following recommendations have been developed to assist the NDOT Aviation Program:

Community Access

The analysis related to this VRV is based on the distance (in miles) between the airport and the community that the airport serves; therefore, no recommendations can be made that would result in an airport becoming closer to its community. However, airports that scored low in this category can still work to actively engage with the community and educate their community on the services that the airport provides. NDOT can support this engagement by communicating with the airport sponsor on how to develop engagement strategies to educate the community on what the airport offers to them.

Regional Access

The analysis related to this VRV is based on the distance (in miles) between the airport and the interchange of the closest principal arterial highway; therefore, no recommendations can be made that would result in an airport becoming closer to this interchange unless there is a roadway change that might bring access closer to the existing airport site.

Local Access

Airports that are not receiving the maximum number of points for this VRV do not have an access road with the appropriate functional classification. The busier the airport the more robust the local roadway needs to be. Airports should work with NDOT to determine the possibility of improving access roads as part of the larger NDOT roadway needs.

8.3.2.5. Airport Expandability

There are four variables/objectives in the Airport Expandability category that did not result in capital project recommendations; however, the following recommendations have been developed to assist the NDOT Aviation Program:

Total Acreage/Based Aircraft Ratio

Cost estimates were not produced for this VRV because recommendations may include acquiring more property for apron and/or hangar expansion and the numerous factors involved in property acquisition specific to each airport's unique circumstances is difficult to determine for the statewide scope of the NAHSP. Instead, airports are encouraged to work with NDOT and their local planning and development organizations to determine the potential for expansion to construct aircraft parking areas, as needed. NDOT can support these efforts by continuing to coordinate with airports during airport 5010 data updates to better understand their expansion needs.

Airfield and Aeronautical Property

Establishing and maintaining the appropriate amount of space required for supporting airport activity occurring on the airfield and related aeronautical property is critical for airport performance; however, it is also important that the airport property is able to support non-aeronautical uses in order to increase the airport's ability to generate revenue and contribute to the local economy. This VRV is related to a PM within the Transform Economies project goal and recommendations are outlined in **Section 8.3.1.3**.

Surplus Property

The Surplus Property VRV is closely related to the Airfield and Aeronautical Property VRV as it evaluates an airport's ability to expand, either for aeronautical or non-aeronautical purposes. No cost estimates were produced for this VRV because it is not possible to identify costs for development that has not been planned by the airport. Airports should continue to conduct facility planning efforts to determine their future needs and identify if excess property is best suited for aeronautical or non-aeronautical uses. NDOT could continue coordinating with airports during airport 5010 data updates and as needed to provide support for airports interested in or undergoing new developments at their facility.

Airfield Expandability

The Airfield Expandability VRV focuses specifically on an airport's ability to expand its airfield facilities, specifically for runway extension purposes. Airfield expandability may be limited or impossible due to an airport's existing property boundaries and the circumstances of the property adjacent to the airport. No cost estimates were established for this VRV because it is not possible to develop planning-level estimates at the systemwide level for the unique circumstances of an individual airport. Airport sponsors are encouraged to stay proactive about future facility planning efforts and routinely coordinate with NDOT on these needs.

8.3.2.6. Community Commitment

The results of the VRV and FSO analysis identified capital project recommendations for one of the Community Commitment variables/objectives. **Table 8-16** presents the cost estimates for these project recommendations. The total cost estimate for projects related to the Community Commitment VRV/FSO is $23,240,000. It is important to note that the cost presented for ALP updates in **Table 8-16** includes the assumption that each NPIAS airport will likely require two ALP updates over the 20-year planning horizon, regardless of the date of their last update.

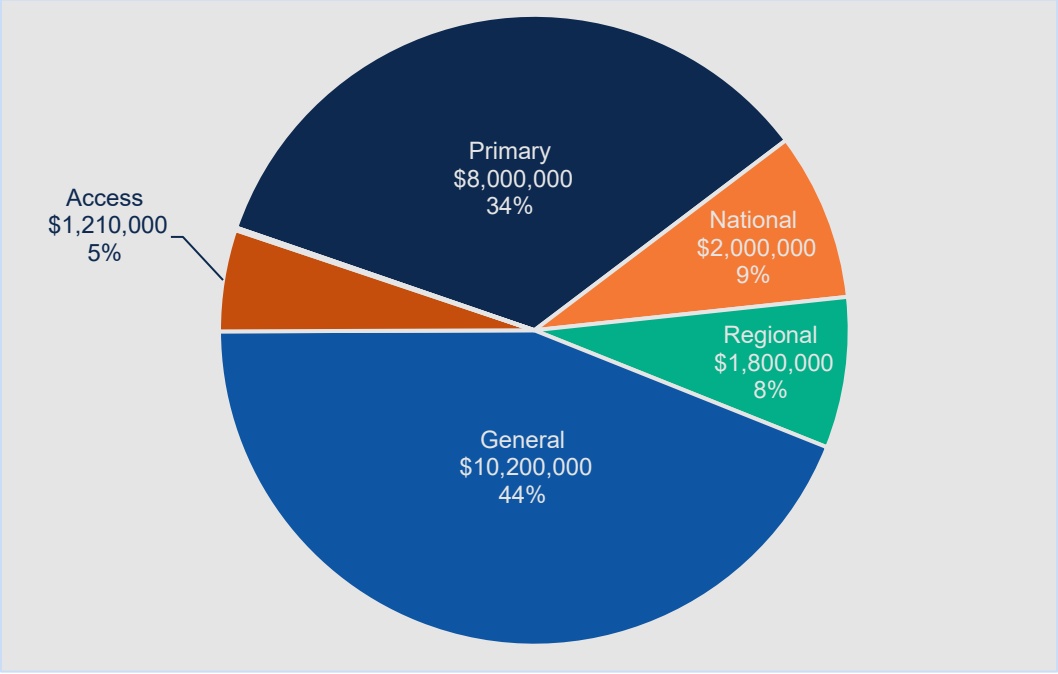
Table 8-16: Investment Needs for Community Commitment VRV/FSO Category

Community Commitment VRV or FSO	Total Estimated Cost	% of Total
Last ALP Update	$23,240,000	100%

Notes: Cost estimate includes projects for airport diagrams and ALPs dependent on the airport's role. ALP costs presented here assume that each NPIAS airport will likely require at least two ALP updates over a 20-year horizon, regardless of date of their last update. Source: Kimley-Horn 2022

Figure 8-12 presents the cost of Community Commitment projects by NAHSP role. General and Primary airports have the largest portions of costs under this goal, with over $10 million and $8 million respectively. National, Regional, and Access airports are the only other airports with projects related to the Community Commitment VRV/FSO, with between $1 million and $2 million of estimated investment needs. It should be noted that Backcountry and Special Event airports currently do not have any estimated needs for the Community Commitment VRV/FSO and therefore are not shown within the figure.

Figure 8-12: Community Commitment VRV/FSO Investment Needs



Source: Kimley-Horn 2022

There are five variables/objectives in the Community Commitment category that did not result in capital project recommendations; however, the following recommendations have been developed to assist the NDOT Aviation Program:

Airport Management

There are no physical project recommendations associated with this VRV, so no cost estimates were established. See **Section 8.3.1.4** for more information on recommendations made regarding airport management at NAHSP facilities.

Historical Capital Improvements and Airport Capital Improvement Plans/Programs (ACIP)

This section includes considerations for both the Historical Capital Improvements and ACIP VRVs. There are no physical project recommendations associated with this VRV, so no cost estimates were established. See **Section 8.3.1.4** for more information on recommendations made regarding ACIPs at NAHSP facilities.

Financial Subsidies

There are no physical project recommendations associated with this VRV, so no cost estimates were established. Capital improvement and operations subsidies are often necessary for airports to support their development needs and maintain an operational level that meets user needs. Airports should continue to monitor their financial needs to determine the types of subsidies they need to rely on to remain operational. Airports are encouraged to coordinate with NDOT on a routine basis to identify if there are any policies or programs that an airport could leverage to become less reliant on operational subsidies. These policies or programs could be related to non-aeronautical development or other aeronautical development that generates revenue for the airport.

Goodwill

There are no physical project recommendations associated with this VRV, so no cost estimates were established. Establishing goodwill with the airport community is closely tied to the recommendations related to establishing public outreach protocols, which are presented in more detail in **Section 8.3.1.5**.

8.3.2.7. Total VRV/FSO Investment Needs

The total VRV and FSO investment needs for each category of NAHSP airports are shown in **Table 8-17**. As shown in the table, the Airport Facilities VRV/FSO category comprises the most significant portion of the total VRV/FSO needs, accounting for 88 percent. Regional Significance costs account for 8 percent of total VRV/FSO needs, while Airport Access costs account for approximately 1 percent and Community Commitment accounts for approximately 3 percent. There are no investment needs associated with Airport Protection or Airport Expandability, resulting in zero percent for these categories.

Table 8-17: Total VRV/FSO Investment Needs

Category	Estimated Project Costs	Percent of Total
Regional Significance	$58,201,000	8%
Airport Facilities	$603,118,000	88%
Airport Protection	$0	0%
Airport Access	$225,000	1%
Airport Expandability	$0	0%

Category	Estimated Project Costs	Percent of Total
Community Commitment	$23,240,000	3%
Total	**$684,784,000**	**100%**

Source: Kimley-Horn 2022

8.3.3. Non-NAHSP Needs

In addition to presenting investment needs associated with NAHSP recommendations that were identified through PM analysis and VRV/FSO evaluations, this chapter presents the costs of other needs for three other areas of airport development:

- ACIPs, master plans, and other airport-specific projects and costs
- Large commercial airport projects and costs
- Statewide programs

8.3.3.1. ACIPs, Master Plans, and Other Airport-Specific Investment Needs

To calculate a 20-year development needs estimate for the state's airport system, information from NDOT and airports was obtained through ACIPs, master plans, and other airport-specific information that identifies projects and costs. ACIP costs are near-term with typically five to seven years of projects identified specifically to coordinate with the FAA on an airport's plans for utilizing FAA funding including entitlement and potentially discretionary. ACIPs can be prepared for non-NPIAS airports but are not required since the responsibility for project implementation and funding rests with the sponsor. Master plans were utilized to obtain mid- and long-term projects and costs to complement the short-term ACIP costs, as available. It was important to supplement short-term ACIP costs with mid- and long-term costs from recent master plans in order to align with NAHSP cost estimates, which did not correlate to a specific year but are intended to reflect needs over 20 years.

ACIPs were collected for 17 of the 31 NPIAS airports in the NAHSP, master plans were collected from nine NPIAS airports, and a recent Runway Incursion Mitigation (RIM) Study was also collected for inclusion. In order to incorporate only relevant cost estimates from airport documentation, master plans earlier than 2015 were not considered, resulting in eight master plan project costs not being integrated.[7] There were eight NPIAS airports that did not provide an ACIP, master plan, or other special study, and therefore costs presented in this section cannot be considered inclusive for all NPIAS facilities. Those eight facilities are listed here:

- Beatty Airport (BTY)
- Eureka Airport – Booth Bailey Field (05U)
- Gabbs Airport (GAB)
- Jackpot/Hayden Field (06U)
- Owyhee Airport (10U)
- Tonopah Airport (TPH)
- Wells Municipal Airport/Harriet Field (LWL)

[7] These eight master plans were also not provided by airports during data collection and therefore could not be reviewed for any applicable costs.

- Yerington Municipal Airport (O43)

The primary area where other airport-specific projects and costs were identified are in individual APMS studies, specifically those prepared for Clark County's airport system (excluding LAS) and Reno/Stead Airport (RTS) (as part of a combined effort that includes RNO). APMS costs for LAS and RNO are not presented in this estimate since they are identified in the Large Commercial Airport section, nor are costs from the NDOT APMS which focused on 22 system airports (these costs are presented in **Section 8.3.3.3**).

The projects provided in these three areas (ACIPs, master plans, and other airport-specific information) were sorted into five project categories and reviewed to identify any duplicate recommendations made as part of the NAHSP analyses. The five project categories are presented in **Table 8-18** with example projects provided for additional context. Of note, a separate pavement maintenance category was created to better demonstrate the significant cost related solely to maintaining existing pavement at NAHSP airports. This project category does not include any runway extensions, new taxiways, or other new airfield design projects. Instead, this category is exclusively related to existing pavement rehabilitation and reconstruction costs. Pavement maintenance projects were identified by reviewing ACIPs and master plans, as well as by reviewing the 2019 APMS. The 2019 APMS does not include airports within the Clark County Department of Aviation (CCDOA) or the Reno Tahoe Airport Authority (RTAA).[8] Instead, recent pavement maintenance programs specifically for CCDOA airports (excluding LAS) and RTAA airports (excluding RNO) were reviewed, and cost estimates were developed based on these studies' findings.[9] These project categories are also used in **Section 8.3.4** when presenting total costs.

Table 8-18: Airport Project Need Categories

Project Bucket	Example Projects
Airside	Weather Reporting Stations, Runway and Taxiway Lighting, other NAVAIDs, Airfield Design Projects
Landside	Ground Transportation, Automobile Parking, Aviation Fuel, Hangar Development
Pavement Maintenance	Runway Rehabilitation, Apron Rehabilitation, Taxiway Rehabilitation
Planning	Master Plan, Airport Layout Plan, Environmental and Wildlife Planning, Noise Impact Study
Terminal	Terminal Building Improvement, Passenger Concourse, Terminal Way Finding Signage, Construct FBO

Source: Kimley-Horn 2021

[8] CCDOA airports include Harry Reid International (LAS), Henderson Executive Airport (HND), Jean Airport (0L7), North Las Vegas Airport (VGT), and Perkins Field (U08). RTAA airports include Reno/Stead Airport (RTS) and Reno/Tahoe International Airport (RNO).
[9] LAS and RNO costs were estimated by extrapolating an average annual need, developed by CCDOA and RTAA respectively, over a 20-year planning horizon. Project costs could not be broken into the project categories presented in Table 8.18.

Table 8-19 presents the ACIP, master plan, and other airport-specific costs by project type with additional line items to present the overlap between these three categories and NAHSP costs.

Table 8-19: ACIP, Master Plan, and Other Airport-Specific Needs and Costs by Type

Project Bucket	Total Cost
Airside	$586,030,000
Landside	$268,713,000
Pavement Maintenance	$365,459,000
Planning	$3,936,000
Terminal	$17,493,000
Total Combined Costs	$1,241,630,000
Combined Costs Excluding NAHSP Duplicates	**$1,218,002,000**

Sources: Airport ACIPs, Airport Master Plans, Kimley-Horn 2022

8.3.3.2. Large Commercial Airport Needs and Costs

LAS and RNO each maintain their own maintenance and capital development program focused on maximizing available financial resources and preserving and enhancing their substantial airport assets. These programs are unique based on the existing airside and landside facilities at each airport, financial conditions, and anticipated needs to meet future demand. To develop estimated investment needs for inclusion in the NAHSP, outreach to both airports was undertaken to ensure the appropriateness of information was included. A summary of how each airport's needs were estimated is provided below.

LAS

Harry Reid International is the busiest primary airport in the state and requires considerable continued investment to continue serving the high demand of the Las Vegas metropolitan area. According to CCDOA, it is estimated that LAS, on average, programs $20 million for FAA Airport Improvement Program (AIP)-eligible projects on an annual basis and programs an additional $60-90 million in capital improvement projects that rely on non-federal and/or local funding streams annually. It is important to note that the $20 million and $60-90 million averages represent a typical annual need, and therefore requires extrapolation over 20 years in order to provide a more accurate long-term estimate of the investment need. The high range of $60-90 million is used to determine the 20-year estimate for non-AIP projects.

In addition to the AIP projects and other federally ineligible needs, an estimate for pavement maintenance needs was developed using a recently completed 2020 CCDOA APMS report. Using information presented in this report, a 20-year estimate of pavement maintenance cost of $75,280,000 was established. Another significant cost attributable to LAS is the design and construction cost of the recently completed Terminal 3 building, which was constructed using Passenger Facility Charges (PFCs) that will be collected through 2035. **Table 8-20** presents the 20-year investment need for LAS based on information provided by CCDOA. As shown, the annual estimates for AIP and non-AIP projects extrapolated over 20 years is substantial even before considering the additional 20-year pavement maintenance needs estimated from the CCDOA APMS. All total, the 20-year investment need at LAS sums to over $4 billion.

It is essential to note that this estimate does not reflect any inflationary costs, nor projects to accommodate substantial growth that is likely to be realized requiring even more investment than is depicted. Whether airfield, terminal, access roadways, parking, or other projects, additional passenger growth will generate demand for new facilities that has not yet been determined. The past two years of the COVID-19 pandemic have required CCDOA's focus on near-term needs and the organization's financial strength given the tremendous and immediate negative impact of the pandemic on the airport's revenue.

Table 8-20: Total 20-year LAS Investment Need

Funding Source	Total Cost
Annual AIP-eligible Projects	$20,000,000
Annual Non-federally Funded Projects	$90,000,000
Terminal 3 (PFCs)	$90,000,000
Average Annual LAS Investment	**$200,000,000**
Extrapolated 20-year LAS Investment Need	**$4,000,000,000**
CCDOA APMS 20-year Pavement Maintenance Needs Estimate	$75,280,000
Total 20-year LAS Investment Need	**$4,075,280,000**

Sources: CCDOA, Kimley-Horn 2022

RNO

A master plan for RNO was completed in 2018, with FAA accepting the full plan in 2019. A wide range of short-, mid-, and long-term improvements were identified with total project costs estimated at $1.636 billion over the 20-year period. These included major expansion of the terminal facility including new gates, expansion of other terminal areas, a new consolidated rental car facility, new and expanded automobile parking facilities, airfield improvements, and GA facility improvements as demand warrants.

The airport intends to use a variety of funding sources to pay for the improvements ranging from airport revenue bonds to FAA AIP grants, PFC revenue, customer facility charge (CFC) revenue, airport authority funds, and other third-party sources. As discussed previously, the new BIL funding, which was not available when the RNO master plan was completed, will be a new source of funding that can be used to pay for some of the improvements identified in the study.

While the master plan focuses on improvements to some existing facilities, the plan does not specifically address the airport pavement maintenance needs for RNO. The 2019 Update for RNO Airside Pavements identified an annual maintenance cost of $2,360,000, with separate pavement management plan totaling $174.1 million from 2020 through 2029, an average of approximately $17.4 million per year.

For purposes of the NAHSP, the total needs from the master plan of $1.636 billion and a pavement needs estimate of $348 million (assuming 20 years of projects at an average of $17.4 million per year) are utilized as the total investment needs estimate for RNO. The total investment need for RNO is presented in **Table 8-21**. It is important to point out that the needs of RTS are addressed separately in the prior section.

Table 8-21: Total 20-year RNO Investment Need

Funding Source	Total Cost
2018 Master Plan Identified Needs	$1,636,000,000
2019 RNO Airside Pavement Maintenance (Avg Annual Amount)	$2,360,000
2019 RNO Pavement Management Plan (Avg Annual Amount)	$17,400,000
Annual RNO Pavement Needs	**$19,760,000**
Annual RNO Pavement Needs (Extrapolated for 20-year Estimate)	**$395,200,000**
Total 20-year RNO Investment Need	**$2,031,200,000**

Sources: 2018 RNO Master Plan, 2019 RNO APMS, Kimley-Horn 2022

8.3.3.3. Statewide Programs

The NDOT Aviation Program is responsible for supporting the maintenance and development of system facilities. Throughout the NAHSP, many considerations have been developed to support increased system performance that involve the NDOT Aviation Program activities. These considerations would be in addition to the existing support provided in terms of supporting airports through ACIP processes, conducting 5010 data updates, and working with other local and regional stakeholders. Currently the NDOT Aviation Program has one full-time staff member responsible for all duties of the Program. It is unlikely that significant progress will be made in further supporting airports and the system's enhancement with a single staff member.

The NDOT Aviation Program has two existing programs that support responsible aviation development. NDOT also has a grant program, the Nevada Fund for Aviation, which provides matching monies for FAA grants to NPIAS airports, which is discussed in **Section 8.3.1.4**. Finally, the Nevada Aviation Technical Advisory Committee (NATAC) supports the NDOT Aviation Program by serving as a forum for "discussing planning and programming issues related to the Continuous Statewide Nevada Aviation System Plan (NASP), providing recommendations for the administration of the Nevada Fund for Aviation (formerly the Nevada Aviation Trust Fund), and to fulfill the public participation processes defined under Nevada's open meeting law as defined under Nevada Revised Statutes (NRS) Chapter 241." [10]

One of the existing programs is the Nevada Airport Pavement Management System (APMS) which was first established in 1990 and continues to support proactive planning measures that monitor and preserve airport pavement conditions. Most recently NDOT worked with Applied Pavement Technology, Inc (ApTech) to complete an APMS Update that concluded in 2019. Nevada's APMS program informs individual airports, NDOT, and the FAA on current pavement conditions, pavement-related maintenance and rehabilitation (M&R) needs and allows for the ability to optimize project selection and determine condition impacts of those projects. The APMS also supports multiyear capital improvement program development. The 2019 APMS Update evaluated 22 airports that have over 30 million square feet of pavement, excluding airports including LAS, RNO, and those within the Clark County system as well as RTS and the privately owned airports.

The pavement at the 22 airports is almost 50 percent runways, with the remaining portion composed of taxiways, aprons, T-hangar areas, and helipads. Based on the analysis conducted by ApTech, over half of the airports included in the study would benefit from preventive maintenance or pavement preservation and approximately 20 percent of the study airports need more costly rehabilitation or reconstruction. According to study findings, the average overall area-weighted airport PCI for all airports' pavements was 76.4, with higher PCIs for commercial service airports (85.3) versus other general aviation airports (74.8). If all recommended projects were funded and implemented, the average PCI would increase to 84.5, at a cost of approximately $49.5 million. This cost was developed considering an unconstrained budget scenario, which is not realistic, but provides a basis for understanding the overall airport pavement needs and is a launching point for project prioritization. The NDOT APMS plays a significant role in supporting the maintenance and preservation of aviation assets in Nevada and will continue to do so as it is updated in the future.

The NDOT Aviation Program also supports the development of the Nevada Airport Directory and Pilot's Guide which is updated routinely and catalogs important information about airport facilities across the state. The directory is made available online and a web application for Apple iPads was developed so that users can easily download and navigate the directory on the go. The directory is important because it provides airport users access to critical information that supports the safe operations of aircraft into and out of Nevada's public use airports. Information obtained throughout the NAHSP will be considered for integration into the Directory and Pilot's Guide, as applicable.

[10] https://www.dot.nv.gov/mobility/aviation/airport-matching-grants-natac

In addition to these two programs and the Nevada Fund for Aviation and NATAC responsibilities, some potential future programs or considerations are identified that may benefit system airports moving forward. These include opportunities such as statewide aircraft counting programs and considerations for funding FAA AIP-ineligible nonprimary runways.

Effective aviation facility planning relies on an accurate understanding of the number of annual operations an airport experiences. Annual operations are used as an indicator for a variety of facility planning efforts; however, most airports must rely on high-level estimates to identify the number of operations at their airport. Up until recently, only towered airports could provide accurate counts of operations. More recently, other strategies have been implemented, including use of Automatic Dependent Surveillance – Broadcast (ADS-B) counters. An aircraft must be equipped with ADS-B technology, and when equipped, ADS-B allows an aircraft to broadcast their identification, position, altitude, and velocity to other aircraft and air traffic control (ATC). The ability to transmit a signal is referred to as ADS-B Out and being able to receive the signal is called ADS-B In. Currently, 16 Nevada system airports have ADS-B In capabilities, which supports an ADS-B counter program. The ADS-B Counter program allows for potentially more accurate operations counts, but it requires that the aircraft flying into and out of the airport are also equipped with ADS-B Out technology. While an ADS-B Counter Program is an important step in more accurately counting operations at non-towered airports, the NDOT Aviation Program is committed to identifying a more universal solution for aircraft operations counting. Challenges associated with implementing effective counter programs relate directly to the lack of broadband connectivity across the state, and NDOT continues to work with the Nevada Governor's Office to establish critical broadband connections. While challenges remain, NDOT is committed to establishing widespread broadband connections and identifying aircraft operations counting programs that are well suited for all Nevada airports.

Nevada airports with more than one runway may face challenges maintaining their nonprimary runways due to the FAA AIP eligibility guidelines. Per the FAA AIP Handbook, crosswind and secondary runways may be considered ineligible for funding unless the runways meet specific thresholds. For example, a crosswind runway would only be considered eligible for FAA AIP funding if the primary runway's wind coverage is less than 95 percent or if the primary runway has wind coverage less than 95 percent and the existing crosswind runway(s) operates at 60 percent or more of their annual capacity. Similar eligibility requirements are outlined for secondary and additional runways in order to justify a certain level of need for continued FAA funding for maintenance of these crosswind and additional runways. In cases where an airport's crosswind or additional runways do not meet the justification requirements, they face being ineligible for FAA AIP funding support on those runways. In the event that an airport is not able to rely on FAA funding to maintain ineligible runways, NDOT can continue encouraging airports impacted by this issue to look for local or state funding opportunities, while also meeting with FAA and other legislative staff regarding the potential for changing the funding eligibility requirements.

8.3.4. Total Costs

It is critical to identify a comprehensive estimate of total aviation needs to emphasize the importance of continued financial support for Nevada's aviation assets. In addition to the cost estimates associated with the NAHSP and the cost estimates provided by airports (ACIPs, master plans, and other airport-specific studies), as well as costs for the large commercial service airports and statewide programs, there are a few other costs that need to be considered when identifying total financial need. These additional costs are summarized in **Table 8-22**.

Table 8-22: Cost of Other Aviation Needs

Program	Estimated Costs
APMS Study Updates	$2,400,000
NAHSP and AEIS Updates	$600,000
20-year Life Cycle Pavement Reconstruction	$337,230,000
Aircraft Operations Counting Program	$70,000
Pahrump Site Selection Study	$400,000
Pahrump Land Acquisition, Design, and Construction	$10,000,000
Total Cost of Other Aviation Needs	**$350,700,000**

Sources: NDOT Aviation Program, Kimley-Horn 2022

There are also existing and future aviation projects with significant costs that must be considered. These special programs include continuation of Nevada's APMS updates and the Aircraft Operations Counting Program. The APMS Updates are programmed to be conducted every three years, resulting in six updates being considered in the costs presented in **Table 8-22**. More information regarding these two special programs is presented in **Section 8.3.3.3**. As mentioned in **Section 8.2.3** there are currently two proposed public aviation facilities in Nevada, SNSA and Pahrump; however, a cost estimate is only provided for Pahrump at this time.

Table 8-23 provides a summary of total investment needs estimated for NAHSP facilities over the 20-year planning horizon. As shown, the table excludes duplicates costs to avoid double counting and accounts for needs excluding and including the impacts of RNO and LAS.

Table 8-23: Summary of Total Aviation Investment Needs Over 20-year Planning Horizon

Recommendation Category	Cost	% of Total (Excluding LAS & RNO ACIP Cost)	% of Total (Including LAS & RNO ACIP Costs)
NAHSP PM Cost	$29,487,000	N/A	N/A
NAHSP VRV/FSO Cost	$684,784,000	N/A	N/A
Overlapping PM and VRV/FSO Costs	*$23,231,000*	N/A	N/A
Total NAHSP Costs (Duplicates Removed)	**$691,040,000**	**31%**	**8%**
Airport Provided Costs (Exc. LAS and RNO)	$1,241,630,000	54%	15%
LAS Development Costs	$4,075,280,000	N/A	49%
RNO Development Costs	$2,031,200,000	N/A	24%
Overlapping NAHSP and Airport Provided Costs	*$23,628,000*	N/A	N/A
Total Airport Provided Costs (Duplicates Removed)	**$7,324,482,000**	**N/A**	**N/A**
Total Cost of Other Aviation Needs (from above)	$350,700,000	16%	4%
All Costs with Duplicates Removed (*Including* LAS & RNO ACIP Costs)	**$8,366,222,000**	**N/A**	**100%**
All Costs with Duplicates Removed (*Excluding* LAS & RNO ACIP Costs)	**$2,259,742,000**	**100%**	**N/A**

Sources: Clark County Department of Airports, Reno/Tahoe Airport Authority, Kimley-Horn 2022

While not included in **Table 8-23**, it is important to note the significant broadband infrastructure plan for Nevada. As mentioned in earlier policy considerations, not only are there airports in the state without critical broadband connections, but there are also many towns and remote communities that do not have broadband connections. Nevada committed $500 million in federal funding to support increased broadband connectivity throughout the state. The state has established a Broadband Funding Initiative that identifies needs and cost estimates for further developing Nevada's broadband infrastructure. The Initiative proposed over 1,700 miles of cable to be installed throughout the state. It is important to note that, while comprehensive, this Initiative still does not provide connectivity to all NAHSP facilities or to all communities in the state.

8.4. Funding Sources

Funding to support airport capital improvement projects is available from a variety of sources at the federal, state, and local level. An airport's ability to leverage these funds depends on the eligibility requirements included in the various funding sources. An in-depth review of the federal, state, and local funding sources leveraged to support aviation development in Nevada was presented in **Chapter 4. State, Regional, and Local Airports Issues**. **Table 8-24** presents the amount of funding made available to NAHSP airports from 2019 through 2021 through the various federal and state programs. It is important to note that all federal funding programs are only made available to NPIAS airports and the amount of funding available in 2020 was unprecedented considering the numerous relief funding programs established due to the impacts of COVID-19. The CARES Act, CRRSA Act, and ARPA account for 76 percent of the total federal funding available in 2019-2021. If those acts were not established, the total federal funding amount would only be $150,768,295.

Table 8-24: Summary of Federal and State Aviation Funding Opportunities

Source	Eligible Airports	Amount
Federal		
2019 – 2020 FAA AIP Grant Funds	NPIAS Airports	$96,286,071
2020 FAA AIP Supplemental Appropriation Funds	NPIAS Airports	$20,995,231
2020 CARES Act Funds	NPIAS Airports	$228,752,102
2020 CARES Act Local Matching Funds	NPIAS Airports	$7,913,878
2020 CRRSA Act Funds	NPIAS Airports	$49,627,830
2021 ARPA Funds	NPIAS Airports	$191,919,576
2021 FAA AIP Grant Funds	NPIAS Airports	$27,931,437
2021 FAA AIP Supplemental Appropriation Funds	NPIAS Airports	$5,555,556
2019 – 2021 Total Federal Funding		**$628,981,681**

Sources: FAA Map of CARES Funding, 2020; FAA CRRSA Act Funding, 2020; FY 2019-2020 FAA AIP Grants; FY 2020-2022 FAA AIP Supplemental Appropriation; FY 2021 FAA AIP Grants; Kimley-Horn 2022

Starting in Fiscal Year 2022, Nevada's airports will receive $58.6 million in BIL AIG funding, with nearly $44 million going to LAS and almost $7 million to RNO, while nonprimary general aviation airports are allocated between $110,000 and $763,000 each. BIL funding is for five years, with the annual amount for AIG adjusted based on enplanements (depending on the year) for primary airports and the NPIAS role of nonprimary airports as updated every two years. In addition to the AIG, there is an opportunity for airports to compete for additional funding through the Airport Terminal Program (ATP) and to receive funding through the Air Traffic facilities component. This will help Nevada's airports in addressing the significant capital needs identified through the NAHSP and by the airports through planning studies.

Other sources used by many airports to fund projects include the following:

- **Passenger Facility Charges (PFCs):** PFCs are collected on enplaned passengers at commercial airports, with a current cap of $4.50 per flight segment, with a passenger only required to pay a maximum of two PFCs per one-way trip. Currently only LAS, RNO, and Elko Regional (EKO) are collecting PFCs. Of specific note, LAS has committed PFC collections to past projects for up to 20 more years. Without an increase to the PFC cap, LAS will require other funds to meet development needs including terminals, roadway access, and other projects.
- **Bonds:** Many airports utilize general obligation or GO bonds to fund capital improvements. Airports must pay debt service from airport sources on the bonds.
- **Airport Revenue:** Airports generate funds from operation, whether through revenue from fuel sales, hangar leases, ground leases, commercial land leases and rent, landing fees, terminal concession rents, and others.
- **Subsidies:** Many communities provide subsidies to their sponsored airport whether for capital improvements or for operations and maintenance. Subsidies can range dramatically depending on the airport sponsor's financial wellbeing.
- **Private Funding:** Some airports obtain funding from private sources, typically for projects that are developed for the private owner such as hangars or other buildings.

While there are many potential sources of funding, many small NPIAS airports rely heavily on FAA grants for major capital development needs.

The total amount of funding made available to NPIAS airports within the NAHSP between 2019 and 2021 was $628,981,681. Adding BIL funding assuming an average of $59 million per year for AIG will be of great value, however, none of these programs cover any costs related to non-NPIAS airport needs and, in many cases, cannot be distributed to an airport without the airport providing the necessary local funding match. While COVID-19 created a unique funding environment where the CARES Act covered the cost of the local matching funds, those funds are not guaranteed for future years and it would be up to local agencies to allocate the necessary matches. In typical years, nonprimary and primary airports (except for large hub LAS) would be responsible for identifying state and local matches to cover 6.25 percent of total project costs. Even with the additional funding allocated due to COVID relief funding, the estimated costs for ACIP, master plan, airport-specific, and NAHSP project costs presented in **Table 8-23** exceed available funding by approximately $7.7 billion, as shown in **Table 8-25**. In addition, **Table 8-25** breaks down the total funding shortfall to identify the shortfall related specifically to NPIAS and non-NPIAS airports, showing an approximate $7.6 billion and $146.7 million shortfall, respectively.

Table 8-25: Aviation Funding Shortfall

Description	Amount
Estimated ACIP and NAHSP Costs	$8,366,222,000
Estimated Funding Available	$628,981,681
Total Funding Shortfall	**$7,737,240,319**
NPIAS Funding Shortfall	$7,590,540,319
Non-NPIAS Funding Shortfall	$146,700,000

Sources: FAA Map of CARES Funding, 2020; FAA CRRSA Act Funding, 2020; FY 2019-2020 FAA AIP Grants; FY 2020-2022 FAA AIP Supplemental Appropriation; FY 2021 FAA AIP Grants; Kimley-Horn 2022

8.5. Project Prioritization Considerations

The determination of an airport's regional value (ARV), which includes the results of the VRV analysis, an estimate of the economic impact of the airport, and consideration of the replacement value, serves to identify areas where there are opportunities for improvement, whether to mitigate a substandard condition or to transition toward meeting current or future demand. Many of the factors are within the sponsor's control, and their importance relevant to local, regional, state, or federal priorities can be assessed and an appropriate strategy for prioritizing improvement efforts can be identified.

While the ARV can be used as a tool that allows comparison with other similar-sized airports, every situation will have elements that are unique and specific to each airport. The airport sponsor will be the final arbiter of the appropriate response for addressing particular factors, based on their priorities along with the timing and availability of funding resources.

In cases where funds under the FAA AIP are utilized for a project, the priorities may emulate those of the FAA's National Priority Ranking (NPR)[11] system that address issues regarding:

- Safety/Security
- Environment
- Planning
- Pavement Preservation and Reconstruction
- Airfield Capacity
- Design Standards

Improvements that rely on federal funding will be aligned to the FAA's ranked order of priorities in order to compete with other airports for a limited budget. In most cases, improvements using AIP funds will be limited to runways, taxiways, and parking aprons, although with the new BIL AIG there may be opportunities to consider other types of airport development over the next five years.

The priority for other improvements that may not score highly for federal funds may be justified based on separate funding resources. In some cases, public-private partnerships may provide opportunities to generate additional revenue or otherwise expand services for users.

The airport sponsor will generally select the "next best project" based on the availability of funding resources and the impact of implementing the improvement will result in a slight incremental increase in the ARV for a particular VRV metric. However, it will be through a comprehensive and balanced ACIP executed over the short term where the cumulative effect on the airport's ARV will be demonstrated. The intended result is an ARV that quantifies the overall improvement in the airport's capabilities to serve its users and fulfill its existing roles within the federal and state system of airports and in some cases, reaching the threshold for expanding the airport's ability to serve a broader range of users.

[11] "*FAA Order 5090.5, Formulation of the NPIAS and ACIP" includes a formula to establish a score for projects weighted toward achieving federal goals.*

8.6. Summary

The NAHSP was conducted by the NDOT Aviation Program to evaluate the existing airport system's needs, performance, and economic impact, leading to development of an overall plan that provides airports, NDOT, and the FAA with useful information for future decision-making. The costs identified in this chapter provide a comprehensive view of the resources needed to maintain the system over time, recognizing all airports do not have the financial capability to meet the identified needs.

It is essential that the needs of Nevada's airports be considered in the context of the system's economic impact, presented in the final chapter of the NAHSP. The economic impact demonstrates the annual economic contribution the system makes to the local and statewide economies, and will vary based on changes to aviation activities, airport development, and economic conditions.

In addition to development needs, the NAHSP identified numerous considerations to address specific PMs that can assist with preserving and enhancing the state aviation system. These considerations include actions that airport sponsors and NDOT can undertake to support the airport system as the industry evolves and continues to experience change. Nevada's aviation system, including the vast number of privately owned airports and heliports that also support the state's aviation demand, will continue to require support on all levels whether it's financial, legislative, or just community-level respect for the activities that are enjoyed as a result of an airport's operation and the investment in a safe and effective aviation network.

Chapter 9. Airport Economic Impact Study

9.1. Introduction

The Airport Economic Impact Study (AEIS), a companion piece to the Nevada Airport and Heliport System Plan (NAHSP), provides an in-depth approach to calculate the quantitative economic impacts associated with the airports in the Nevada System. The AEIS uses an industry-accepted methodology that highlights the important economic contributions that Nevada realizes from its airports by quantifying employment, annual labor income, and total output associated with these airports. In addition to quantitative data, it is important that qualitative benefits are identified to gain support for airport maintenance, protection, future projects, and investment. The importance of conducting an AEIS lies in the ability of that study to educate the public and others, including elected officials, on the economic value of the airport within their communities and, on a statewide level, the contributions of the system to the statewide economy.

This chapter comprises the following sections:

- Study Airports
- Economic Impact Methodology
- Data Collection Process
- Airport Economic Impact Findings
- Tax Revenue Analysis
- Special Events Airports and Activities
- Summary

9.2. Study Airports

The NAHSP's system consists of 44 public-use, publicly owned airport facilities in the state, five privately owned airports that are open to the public, and two temporary airports that are open to the public during major events for a total of 51 system airports. The 51 system airports are listed in **Table 9-1** and identified in **Figure 9-1**, with identification of the NAHSP role for each airport. There are also five airports that are located in adjacent states but serving Nevada aviation needs due to proximity. These supporting airports are not analyzed in the study but are recognized as providing mobility options and accommodating demand for aviation services, even though they are outside the State.

The state's 51 airports range in size and activity from the largest, Harry Reid International (LAS) in Las Vegas, a commercial service airport providing airline passenger, cargo, and general aviation services, to smaller and sometimes remote general aviation airports. Many of the state's airports accommodate critical emergency services such as aerial firefighting and medical transport, even though the operators of these aircraft are not based on those airports. Nearly all airports serve the state's vast tourism industry that includes everything from high-end resorts and gaming to outdoor recreational activities, while others serve aircraft operated on behalf of important Nevada industries such as mining, aerospace and defense, and a growing information technology sector.

Beyond the 51 system airports, Nevada has 63 operational heliports. The 63 heliports are stand-alone facilities but are primarily for private uses in Nevada. The heliports are identified in the

NAHSP, but there is limited analysis of these facilities given they are almost entirely private use. No AEIS analysis was conducted for the heliports.

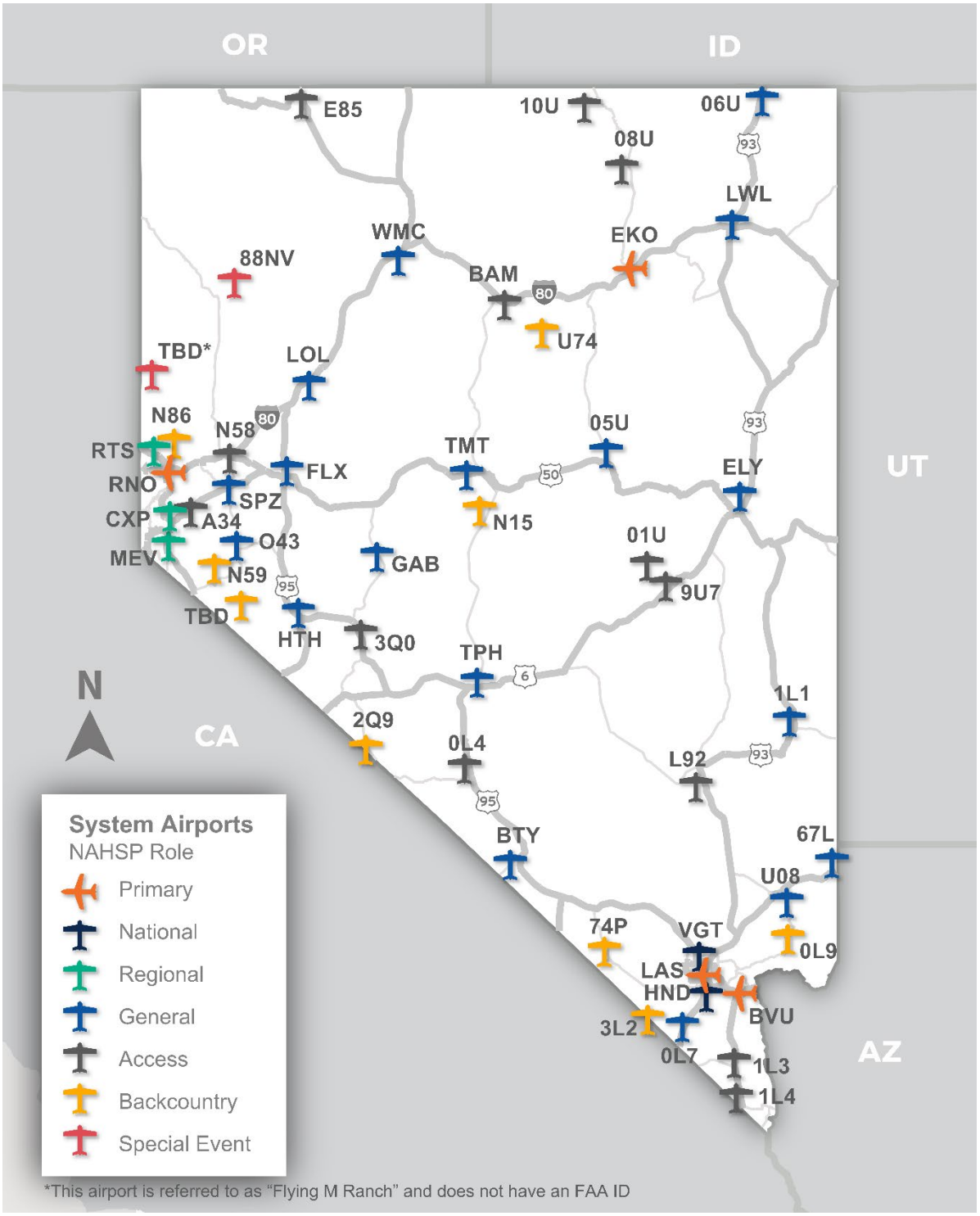
Table 9-1: NAHSP Airports Included in the AEIS

Associated City	Airport Name	FAA ID	NAHSP Role
Alamo	Alamo Landing Field	L92	Access
Austin	Austin	TMT	General
Battle Mountain	Battle Mountain	BAM	Access
Beatty	Beatty	BTY	General
Boulder City	Boulder City Municipal	BVU	Primary
Cal Nev Ari	Kidwell	1L4	Access
Carson City	Carson	CXP	Regional
Crescent Valley	Crescent Valley	U74	Backcountry
Currant	Currant Ranch	9U7	Access
Dayton/Carson City	Dayton Valley Airpark	A34	Access
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	-	Special Event
Denio	Denio Junction	E85	Access
Duckwater	Duckwater	01U	Access
Dyer	Dyer	2Q9	Backcountry
Elko	Elko Regional	EKO	Primary
Ely	Ely Airport/Yelland Field	ELY	General
Eureka	Eureka	05U	General
Fallon	Fallon Muni	FLX	General
Fernley	Samsarg Field	N58	Access
Gabbs	Gabbs	GAB	General
Gerlach	Black Rock City (Burning Man)	88NV	Special Event
Goldfield	Lida Junction	0L4	Access
Hawthorne	Hawthorne Industrial	HTH	General
Jackpot	Jackpot/Hayden Field	06U	General
Jean	Jean	0L7	General
Kingston	Kingston	N15	Backcountry
Las Vegas	Henderson Executive	HND	National
Las Vegas	Harry Reid International	LAS	Primary
Las Vegas	North Las Vegas	VGT	National
Lovelock	Derby Field	LOL	General
Lyon County	Flying M Ranch (Hilton Ranch)	-	Backcountry
Mesquite	Mesquite	67L	General
Mina	Mina	3Q0	Access

Associated City	Airport Name	FAA ID	NAHSP Role
Minden	Minden-Tahoe	MEV	Regional
North Fork	Stevens-Crosby	08U	Access
Overton	Echo Bay	0L9	Backcountry
Overton	Perkins Field	U08	General
Owyhee	Owyhee	10U	Access
Pahrump	Calvada Meadows	74P	Backcountry
Panaca	Lincoln County	1L1	General
Reno	Reno/Stead	RTS	Regional
Reno	Reno/Tahoe International	RNO	Primary
Reno	Spanish Springs	N86	Backcountry
Sandy Valley	Sky Ranch	3L2	Backcountry
Searchlight	Searchlight	1L3	Access
Silver Springs	Silver Springs	SPZ	General
Smith	Rosaschi Air Park	N59	Backcountry
Tonopah	Tonopah	TPH	General
Wells	Wells Municipal/Harriet Field	LWL	General
Winnemucca	Winnemucca Municipal	WMC	General
Yerington	Yerington Municipal	O43	General

Sources: Kimley-Horn 2021, FAA Airport Facilities Data 2021

Figure 9-1: NAHSP Airports Included in the AEIS



Sources: Kimley-Horn, FAA Form 5010 Airport Master Record 2021

9.3. Economic Impact Methodology

An economic impact analysis estimates the impact of an industry change on the statewide and/or regional economy. For this analysis, the impact of airport-related operations located in Nevada are estimated on the statewide level. Four impacts are considered in this analysis: 1) airport operations; 2) airport tenant activities; 3) airport capital expenditures; and 4) airport-related visitors to the state. All 51 study airports do not have all four impact categories, but relevant impacts were identified for all airports.

It is important to note that the economic impacts of three airports in Clark County, Harry Reid International Airport (LAS), Henderson Executive Airport (HND), and North Las Vegas Airport (VGT), were recently estimated in the report by Oxford Economics, titled "The Economic Contribution of the Clark County Airports," August 2019. This AEIS utilizes the findings from that study; however, the same level of data granularity of impacts by type is not available for these three airports. As appropriate, the data for the three airports is integrated into the tabular presentation and findings.

9.3.1. General Approach and Terminology

The economic impact analysis uses data obtained from airports and the statistical modeling software package IMPLAN (Impact Analysis for Planning) to analyze expenditures associated with each of the four economic activities described above. The analysis is based on the theory that when new money enters a community (in this case the state) through investments, revenue, or income, some of it is re-spent one or more times in the economy, creating additional impacts. IMPLAN estimates these impacts using specific data on what inputs are needed to produce the goods and services for the identified industries. The economic activity in the industry under study (airports) serves as the base for estimating the total economic impact generated by that industry across all industry sub-sectors.

The IMPLAN package classifies industries based on their operations. Some of the industries do not directly correspond to North American Industrial Classification System (NAICS) codes as multiple NAICS industries may be combined into a single industry in IMPLAN. Tables throughout this report showing industry impacts use the IMPLAN, rather than the NAICS system. To calculate economic impacts, multipliers for each industry are available for various indicators. The multipliers are based on relationships among industries and estimate the purchases of a particular industry from other industries.

Multipliers translate the consequences of change in one variable upon others. They are ratios that estimate the "ripple effect" throughout the economy. In more "technical terms," they are numerical coefficients, which relate a change in a component of aggregate demand or employment to a consequent change in total income or total employment. Multipliers are applied to the direct economic impact to derive other (non-direct) economic impacts. There are three categories of impacts as discussed below:

1. **Direct Impact:** Represents the initial expenditure amounts that directly impact the regional airport economy. These include on- and off-airport effects such as airport operations, construction, airport tenants, and spending from visitors that utilize the airport.
2. **Indirect Impact:** Represents the impact from the use of direct revenues to purchases goods and services from supplying vendors in the state. Purchases are made by supplying vendors

to restock their inventory by purchasing goods and services from other vendors who in turn restock by purchasing from other vendors and so on is the indirect impact. These purchases are also commonly referred to as the "ripple effect."

3. **Induced Impact:** The direct activity and the resulting indirect activity generate some increases in the general level of employment and income, leading to a tertiary level of economic impact through the higher level of household expenditures on goods and services. These impacts reflect the increase in spending from the household sector as income increases or decreases due to changes in production of goods and services.

These three categories of impact are conveyed in terms of individual measures or indicators. The three measures utilized to measure economic impact include:

1. **Employment:** Represents the total number of people employed by a business, regardless of whether they are full-time or part-time, as well as the jobs created or supported in the economy to support the business' economic activity.
2. **Labor Income:** All forms of employment income, including employee compensation (wages and benefits including health care insurance payments, retirement contributions, etc.) and proprietor income.
3. **Output:** Output represents the value of industry production and economic activity associated with the operation of the airport, including airport administration and management, sales of goods and services by airport tenants, budget expenditures by agencies located on airports, capital expenditures, and visitor spending.

For example, an airport employs staff (employment), pays salaries and wages (labor income), and spends money in the regional economy (output). These are direct impacts. The purchases by the airport of goods and services from their suppliers allows these suppliers to increase their operations, hire more employees, and pay wages. These are indirect impacts. Wages paid to employees of the airport and airport suppliers are spent in the community and spread throughout the state, supporting additional businesses and further increasing operations, employment, and wages for these businesses. This is the induced impact.

This AEIS estimates the direct, indirect, and induced impacts of airport and related operations on output, employment, and labor income levels in Nevada. Due to the COVID-19 pandemic and its unprecedented impact on aviation in 2020 and into 2021, as well as the timing of the NAHSP, the AEIS analysis is based on calendar year 2019 data and all estimates are calculated in 2019 dollars.

9.3.2. Approach to Data Calculation

The study included impacts for 51 airports throughout the state of Nevada. Data for these airports and related industries were collected as discussed below and impacts estimated using the IMPLAN model. As previously noted, economic impacts for LAS, HND, and VGT from the August 2019 study were utilized in this AEIS for those three airports.

There are four activities for which impacts are estimated and described below:

- Airport operations
- Airport tenants
- Capital expenditures
- Visitors

Airport Operations: Airports throughout the state were contacted and completed the Airport Inventory Data Collection Form (inventory or survey form) designed to determine the airport's expenditures, labor income, and employment in 2019 to provide a basis for the airport operations analysis, as well as provide additional data for the NAHSP's analysis. The airport operations data is focused on staff and activities required to manage the airport including business operations, as well ground and building maintenance. The airports provided a wide variety of data. Some provided all three points of information (output, employment, and labor income), while others provided two, one, or none. As at least one data point is required for the IMPLAN analysis, the missing data points were estimated using data contained in the IMPLAN model for the county corresponding to the airport's location based on the relationships between the three components for that industry in the county. For example, Minden Airport (MEV) provided the estimated number of employees and labor income for airport operations. These actual amounts were used as the direct impacts for the airport. The direct impact of output was estimated using IMPLAN data regarding the Output per Employee in the airport industry in Douglas County. Using IMPLAN, indirect and induced multipliers are applied for output, employment, and labor income. While countywide IMPLAN data is used to estimate missing data points, the analysis uses statewide multipliers to estimate the impact of each airport's operation on the state.

Airport Tenants: A list of airport business tenants was also requested from the airports. These business tenants, defined as those with on-site employees (not to be confused with based aircraft tenants of the airport) were contacted individually to request data on their specific activity at the airport, specifically employment. Unfortunately, not all tenants provided employment data. For tenants found to be located on airport properties but without employment data, out team utilized ESRI's Community Analyst tool, a database containing various business information, including employment for businesses throughout the United States. Additionally, the Nevada Employer Directory provided by the Nevada Department of Employment, Training and Rehabilitation was also utilized. Resulting employment was used as the direct impact for airport tenants, with direct output and labor income estimated by IMPLAN for the industry corresponding to each tenant and county of operation. Indirect and induced impacts were estimated using statewide multipliers for the appropriate industries.

Capital Expenditures: Additionally, annual capital expenditures by the airports over the past five years (2015 to 2019) were requested. The data is then averaged to account for years in which expenditures are very high versus very low, depending on the year. This allows a smoothing of the impact to account for issues such as weather, project schedules, and available funding. Additionally, the FAA Grant History was utilized to determine historic capital expenditures when airports were not able to provide this data. For airports that did not provide Airport Capital Improvement Plans (ACIPs), development estimates from the FAA's 2021-2025 National Plan of Integrated Airport System (NPIAS) were utilized. Expenditures represent the direct output impact of airport capital

expenditures. Direct employment and labor income impacts are estimated using IMPLAN data for the appropriate construction-related industry in the county where each airport is located. Indirect and induced impacts are estimated using statewide multipliers for the appropriate industries.

Visitors: Visitors include both those that utilize a commercial service airport and those that arrive via a general aviation airport. The focus of the visitor spending is on those visitors arriving to Nevada from out of state as these passengers are bringing "new money" into Nevada, as opposed to spending money in one area of the state in another area, all of which are generated in the state. Airports were asked to provide information regarding the number of general aviation (GA) nonlocal, out-of-state passengers/visitors utilizing the airport in 2019 and information regarding the average number of nights spent in the state. Using these data, total GA visitor days were estimated for each airport. For commercial service airports, data on out-of-state visitors were obtained from Airline Data, Inc. for 2019. Expenditures per visitor per day in the lodging, gaming, food and drink, entertainment/recreation, shopping, and other industries were estimated for each airport based on their county of location. Expenditure data was collected from the following reports:

- Reno Tahoe 2019 Visitor Profile Survey, EMC Research for Reno-Sparks Convention & Visitors Authority
- CY17/18 Carson City Visitor Profile, Nevada Division of Tourism
- 2019 Las Vegas Visitors Profile Study, GLS Research, Las Vegas Convention and Visitors Authority
- Nevada Territory Visitor Facts-Cowboy Country, 2015-2019, Nevada Commission on Tourism
- Nevada Territory Visitor Facts-Pony Express, 2015-2019, Nevada Commission on Tourism
- Nevada Territory Visitor Facts-Nevada Silver Trails, 2015-2019, Nevada Commission on Tourism

Total visitor expenditures are considered direct output impacts of visitors. Employment and labor income impacts are estimated using relationships between output and employment and labor income for each visitor expenditure industry for the county of visitor location. Indirect and induced impacts are estimated using statewide multipliers for these industries.

9.3.3. Economic Modeling Process

IMPLAN is based on the input-output economic model. Input-output analysis is a form of economic analysis based on the interdependencies between economic sectors. Input-output is commonly used to estimate the impacts of changes in an economy and to analyze their resulting ripple effects. The latest version of IMPLAN includes 546 industries corresponding to various NAICS industries. Data is available at zip code, county, state, and national levels. By selecting the appropriate industry and region, one can input labor income, output, and/or direct employment data to estimate the direct, indirect, and induced impact of that industry on the region and/or state. In addition to estimating the overall economic impact, IMPLAN can also estimate the tax impact of the industry, including local, state, and federal taxes paid by that industry.

9.4. Airport Economic Impact Findings

As discussed above, the economic impact includes the estimate of direct, indirect, and induced impact on statewide employment, labor income, and output of four activities: airport operations, airport tenants, airport capital expenditures, and airport visitors. Findings of the economic impact analysis are summarized in this section.

Table 9-2 summarizes the total economic impact generated by Nevada's airports in 2019 by airport type, calling out the specific impacts of three of the Clark County airports, the two Reno-Tahoe Airport Authority airports, other commercial service, and the remaining general aviation airports. Nevada airports provided approximately 285,500 jobs and generated $12.2 billion in labor income and $40 billion in economic output in 2019.

Table 9-2: Nevada Airports 2019 Total Economic Impacts by Airport Category

Measure	Employment	Labor Income	Output
LAS, VGT, HND	246,265	$10,500,000,000	$34,918,032,790
RNO and RTS	35,232	$1,484,887,810	$4,449,777,740
Other Commercial Service Airports	1,219	$70,282,580	$214,195,610
Remaining GA Airports	2,805	$150,645,160	$467,523,590
Statewide Total	**285,521**	**$12,205,815,552**	**$40,049,529,717**

Sources: Calculations using IMPLAN 2019; Economic Contribution of the Clark County Airports, Oxford Economics, August 2019; Ekay Economic Consultants; Kimley-Horn 2021

These statewide aviation impacts contribute greatly to the state's overall economy as reflected in **Table 9-3**.

Table 9-3: Nevada Airports 2019 Total Contribution to the State Economy

Measure	State Economy	Total Aviation Impacts	Percent of Economy Supported by Aviation
Employment	1,857,766	**285,521**	15.4%
Labor Income	$ 101,420,997,685	**$12,205,815,552**	12.0%
Output	$ 298,932,168,595	**$ 40,049,529,717**	13.4%

Sources: Calculations using IMPLAN 2019; Economic Contribution of the Clark County Airports, Oxford Economics, August 2019; Ekay Economic Consultants; Kimley-Horn 2021

Table 9-4 displays the 2019 total economic impact by individual airport.

Table 9-4: Individual Nevada Airports Total 2019 Contribution to the State Economy*

Associated City	Airport Name	FAA ID	County	NAHSP Role	Employment	Labor Income	Output
Alamo	Alamo Landing Field	L92	Lincoln	Access	32	$1,445,920	$4,348,230
Austin	Austin Airport	TMT	Lander	General	23	$1,110,750	$3,281,720
Battle Mountain	Battle Mountain Airport	BAM	Lander	Access	114	$6,105,220	$18,200,800
Beatty	Beatty Airport	BTY	Nye	General	18	$856,820	$2,696,400
Boulder City	Boulder City Airport	BVU	Clark	Primary	728	$40,208,130	$132,352,900
Cal-Nev-Ari	Kidwell	1L4	Clark	Access	7	$227,480	$692,870
Carson City	Carson	CXP	Carson City	Regional	1,361	$78,727,500	$251,350,280
Crescent Valley	Crescent Valley	U74	Eureka	Backcountry	0	$260	$1,070
Currant	Currant Ranch	9U7	Nye	Access	1	$40,310	$130,950
Dayton/Carson City	Dayton Valley Airpark	A34	Lyon	Access	7	$93,390	$361,790
Dead Cow	Dead Cow Lakebed Airstrip (High Sierra)	-	Washoe	Special Event	-	$0	$0
Denio	Denio Junction	E85	Humboldt	Access	0	$6,750	$21,820
Duckwater	Duckwater	01U	Nye	Access	1	$18,900	$61,380
Dyer*	Dyer	2Q9	Esmeralda	Backcountry	34	$1,508,340	$5,046,870
Elko	Elko Regional Airport	EKO	Elko	Primary	491	$30,074,450	$81,842,710
Ely	Ely Airport	ELY	White Pine	General	74	$3,678,170	$11,800,790
Eureka	Eureka Airport - Booth Bailey Field	05U	Eureka	General	32	$1,976,090	$6,180,610
Fallon	Fallon Municipal	FLX	Churchill	General	64	$4,424,170	$13,136,280
Fernley	Tiger Field	N58	Lyon	Access	6	$76,030	$299,850
Gabbs	Gabbs Airport	GAB	Nye	General	3	$122,130	$384,790
Gerlach	Black Rock City Airport	88NV	Washoe	Special Event	24	$887,160	$2,584,010
Goldfield	Lida Junction	0L4	Esmeralda	Access	0	$3,660	$14,710
Hawthorne	Hawthorne Industrial Airport	HTH	Mineral	General	24	$775,130	$2,513,800
Jackpot	Jackpot/Hayden Field	06U	Elko	General	16	$888,080	$2,539,250

Associated City	Airport Name	FAA ID	County	NAHSP Role	Employment	Labor Income	Output
Jean	Jean Sport Airport	0L7	Clark	General	58	$2,600,950	$7,638,810
Kingston	Kingston Airport	N15	Lander	Backcountry	2	$175,000	$407,650
*Las Vegas***	*Henderson Executive*	*HND*	*Clark*	*National*	*1,042*	*$44,427,750*	*$247,540,980*
*Las Vegas***	*Harry Reid International*	*LAS*	*Clark*	*Primary*	*244,304*	*$10,416,388,850*	*$34,452,459,020*
*Las Vegas***	*North Las Vegas*	*VGT*	*Clark*	*National*	*919*	*$39,183,400*	*$218,032,790*
Lovelock	Derby Field Airport	LOL	Pershing	General	22	$741,530	$2,746,670
Lyon County	Flying M	-	Lyon	Backcountry	-	$0	$0
Mesquite	Mesquite Municipal Airport	67L	Clark	General	87	$4,208,920	$12,172,190
Mina	Mina	3Q0	Mineral	Access	2	$37,960	$127,340
Minden	Minden	MEV	Douglas	Regional	376	$19,493,520	$56,415,480
North Fork	Stevens Crosby	08U	Elko	Access	0	$7,000	$22,330
Overton	Echo Bay Airport	0L9	Clark	Backcountry	0	$10,680	$32,520
Overton	Perkins Field Overton	U08	Clark	General	24	$884,460	$2,541,720
Owyhee	Owyhee Airport	10U	Elko	Access	15	$902,570	$2,531,380
Pahrump	Calvada Meadows	74P	Nye	Backcountry	8	$312,200	$964,280
Panaca	LC Airport - Panaca	1L1	Lincoln	General	47	$2,261,360	$7,689,510
Reno	Reno-Stead Airport	RTS	Washoe	Regional	1,409	$70,261,580	$191,465,910
Reno	Reno-Tahoe International	RNO	Washoe	Primary	33,823	$1,414,626,230	$4,258,311,830
Reno	Spanish Springs	N86	Washoe	Backcountry	1	$31,900	$90,970
Sandy Valley	Sky Ranch	3L2	Clark	Backcountry	1	$44,420	$135,290
Searchlight	Searchlight	1L3	Clark	Access	13	$684,430	$1,926,980
Silver Springs	Silver Springs	SPZ	Lyon	General	27	$894,870	$2,739,920
Smith	Rosaschi Air Park	N59	Lyon	Backcountry	0	$3,320	$13,070
Tonopah	Tonopah Airport	TPH	Nye	General	43	$1,996,090	$6,290,990
Wells	Wells Muni Harriet Field	LWL	Elko	General	103	$4,692,070	$15,037,900

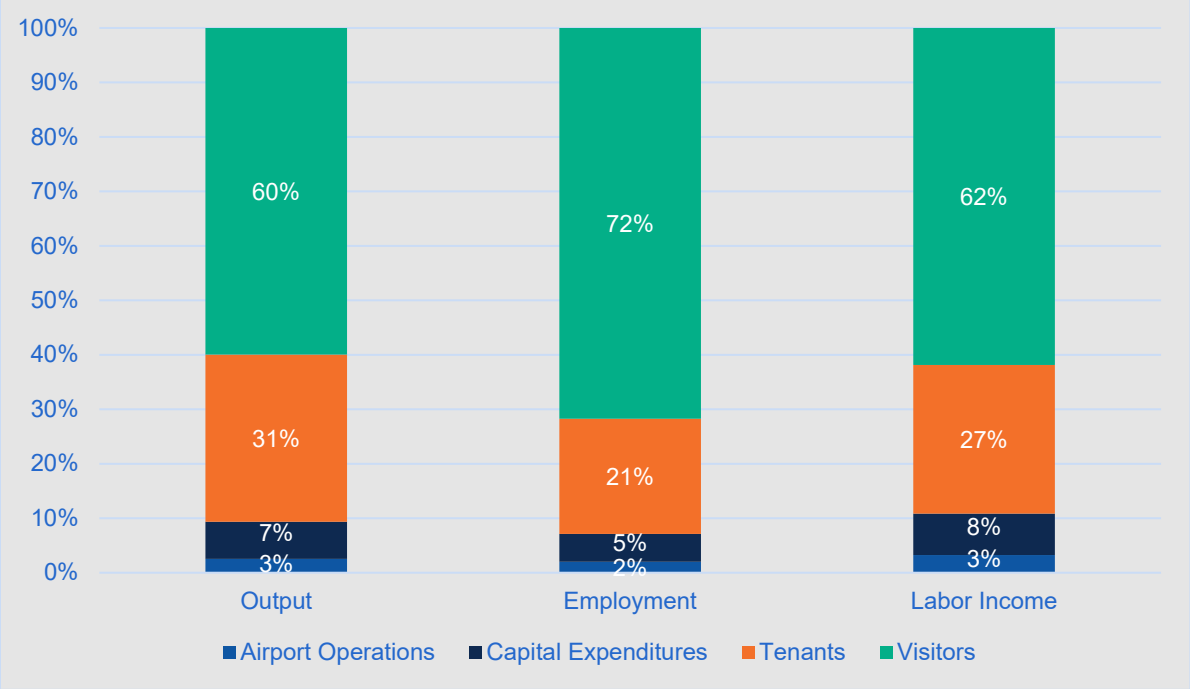
Associated City	Airport Name	FAA ID	County	NAHSP Role	Employment	Labor Income	Output
Winnemucca	Winnemucca Municipal Airport	WMC	Humboldt	General	92	$5,474,500	$16,179,840
Yerington	Yerington	O43	Lyon	General	43	$2,215,150	$6,170,480

*NOTES: *Dyer Airport was selected as the location for a new FAA Distance Measuring Equipment (DME) building that will serve future Automatic Dependent Surveillance–Broadcast (ADS-B) needs. While a non-NPIAS airport, this construction project at the airport generated capital expenditures that created jobs and spending in the area that is the majority of the economic impact at Dyer Airport. ** LAS, HND, VGT are presented in italics to reflect the results from Economic Contribution of the Clark County Airports, Oxford Economics, August 2019, not from calculations as part of this AEIS.*

Sources: Calculations using IMPLAN 2019; Economic Contribution of the Clark County Airports, Oxford Economics, August 2019; Ekay Economic Consultants; Kimley-Horn 2021

Figure 9-2 displays the share of economic impacts by category in terms of those generated by airport operations, capital expenditures, airport tenants, and visitors. The primary source of economic impact is generated by visitors, followed by tenants, capital expenditures, and airport operations.

Figure 9-2: Share of Economic Impacts by Category*



** Note: Excludes LAS, HND, VGT, as detailed data for these impacts is not available and are not directly comparable.*
Sources: Calculations using IMPLAN, 2019; Ekay Economic Consultants, Kimley-Horn, 2021

Table 9-5 and **Table 9-6** display the top industries in Nevada by jobs and revenues for both indirect and induced impacts as determined through the IMPLAN analysis of the airports' economic impact. As discussed above, the IMPLAN package includes a list of industries and data regarding economic relationships among these industries for a selected geography. Using information regarding airport operations, capital expenditures, tenant operations, and visitor expenditures, the IMPLAN model estimates the indirect and induced impact of these operations and expenditures on various industries in Nevada. The top industries impacted by airports was analyzed in this study.

The top industries generate approximately 3,400 jobs and $504 million through supplier sales, an indirect impact, and 2,100 jobs and $445 million through re-spending, an induced impact.

Table 9-5: Top Industries in Nevada by Supplier Sales and Income Re-spending by Jobs – Total Impact*

Impacts from Supplier Sales (Indirect) in NV			Impacts from Income Re-spending (Induced) in NV		
IMPLAN Codes	**Industry Description**	**Jobs Generated**	**IMPLAN Codes**	**Industry Description**	**Jobs Generated**
447	Other real estate	691	490	Hospitals	294
420	Scenic and sightseeing transportation and support activities for transportation	455	447	Other real estate	249
511	All other food and drinking places	367	509	Full-service restaurants	240
455	Legal services	331	483	Offices of physicians	234
472	Employment services	314	510	Limited-service restaurants	232
469	Management of companies and enterprises	308	411	Retail - General merchandise stores	188
477	Landscape and horticultural services	285	406	Retail - Food and beverage stores	187
476	Services to buildings	253	493	Individual and family services	178
473	Business support services	215	442	Other financial investment activities	153
418	Transit and ground passenger transportation	182	413	Retail - Nonstore retailers	147
	Sub-Total – Top Industries	**3,400**		**Sub-Total – Top Industries**	**2,102**
	Sub-Total – All Other Industries	**3,516**		**Sub-Total – All Other Industries**	**4,184**
	TOTAL – All Industries	**6,916**		**TOTAL – All Industries**	**6,286**

**NOTE: Analysis excludes LAS, HND, VGT, as impacts of these airports were estimated by Oxford Economics outside of the AEIS and detailed data for these impacts is not available. Industry-specific impacts were estimated using data collected for the AEIS's analysis and IMPLAN software. Sources: IMPLAN 2019; Ekay Economic Consultants, Kimley-Horn 2021*

Table 9-6: Top Industries in Nevada by Supplier Sales and Income Re-spending by Business Revenues – Total Impact*

Impacts from Supplier Sales (Indirect) in NV			Impacts from Income Re-spending (Induced) in NV		
IMPLAN Codes	**Industry Description**	**Business Revenues Generated**	**IMPLAN Codes**	**Industry Description**	**Business Revenues Generated**
447	Other real estate	$126,094,114	449	Owner-occupied dwellings	$137,089,459
469	Management of companies and enterprises	$72,680,040	490	Hospitals	$56,764,511
420	Scenic and sightseeing transportation and support activities for transportation	$66,622,268	447	Other real estate	$45,284,391
445	Insurance agencies, brokerages, and related activities	$50,886,766	448	Tenant-occupied housing	$36,947,395
455	Legal services	$50,584,709	483	Offices of physicians	$35,962,944
511	All Other food and drinking places	$39,019,097	444	Insurance carriers, except direct life	$32,674,491
453	Commercial and industrial machinery and equipment rental and leasing	$25,184,256	441	Monetary authorities and depository credit intermediation	$31,174,226
47	Electric power transmission and distribution	$24,541,442	413	Retail - Nonstore retailers	$24,900,761
472	Employment services	$24,366,513	442	Other financial investment activities	$22,503,663
477	Landscape and horticultural services	$23,987,531	446	Funds, trusts, and other financial vehicles	$21,950,991
	Sub-Total – Top Industries	**$503,966,736**		**Sub-Total – Top Industries**	**$445,252,831**
	Sub-Total – All Other Industries	**$630,381,933**		**Sub-Total – All Other Industries**	**$599,458,310**
	TOTAL – All Industries	**$1,134,348,669**		**TOTAL – All Industries**	**$1,044,711,141**

**NOTE: Analysis excludes LAS, HND, VGT, as impacts of these airports were estimated by Oxford Economics outside of the AEIS and detailed data for these impacts is not available. Industry-specific impacts were estimated using data collected for the AEIS's analysis and IMPLAN software. Sources: IMPLAN 2019; Ekay Economic Consultants, Kimley-Horn 2021*

9.5. Tax Revenue Analysis

In addition to the contributions of study airports in the form of employment, labor income, and output, this activity spurs additional impacts in the form of tax revenues paid to public entities. Tax revenues are generated on a variety of aviation-related activities, such as sales tax on visitor spending, income tax on airport and tenant payroll, property taxes, fuel taxes, and more.[1] These taxes are levied at various levels, including locally (county and subcounty), statewide, and federally depending on the type of tax and applicability.

Similar to the economic impact, tax impacts are estimated using employment, expenditures, and/or payroll information provided for each airport, airport tenant, airport capital expenditures, and visitors using the IMPLAN model at the statewide level. The IMPLAN model contains data regarding the relationship between each industry within the state and levels of taxes generated by these industries for local, state, and federal sources. Using this relationship along with airport, tenant, capital expenditures, and visitor expenditure data for the relevant industry, the IMPLAN model estimates tax revenues at the local (county and sub-county), state, and federal levels generated by direct (airport/tenants/capital expenditures/visitors), indirect (suppliers), induced (income spending) activities in the state. No direct tax impacts are estimated for airport operations as many airports are public entities and are exempt from taxation. Induced and indirect tax revenues generated by airport operations are included in the analysis.

Total impact of Nevada airports on public entities in Nevada are shown in **Table 9-7**.

Table 9-7: Nevada Airports 2019 Tax Impact*

	Direct	Indirect	Induced	Total
Local	$77,320,189	$20,467,174	$21,781,456	$119,568,819
State	$164,722,781	$42,140,906	$45,085,488	$251,949,175
Federal	$234,852,548	$79,712,843	$66,714,269	$381,279,660
LAS, HND, VGT	-	-	-	$5,900,000,000
Total	$476,895,518	$142,320,923	$133,581,213	$6,652,797,654

**NOTE: Analysis for LAS, HND, VGT derived from Contribution of the Clark County Airports, Oxford Economics, August 2019 report. This report only provides a total tax impact as the distribution of this impact among direct, indirect, and induced sources is unavailable. Sources: Calculations using IMPLAN 2019; Economic Contribution of the Clark County Airports, Oxford Economics, August 2019; Ekay Economic Consultants; Kimley-Horn 2021*

9.6. Special Events Airports and Activities

Nevada is unique in its support and attraction of two special events that involve temporary airports. In addition, the Reno-Stead Airport (RTS) serves as an international aviation-specific attraction for the Reno Air Races whose impact is much greater than just a traditional general aviation reliever airport's economic activity. Burning Man is an annual event in late summer/early fall that attracts a

[1] Taxes captured by the IMPLAN model for this tax analysis include the following (not all tax sources may be applicable): sales, property, motor vehicle license, severance, excise, and other taxes, as well as special assessments and custom duty. Also included are taxes on corporate profits, employee and employer contributions to social insurance, and personal income taxes.

large gathering from around the world, and the Black Rock City Airport (88NV) is developed to support this event. The High Sierra Fly-In is conducted during the fall at Dead Cow Airport, a private facility that opens to those attending the event. Both events are further described below.

While each of these events attracts a large crowd, many of which originate from out of state or even international destinations, their economic impact is specific to the event and does not create a standard aviation-related economic impact in the community that hosts the airport. In a traditional state aviation economic impact analysis, an airport's economic impacts consist of the jobs, payroll, and economic activity created by the following as quantified in the NAHSP:

- Airport management
- Business tenants that operate at the airport (typically for aviation purposes such as an FBO, airline, rental car agency, or aircraft repair)
- Visitors arriving from out-of-state
- Capital expenditures on airport facilities

The impacts of each of these categories is estimated primarily through surveys and use of IMPLAN to determine the direct economic impacts that primarily occur on the airport or as a result of the airport's operation. These direct impacts are generated locally, with indirect and induced impacts quantified at a statewide level as these direct impacts "multiply" throughout the state economy.
In the case of these special event airports (not including RTS), while there is local economic activity in the form of sales by those that set up "shop" at the event to sell souvenirs or food, most of the economic activity occurs off-site where aviation fuel is purchased, cars are rented, food is bought, etc. The events do require the purchase of tickets; however, the income from the ticket sales is not typically "spent" in the local economy. Therefore, while each event does create an economic impact, it's difficult to quantify the impact associated with the temporary airport alone, separate from the impact of the event as a whole. Visitors do arrive by air but are then camping or staying outside of the local area and are spending money in other locations as a result of traveling to the event. For Burning Man, many visitors fly into Reno-Tahoe International Airport (RNO) and rent a car, so the visitor impacts are attributed to RNO where direct spending occurred.

The following summarizes the three unique Nevada special events, their aviation-related activities, and the estimated impacts that have been prepared separate from the NAHSP.

9.6.1. Burning Man – Black Rock City Airport

Burning Man is a large outdoor event occurring in the Black Rock Desert, in Northwest Nevada in August-September on Bureau of Land Management (BLM) property. According to their website, "Burning Man Project's mission is to produce the annual event known as Burning Man and to guide, nurture and protect the more permanent community created by its culture. We believe that the experience of Burning Man can produce positive spiritual change in the world. To this end, it is equally important that we communicate with one another, with the citizens of Black Rock City and with the community of Burning Man wherever it may arise. Burning Man is radically inclusive, and its meaning is potentially accessible to anyone." The Project aims to be a self-supporting enterprise.[2]

[2] https://burningman.org/

For the week of the event, a city, Black Rock City (BRC), is built in the desert. 88NV is set up specifically to support the event, with volunteers taking responsibility for establishing the runway and even a temporary air traffic control tower to manage the general aviation traffic that arrives via air. Many passengers also utilize other Nevada airports including Reno-Tahoe International (RNO), the closest traditional commercial service airport, as well as other public-use general aviation airports in northwest Nevada.

According to data collected and reported by the Black Rock Project based on a survey of event attendees, in 2019, the temporary population of Black Rock City reached 80,000, including BRC staff, government workers, volunteers, and paid participants. With a median age of 36 and personal income of $71,500, participants spent an average of $1,650 each in 2019 on event-related expenses. Of these, $745 per person was spent in Nevada.[3]

According to a survey of its participants, the following states were identified as BRC residents:

- 47% California
- 7.8% New York
- 6.4% Washington
- 5.3% Nevada
- 5.1% Oregon
- 4.5% Colorado

Other significant states represented in the BRC population included Texas, Arizona, Florida, Illinois, Utah, and Massachusetts. Canada contributed 5.4% of participants, and Europe, 4.3%. In 2019, 69.1% of participants arrived in the area by means other than air travel (car, bus, etc.). Of those who flew to the region, 1.1% utilized 88NV, with the remaining participants primarily using RNO.[4] RNO officials estimate approximately 20,000-25,000 Burning Man participants utilize the airport every year.[5] Total economic impact of the Burning Man event on the Northern Nevada region has been estimated at $60 million per year.[6]

[3] BRC Census Population Analysis, 2013-2019, http://blackrockcitycensus.org/toc.html
[4] BRC Census Population Analysis, 2013-2019, http://blackrockcitycensus.org/toc.html
[5] https://mynews4.com/news/local/reno-tahoe-airport-businesses-missing-out-on-burning-mans-impact
[6] https://www.kolotv.com/2021/05/24/gerlach-locals-react-to-cancellation-of-burning-man/#:~:text=(KOLO)%20%2D%20It's%20been%20estimated,site%20of%20the%20annual%20festival.

9.6.2. High Sierra Fly-in – Dead Cow Airstrip

The High Sierra Fly-in is an annual outdoor fly-in event that takes place on the temporary Dead Cow Airstrip and surrounding dry lakebed in northern Nevada on private property. The event typically occurs over a long weekend in October. The event is "a celebration of backcountry aviation at a gathering of like-minded individuals in the beautiful Nevada desert – an experience unlike anywhere else on the planet.[7]" The event focuses on the STOL (short takeoff/landing) Drag competition, in which pilots fly a straight pattern of 2,000 feet down, land at the halfway point to come to a complete stop, pivot 180 degrees, and then fly back to the starting point. Pilots typically utilize taildragger aircraft such as CubCrafters and Stearman for the races. Other visitors typically arrive in smaller GA aircraft such as Cessna 180s. Unlike 88NV, Dead Cow Airstrip is not an FAA registered aviation facility, but the FAA is in attendance to ensure safe operations for the temporary facility and races.

Source: NDOT Aviation Program

Source: NDOT Aviation Program

The event has taken place since 2008, with approximately 1,000 vehicles, 450 airplanes, and 2,000 spectators and participants in 2021. Participants are typically from across the U.S. and Canada; race winners were from Oregon, Kansas, and Idaho. Registration is required for each attendee at a cost of $125 per person. Based on the estimated number of spectators, event fees would be $250,000. Due to the smaller nature, there is limited information on the participants and spending compared to Burning Man.

9.6.3. Reno Air Races – Reno-Stead Airport

The Reno Air Races have been hosted annually at the Reno-Stead Airport (RTS) since 1964 by the Reno Air Racing Association (RARA). The Races are part of the STIHL National Championship Air Races and contain seven racing classes, a large static aircraft display, and military and civil flight demonstrations. Held over one week in September, over the last 10 years the event attracted more than 1 million spectators and generated more than $600 million for the region's economy.[8] Recently, the University of Nevada, Reno conducted an economic impact study of the 2019 STIHL National Championship Air Races which found that the event hosts nearly 70,000 total unique attendees

[7] https://www.highsierraflyin.com
[8] Reno Air Racing Association. https://airrace.org/about/.

generating over $100 million in total economic impact to the Reno-Tahoe region by non-local visitors.[9]

RARA and races are managed by a small full-time staff and approximately 2,500 volunteers. The full-time staff handle the numerous details for the year-to-year planning while the volunteers assist with course safety and security, event sequencing, air traffic control, and race timing and scoring.

In 2020, RARA announced that it would begin a Racing for the Future campaign, in which the first component would be the Flight Training Scholarship program. The program will support training for up to 10 students to complete their private pilot's license. The campaign also plans to add educational and training support to create a more diverse and engaged fan base.

9.7. Aerospace, Defense, and Military Impacts

Beyond airports, there are other aviation-related impacts that are generated through aerospace manufacturing and development as well as aviation-related military impacts. While these impacts were not quantified as part of the AEIS, other sources were identified to provide this context.

In 2016, IHS Economics published the Aerospace and Defense Economic Impact Analysis for the Aerospace Industries Association. The aerospace and defense (A&D) industry was defined as "a broad complex of firms performing a variety of functions including service delivery in support of operations and the manufacturing of goods and of materials, components, systems and platforms for civil aviation, space, and national security applications." Using a process similar to the AEIS, direct, indirect, induced, and total impacts, the A&D industry's impacts were identified for the U.S. and by state using the same terms of jobs, labor income, and output utilizing data available from IMPLAN (the same economic impact modeling software used in the AEIS) and Business Market Insights, a database that utilizes IHS macroeconomic and forecast data, to calculate the impacts. This report identified the following average impacts between 2013 and 2015 for Nevada's A&D industry:

- Employment (# of workers): 1,790
- Labor Income: $106 million
- Output: $411 million

These impacts are mostly separate from the AEIS's airport impacts other than A&D businesses that are located on airports. The 2016 study did not identify any specific businesses so there is no mechanism to distinguish if there are any overlaps.

Also defense related but focused on the U.S. Armed Forces, Nevada's Department of Defense (DOD) installations play an important role in supporting the state's economy. While Nevada has National Guard, Air Force, Navy, and Army installations, several have aviation components that would create impacts that further increase the state's economic impact as a result of air-related transportation. From Nellis Air Force Base (AFB) to Creech AFB and Naval Air Station (NAS) Fallon and including the Nevada Test and Training Range (NTTR), all of these installations have aviation-related activity. A publication from Nellis dated February 25, 2021 for Calendar Year 2020 quantified the economic impact of Nellis, Creech, and NTTR to be a total of 36,648 jobs with a $3.831 billion

[9] https://airrace.org/news/2020-stihl-national-championship-air-races-canceled/

economic impact.[10] NAS Fallon conducted an Economic Impact Assessment in May 2016 (based on Fiscal Year 2015 data) that identified 4,586 jobs that include both military and civilian staff (and including multiplier impacts) with a total economic activity estimate of $517 million.[11]

The aerospace, defense, and military impacts provided in Nevada are in addition to those identified for the airports as quantified in the AEIS. Any activity that existed on a public-use airport was quantified in the AEIS such as Nevada Air National Guard located at RNO (152nd Intelligence Squadron and 152nd Airlift Wing) is included in the airport's impacts, while the Nevada Air National Guard base at Creech is included in the above estimate for this DOD facility.

9.8. Summary

As demonstrated in this analysis, Nevada airports provided approximately 285,500 jobs and generated $12.2 billion in labor income and $40 billion in total economic output in 2019. It is recognized that the COVID-19 pandemic impacted each of the 51 study airports in some way. As of late 2021, the aviation industry continues its recovery, and many airports are nearing the high activity levels experienced in 2019. The impact of aviation has been felt throughout Nevada, the U.S., and the world prior to and throughout the pandemic as many businesses rely on aviation to transport people and goods, whether to meet critical medical needs through transporting medical professionals or the medications and equipment needed to meet healthcare demands.

This AEIS has revealed that jobs and economic activity generated by airports is considerable within Nevada. Beyond these quantitative benefits, there are qualitative benefits provided as a result of the airport system's operation from supporting business connections to emergency life-saving transport. Airports serve not only as job centers, but also as an important transportation option that complements other modes and the state's economic growth and diversification. Continued investment in the aviation system provides a means to grow the economy and support all corners of Nevada's landscape.

[10] www.nellis.af.mil/Portals/104/EIA%202020%20Nellis%20AFB.pdf
[11] https://frtcmodernization.com/portals/FRTCModernization/files/NAS_Fallon_Economics_v2_Aug_2016.pdf

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Appendix A. Individual Airport Reports

This appendix features the Individual Airport Reports that were prepared for each of the Nevada Airport and Heliport System Plan (NAHSP) airports.[1] These reports were developed to provide each airport with a marketing tool that they can use to support the advancement and development of their facility. The report was developed to be eye-catching and easy to read so that the message of each airport's value is clear. Each brochure is four pages long, and features a cover page, a centerfold (the two middle pages), and a back cover. The first page of the brochure provides an overview of the NAHSP and features the general location of the airport. The first page also introduces the centerfold, which is slightly different for National Plan of Integrated Airport System (NPIAS) airports and other non-NPIAS airports.

The centerfold for NPIAS airports presents each airports' Value Rating Variable (VRV) results. The VRV analysis is a component of a broader Airport Regional Value (ARV) assessment that is detailed in **Chapter 5. Airport Regional Value (ARV) Methodology**. The VRV analysis includes six different categories that cover 40 individual variables that airports are measured against. Within each category, the airport receives a score based on how the airport's existing condition meets the objective. Objectives were developed based on NAHSP role. The airport receives a final score, out of 200, that can help to inform how the airport is performing in relation to similar airports, and where there could be opportunities for improvement. The VRV analysis is a way to communicate each NPIAS airport's strengths and opportunities to increase their contributions to the local community.

The centerfold for the non-NPIAS airports is slightly different, as these airports were excluded from the ARV assessment. Instead, a set of Facility and Service Objectives (FSOs), using the same six categories from the VRV analysis, were developed for the non-NPIAS airport roles. The airport's existing conditions were compared to the facility or service objective, and an airport was identified as "meeting" or "not meeting" that objective. In a similar fashion to the NPIAS airports, this assessment is intended to provide airports with an understanding of how they are performing within their NAHSP role and provide them with information on where there may be opportunities to improve.

The back page of the Individual Airport Reports is fairly similar for NPIAS and non-NPIAS airports. The back cover features the statewide and individual airport economic impact results, provides an airport overview, and presents a summary of the long-term investment needs for each airport. In addition, NPIAS airport reports include an Airport Replacement Value estimate that indicates the financial value of these facilities, especially in terms of what it would cost to replace the airport. More information on the Airport Replacement Value methodology is presented in **Appendix B. Airport Replacement Value**.

The Individual Airport Reports are presented in alphabetical order by airport name in the following pages.

[1] An Individual Airport Report was not prepared for Harry Reid International Airport (LAS)

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NAHSP
Nevada Airport and Heliport System Plan

ALAMO LANDING FIELD
L92

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

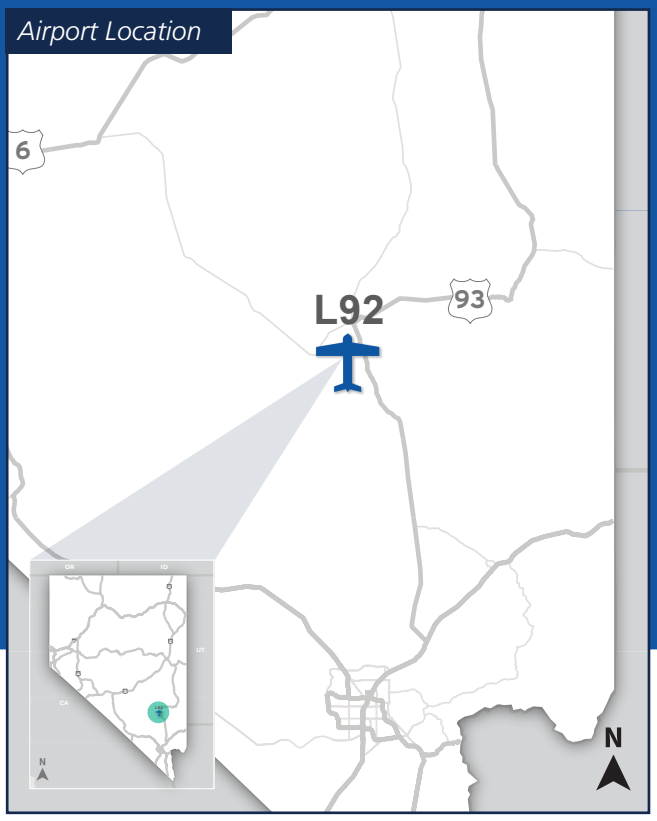
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- L92 is classified by the NAHSP as a Access Airport and in the NPIAS as a Basic Airport

Access: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

ALAMO LANDING FIELD

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public, Contracted	3
	Airport Uses	N/A	Fire - Temporary	1
	Nearest Airport	N/A	72.5 Miles	5
	Longest Runway	Maintain Existing	4,362 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	>0.25	1	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	None	0
	Aircraft Maintenance	None	None	5
	Instrument Approach	Visual	Visual	5
			Regional Significance V_{RS} Subtotal	**30**
Airport Facilities V_{AF}	Runway ARC Category	B-I	B-I	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Non-Paved and Fair, PCI >56	Asphalt and Excellent, PCI = 90	5
	Runway Lighting	Reflectors, Low-Intensity Desired	High Intensity	5
	Taxiways	Turn Arounds	Turn Arounds	5
	Visual Aids	Wind Cone	Rotating Beacon and Wind Cone	5
	Weather Reporting	Automated Unicom	None	0
	GA Terminal	Public Restrooms Desired	None	0
	Utilities	Electricity and Water Available	Electricity and Septic	3
	Security/Wildlife Fencing	None	Partial	5
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**43**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
ALAMO

FAA Identifier
L92

Classification
ACCESS

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	< 15:1	No Data	0
	Airspace Restrictions	N/A	Overhead	1
	Runway Protection Zone	Full Desired	Partial, Plan to Acquire Full Control	3
	Land Use Compatibility	N/A	Less Than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**5**
Airport Access V_{AA}	Community Access	N/A	2.0 Miles	4
	Regional Access	N/A	1.7 Miles	5
	Local Access	Local	Collector (Major)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	None	0
			Airport Access V_{AA} Subtotal	**14**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	640	5
	Airfield and Aeronautical Property	N/A	25%	5
	Surplus Property	N/A	480 Acres	5
	Airfield Expandability	N/A	419 Feet	2
			Airport Expandability V_{AE} Subtotal	**17**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2021	5
	Airport Management	Staff	None	0
	Historical Capital Improvements	≥ $500,000	$1.58 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $500,000	$525,000	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement and Operations Subsidy	Capital Improvement and Operations Subsidy	5
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**22**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of L92 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Alamo Landing Field	32 JOBS	$1,445,920	$4,348,230
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Alamo Landing Field (L92) is a general aviation (GA) airport located just west of Alamo in Lincoln County, over 70 miles north of Las Vegas. Originally abandoned prior to 1959, the airport was returned to operational activity around 1994. The airport's land is leased from the Bureau of Land Management (BLM). With a single paved runway that is 4,300 feet in length, L92 provides services for individuals visiting Southeast Nevada for hunting, fishing, sightseeing, and many other recreational purposes. It also provides a central location for BLM aerial firefighting when needed. The local community supports L92 by using the airport as a community meeting place and attending the airport's annual open house. The facility is also the closest public-use airport to Groom Lake and the highly classified United States Air Force (USAF) facility of Homey Airport, better known as Area 51.

AIRPORT REPLACEMENT VALUE

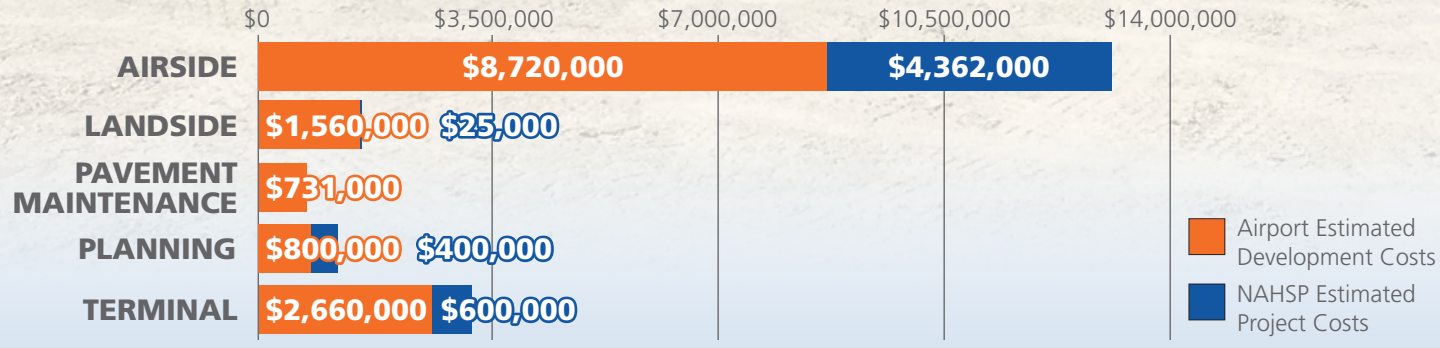
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$5,721,000
Alamo Landing Field

L92 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

AUSTIN AIRPORT
TMT

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

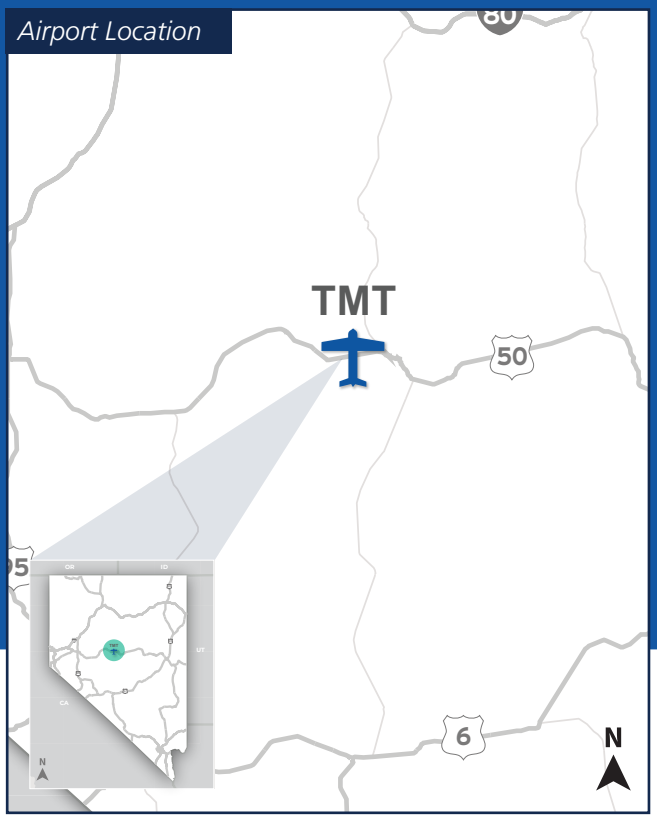
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- TMT is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

AUSTIN AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Fire - Temporary	1
	Nearest Airport	N/A	64 Miles	5
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 6,990'	5,999'	0
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	0.60	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100LL, SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**22**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-I	0
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Good, PCI = 73	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon and Lighted Wind Cone	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	Public Restrooms	Public Restrooms, Conference Room, and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Septic	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**48**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
AUSTIN

FAA Identifier
TMT

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	30:1	5
	Airspace Restrictions	N/A	Overhead	1
	Runway Protection Zone	Full Desired	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	4 Miles	4
	Regional Access	N/A	4.8 Miles	5
	Local Access	Collector (Minor)	Nevada State Route	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car	3
			Airport Access V_{AA} Subtotal	**17**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	241	5
	Airfield and Aeronautical Property	N/A	3%	5
	Surplus Property	N/A	1,169 Acres	5
	Airfield Expandability	N/A	3,192 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2017	5
	Airport Management	Part Time or FBO	Staff	0
	Historical Capital Improvements	≥ $1.0 Million	$1.51 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$2.61 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement and Operations Subsidy	5
	Goodwill	N/A	None	0
			Community Commitment V_{CC} Subtotal	**20**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of TMT are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Austin Airport	23 JOBS	$1,110,750	$3,281,720
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Austin Airport (TMT) is a general aviation (GA) airport located five miles southwest of Austin, in Lander County, 130 miles from the Reno and Carson City communities. TMT has a single 6,000-foot-long paved runway with an apron and several buildings. Most operations at TMT are recreational, with some military and aerial firefighting activity as well. Military operations are primarily from Fallon Naval Air Station (NAS). Aerial firefighting flights are operated by the Bureau of Land Management (BLM). TMT temporarily supports Single Engine Air Tanker (SEAT) operations. Care Flight, an emergency medical operation, relies on TMT monthly using a fixed wing aircraft. TMT has an active Advisory Board which supports development and growth of the airport. The airport offers a courtesy car to Austin, which is known as a "living ghost town", offering hotels, bed and breakfasts, and restaurants.

AIRPORT REPLACEMENT VALUE

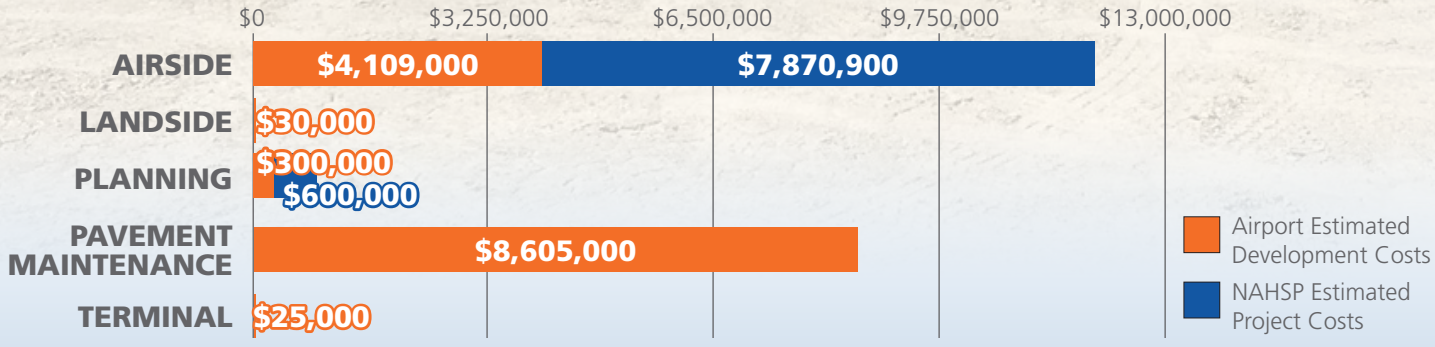
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$10,587,000
Austin Airport

TMT INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

BATTLE MOUNTAIN AIRPORT
BAM

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

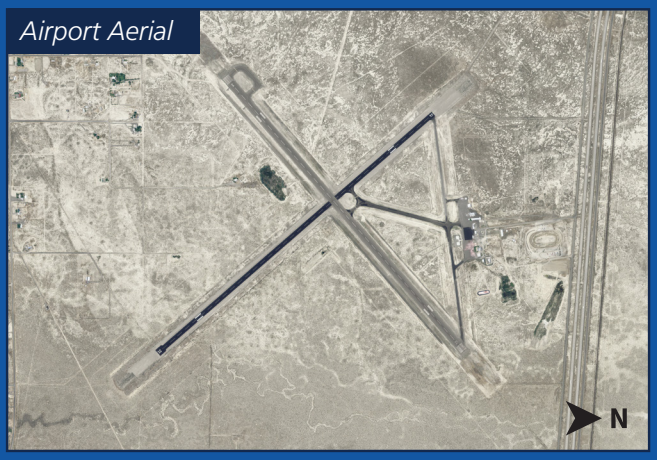
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- BAM is classified by the NAHSP as a Access Airport and in the NPIAS as a Basic Airport

Access: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial



Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

BATTLE MOUNTAIN AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS and Fire - Permanent	2
	Nearest Airport	N/A	53 Miles	5
	Longest Runway	Maintain Existing	7,300 Feet	5
	Based Aircraft	N/A	0.2%	1
	T-Hangar Ratio (THR)	>0.25	1	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100 LL , Full Service (FS) and SS with Credit Card Reader	5
	Aircraft Maintenance	None	Major	5
	Instrument Approach	Visual	Non-Precision Vertical Guidance	5
			Regional Significance V_{RS} Subtotal	**38**
Airport Facilities V_{AF}	Runway ARC Category	B-I	C-IV	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Non-Paved and Fair, PCI >56	Asphalt and Good, PCI = 82	5
	Runway Lighting	Reflectors, Low-Intensity Desired	Medium-Intensity	5
	Taxiways	Turn Arounds	Turn Arounds	5
	Visual Aids	Wind Cone	Rotating Beacon, Lighted Wind Cone, and VASI	5
	Weather Reporting	Automated Unicom	AWOS	5
	GA Terminal	Public Restrooms Desired	Public Restrooms, Conference Room, and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer or Septic	5
	Security/Wildlife Fencing	None	Full	5
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**55**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, VASIs = Visual Approach Slope Indicator, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan

Associated City
BATTLE MOUNTAIN

FAA Identifier
BAM

Classification
ACCESS

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	< 15:1	50:1	5
	Airspace Restrictions	N/A	15 Miles	3
	Runway Protection Zone	Full Desired	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**14**
Airport Access V_{AA}	Community Access	N/A	3 Miles	4
	Regional Access	N/A	3 Miles	5
	Local Access	Local	Collector (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car	3
			Airport Access V_{AA} Subtotal	**17**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	267	5
	Airfield and Aeronautical Property	N/A	8%	5
	Surplus Property	N/A	984 Acres	5
	Airfield Expandability	N/A	1,539 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2016	5
	Airport Management	Staff	Staff	5
	Historical Capital Improvements	≥ $500,000	$4.95 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $500,000	$1.12 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement and Operations Subsidy	Capital Improvement and Operations Subsidy	5
	Goodwill	N/A	None	0
			Community Commitment V_{CC} Subtotal	**25**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of BAM are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Battle Mountain Airport	114 JOBS	$6,105,220	$18,200,800
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Battle Mountain Airport (BAM) is a general aviation (GA) airport located three miles southeast of Battle Mountain in Lander County. BAM has two runways over 7,000 feet long and two helipads, and is home to the Battle Mountain Air Attack Base, which is run by the Bureau of Land Management (BLM). The Air Attack Base provides support for fire suppression operations in Northern Nevada. Additional operations at BAM include recreational flights along with emergency medical service flights operated by Care Flight. BAM sees occasional military staged exercises, usually from Fallon Naval Air Station. There are two on-site business tenants, including an aircraft maintenance business offering major airframe and powerplant service. During the spring and early winter when firefighting operations are less common, the airport's sizeable apron is an ideal venue for community events and gatherings which require lots of space.

AIRPORT REPLACEMENT VALUE

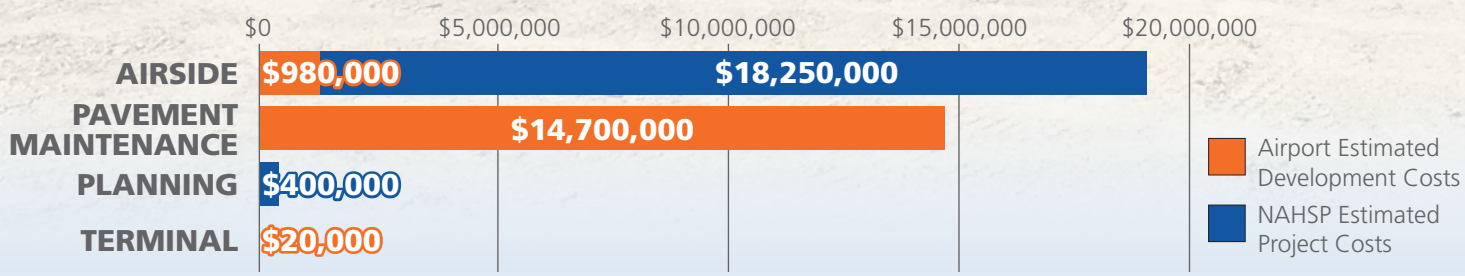
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$31,604,000
Battle Mountain Airport

BAM INVESTMENT NEEDS*

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



*NAHSP analyses did not identify any additional project needs for BAM.

Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

BEATTY AIRPORT
BTY

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

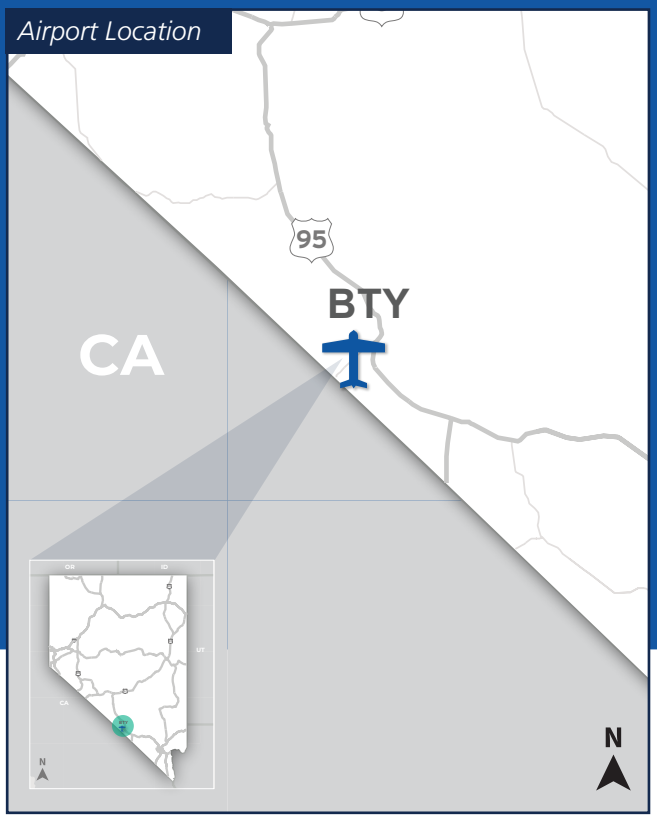
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- BTY is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

BEATTY AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, Fire - Temporary, and Gliders	3
	Nearest Airport	N/A	64 Miles	5
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 4,550 Feet	5,615 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	0.29	0
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	100 LL SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**24**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II-Small	3
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Excellent, PCI = 85	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Turn Around or Hold Pads	0
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon and Lighted Wind Cone	5
	Weather Reporting	AWOS or ASOS	None	0
	GA Terminal	Public Restrooms	Public Restrooms	5
	Utilities	Electricity and Water Available	Electricity	3
	Security/Wildlife Fencing	Partial	Partial	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**39**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
BEATTY

FAA Identifier
BTY

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	10 Miles	3
	Runway Protection Zone	Full Desired	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**19**
Airport Access V_{AA}	Community Access	N/A	3 Miles	4
	Regional Access	N/A	1.6 Miles	5
	Local Access	Collector (Minor)	Arterial (Major)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car and Shuttle - Hotel	4
			Airport Access V_{AA} Subtotal	**18**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	88	5
	Airfield and Aeronautical Property	N/A	9%	5
	Surplus Property	N/A	402 Acres	5
	Airfield Expandability	N/A	1,568 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2006	0
	Airport Management	Part Time or FBO	Staff	0
	Historical Capital Improvements	≥ $1.0 Million	$1.43 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$3.78 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website and Education Program	4
			Community Commitment V_{CC} Subtotal	**19**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of BTY are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Beatty Airport	18 JOBS	$856,820	$2,696,400
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Beatty Airport (BTY) is a general aviation (GA) airport located three miles southwest of Beatty in Nye County, over 90 miles from Las Vegas. With a 5,600-foot-long runway and mid-size apron, Beatty is an important GA facility for the Southwest Nevada region. The GA traffic originating from BTY varies greatly in nature; from helicopter tours and sightseeing, to camping and a steady increase in glider activities and traffic. Additional operations seen at BTY include flight training, emergency medical service flights including those operated by AirCARE1, and military operations, often originating from Nellis Air Force Base. BTY's location offers easy access to Death Valley National Park as well as nearby Rhyolite, a local ghost town, and other local attractions.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$8,124,500
Beatty Airport

BTY INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

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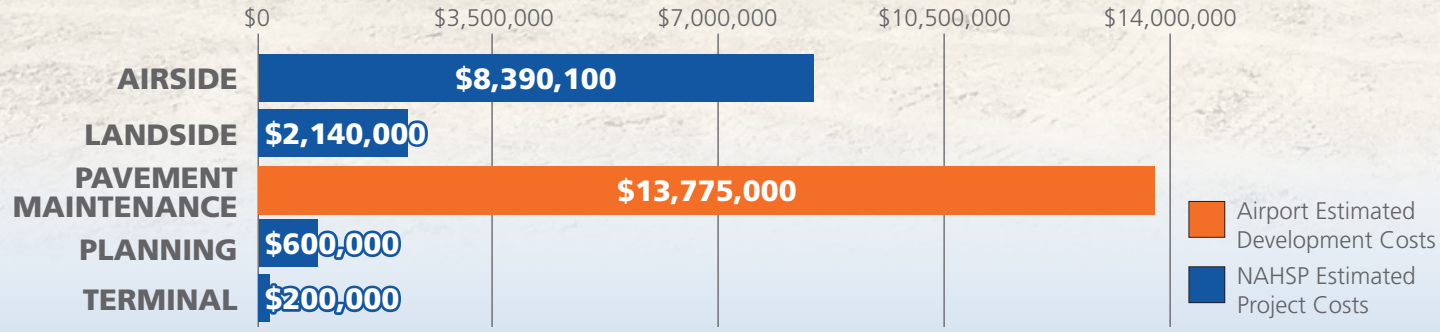


Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

BLACK ROCK CITY AIRPORT
(PROVIDES DIRECT ACCESS TO BURNING MAN)
88NV

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

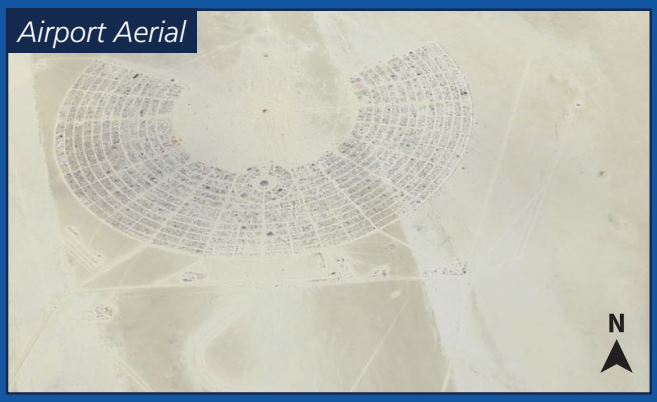
- Seven functional classifications used in the NAHSP
- 88NV is an Special Event airport (not eligible for Federal Aviation Administration [FAA] funding)

Critical Services:

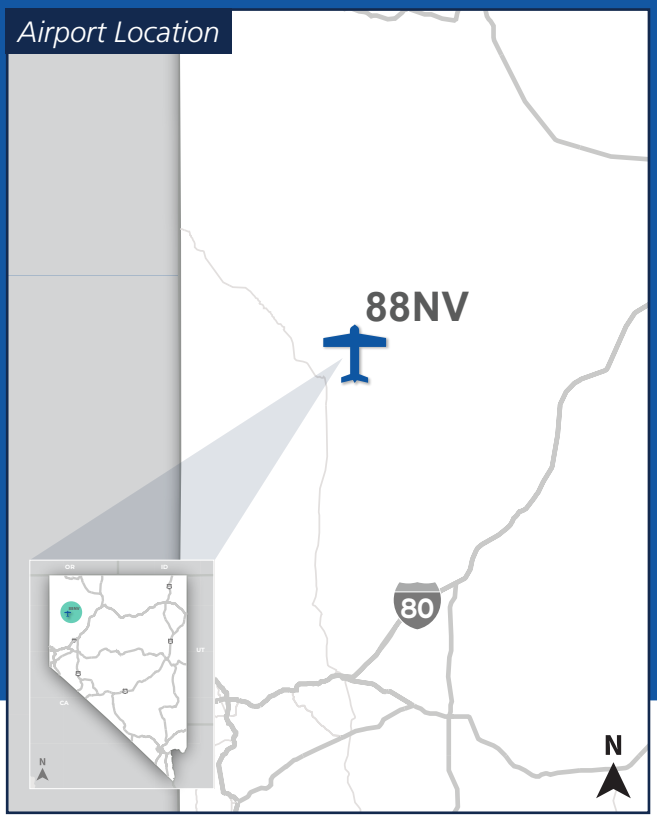
- Provides Access to the Burning Man Festival
- Reserved for Special Event Uses

Special Event airports: *Privately owned airports utilized for special events.*

Airport Aerial



Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

BLACK ROCK CITY (BURNING MAN) AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3,000 Feet / As Appropriate	6,022 Feet	Meets
	T-Hangar Ratio	None	No Based Aircraft	Meets
	Fuel Availability	As Appropriate	MOGAS	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	As Appropriate and Fair	Dirt	Meets
	Runway Lighting	As Appropriate	None	Meets
	Taxiways	As Appropriate	None	Meets
	Visual Aids	As Appropriate	Wind Cone	Meets
	Weather Reporting	As Appropriate	None	Meets
	GA Terminal	Public Restrooms Desired	Public Restroom and Pilot Lounge	Meets
	Utilities	Electricity and Water Available	Not Provided	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	Cellular (Data/4G) and Wifi	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
GERLACH

FAA Identifier
88NV

Classification
SPECIAL EVENT

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	As Appropriate	Courtesy Car	Meets
Community Commitment	Last ALP Update	As Appropriate	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 88NV are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

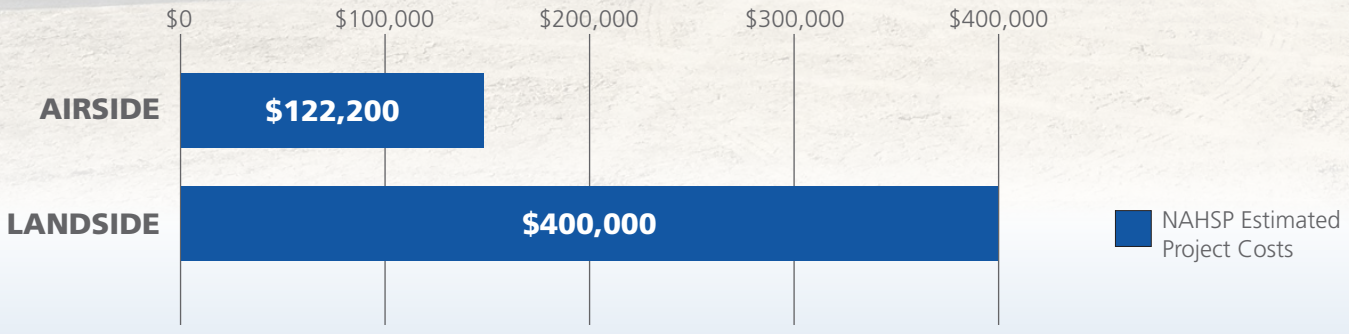
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Black Rock City (Burning Man) Airport	24 JOBS	$887,160	$2,584,010
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Black Rock City Airport (88NV) is a privately owned airport, used by the public with prior permission, located nine miles northeast of Gerlach in Washoe County on Bureau of Land Management (BLM) property, over 75 miles from Winnemucca. This facility is not a permanent facility and is only operational during the annual Burning Man Festival. With two 6,000-foot-long dirt runways and three helipads laid out each year, 88NV provides a landing site for prior authorized flights to bring vendors and patrons to the Burning Man festival during the nine days of the festival. It is estimated that there are approximately 80,000 festival attendees, many of which utilize 88NV every year. A temporary air traffic control tower is set up each year to serve the aviation users, including commercial operators that bring in up to 3,000 passengers.

88NV INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



NAHSP
Nevada Airport and Heliport System Plan

BOULDER CITY MUNICIPAL AIRPORT
BVU

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

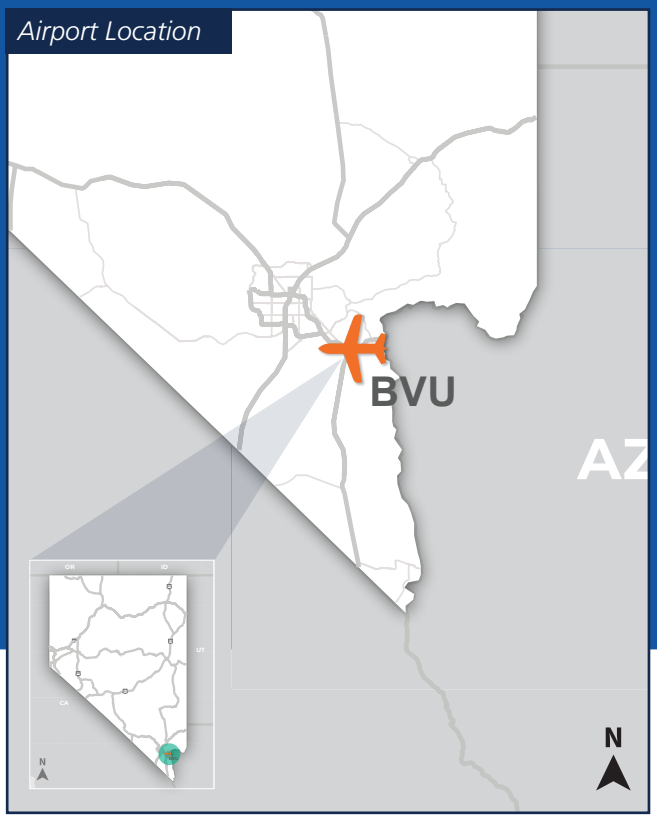
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- BVU is classified by the NAHSP as a Primary Airport and in the NPIAS as a Primary Airport

Primary: *Publicly owned commercial service airports that have more than 10,000 passenger boarding's or enplanements each calendar year and receive scheduled passenger service.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

BOULDER CITY MUNICIPAL AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Helicopter Tourism, Skydiving, and Gliders	3
	Nearest Airport	N/A	15 Miles	2
	Longest Runway	Future Runway Length From ALP/MP= 6,100 Feet	5,103 Feet	0
	Based Aircraft	N/A	7%	4
	T-Hangar Ratio (THR)	> 0.90	Adequate for a Commercial Service Airport	5
	Fuel Availability	Jet A and 100LL Full Service (FS) and Self Service (SS) with Credit Card Reader	Jet A and 100LL Full Service (FS) and Self Service (SS) with Credit Card Reader	5
	Aircraft Maintenance	Major	Major	5
	Instrument Approach	Precision	Non-Precision	3
			Regional Significance V_{RS} Subtotal	**37**
Airport Facilities V_{AF}	Runway ARC Category	C-III/C-II	B-II	0
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Excellent, PCI >86	Asphalt and Good, PCI = 77	3
	Runway Lighting	Medium-Intensity, High-Intensity is Desired	Medium-Intensity	5
	Taxiways	Full Parallel to All Runways	Partial Parallel to All Runways	0
	Visual Aids	Rotating Beacon, Lighted Wind Cone, PAPIs or VASIs, and ALS or REILs	Rotating Beacon, Lighted Wind Cone, PAPIs, and REILs	5
	Weather Reporting	ATCT and AWOS or ASOS	AWOS	0
	GA Terminal	Terminal with Public Restrooms, Conference Rooms, and Pilots Lounge	Terminal with Public Restrooms and Pilots Lounge	0
	Utilities	Electricity, Water, Sewer or Septic	Electricity, Water, and Sewer or Septic	5
	Security/Wildlife Fencing	Full	Full	5
	Communications Connectivity	Public Phone, Cellular (Data/4G), and Wifi	Public Phone, Cellular (Data/4G) and Wifi	5
			Airport Facilities V_{AF} Subtotal	**33**

Notes: ALP = Airport Layout Plan, MP = Master Plan, FAA = Federal Aviation Administration, ARC = Airport Reference Code, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, VASIs = Visual Approach Slope Indicator, ALS = Approach Lighting System, REILs = Runway End Identifier Lights, ATCT = Air Traffic Control Tower, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation

Associated City
BOULDER CITY

FAA Identifier
BVU

Classification
PRIMARY

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	20:1	50:1	5
	Airspace Restrictions	N/A	22 Miles	3
	Runway Protection Zone	Full	Partial with Plans for Full Control	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	1 Mile	5
	Regional Access	N/A	2.1 Miles	5
	Local Access	Arterial (Major)	Arterial (Minor)	0
	Ground Transportation Services	Courtesy Car, Bus, Taxi, Ride Share, and Rental Car, Train Desired	Courtesy Car, Taxi, Ride Share, and Rental Car	3
			Airport Access V_{AA} Subtotal	**13**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	2	3
	Airfield and Aeronautical Property	N/A	25%	5
	Surplus Property	N/A	398 Acres	5
	Airfield Expandability	N/A	329 Feet	2
			Airport Expandability V_{AE} Subtotal	**15**
Community Commitment V_{CC}	Last ALP Update	< 3 Years	2018	5
	Airport Management	Full Time	Full Time	5
	Historical Capital Improvements	≥ $ 20 Million	$10.61 Million	3
	Airport Capital Improvement Program (ACIP)	≥ $ 20 Million	$14.79 Million	3
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website	1
			Community Commitment V_{CC} Subtotal	**22**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of BVU are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Boulder City Municipal Airport	728 JOBS	$40,208,130	$132,352,900
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION
	STATEWIDE JOBS	STATEWIDE LABOR INCOME	STATEWIDE OUTPUT

AIRPORT OVERVIEW

Boulder City Municipal Airport (BVU) is a primary, non-hub commercial service airport located just over a mile from the central business district of Boulder City in Clark County. BVU has two paved runways that are 3,800 and 5,100 feet in length, respectively. As the third busiest airport in Nevada by enplanements, nearly 90 percent of the airport's operations are air taxi, conducted by numerous helicopter sightseeing tour operators with flights to the Grand Canyon, Hoover Dam, and Lake Mead. Additional operations at BVU include skydiving, flight training, and limited military use. BVU is currently siting an Air Traffic Control Tower (ATCT) to assist with the large number of daily operations. With a total of 10 business tenants located on site, these businesses include two separate Fixed-Base Operators (FBOs) as well as the aforementioned helicopter tour companies and skydiving operators.

AIRPORT REPLACEMENT VALUE

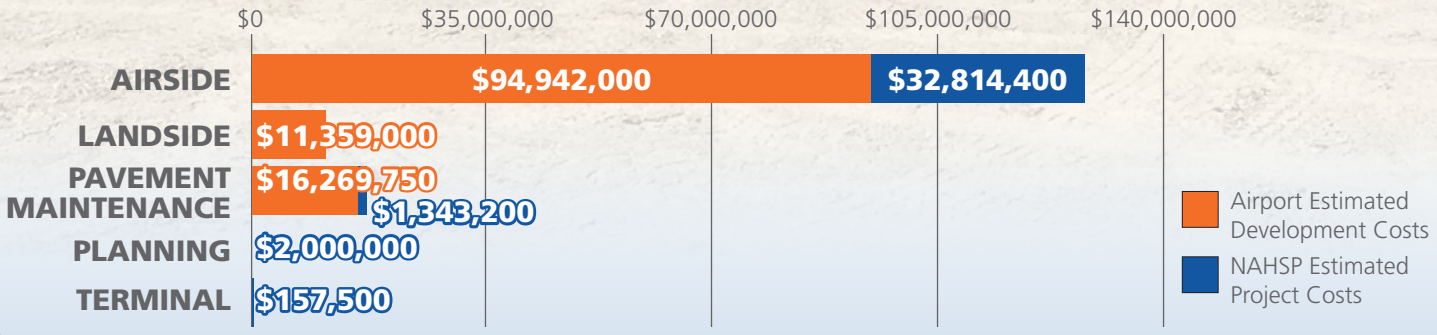
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$171,938,000
Boulder City Municipal Airport

BVU INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

CALVADA MEADOWS AIRPORT
74P

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 74P is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

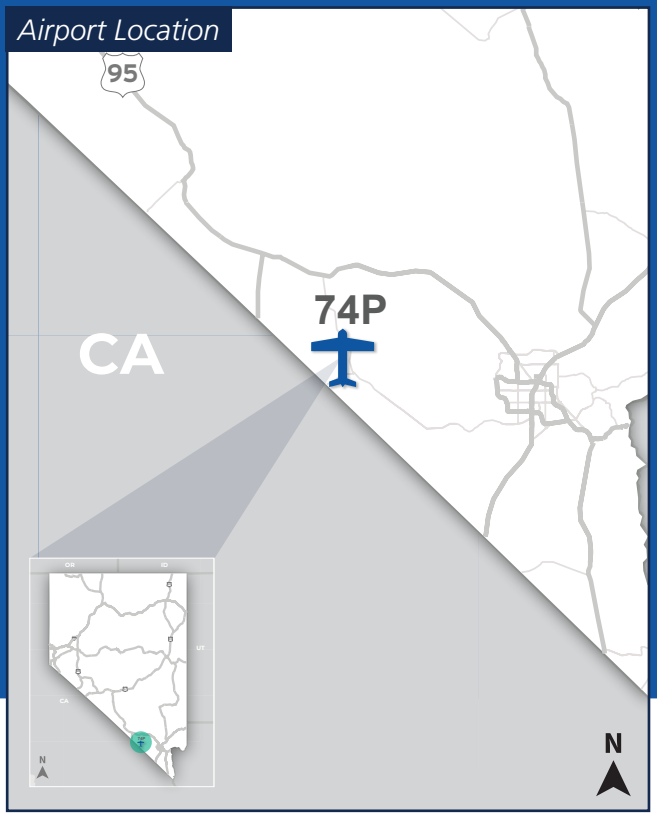
Critical Services:

- Provides Tourism and Recreational Opportunities
- Supports Military Operations

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

CALVADA MEADOWS AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3,000 Feet	4,081 Feet	Meets
	T-Hangar Ratio	> 0.25	0.85	Meets
	Fuel Availability	None	100 LL Self Service with Credit Card Reader	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	No	Doesn't Meet
	Runway Surface Type/Condition	Non-Paved and Fair	Asphalt/Gravel and Good	Meets
	Runway Lighting	None	Low-Intensity	Meets
	Taxiways	Turn Arounds or Hold Pads	Full Parallel to Primary Runway	Meets
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	Public Restroom and Pilot Lounge	Meets
	Utilities	Electricity and Water Available	Electricity and Water	Meets
	Security/Wildlife Fencing	None	Partial	Meets
	Communications Connectivity	None	Cellular (Data/4G) and Wifi	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
PAHRUMP

FAA Identifier
74P

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	Rental Car and Taxi	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	2012 ALP	Doesn't Meet

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 74P are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

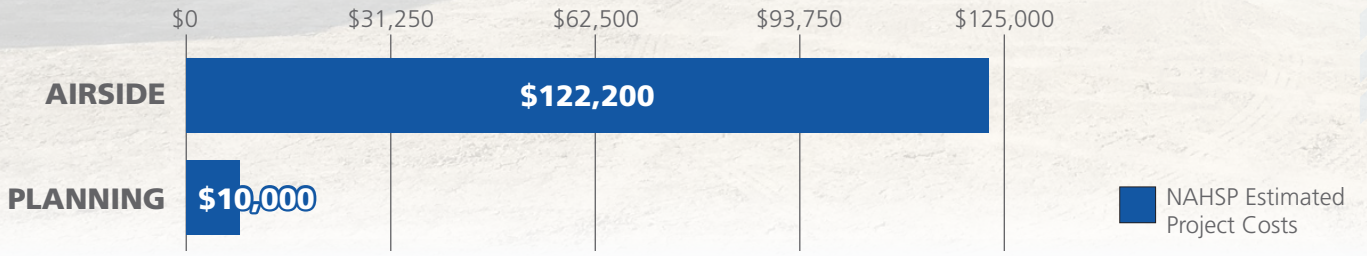
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Calvada Meadows Airport	8 JOBS	$312,200	$964,280
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Calvada Meadows Airport (74P) is a privately owned, public-use general aviation (GA) airport located five miles north of Pahrump in Nye County, approximately 50 miles west of Las Vegas. The facility has a single paved runway that is 4,000 feet in length, a helipad, as well as many connector taxiways to private hangars. Besides residential pilots utilizing the airport, 74P also hosts helicopter tourism, flight training, sightseeing, and other recreational aviation operations. The airport is supported by private funding and offers a true pilot lifestyle for those individuals who own land connected to the airport.

74P INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



NAHSP
Nevada Airport and Heliport System Plan

CARSON CITY AIRPORT
CXP

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- CXP is classified by the NAHSP as a Regional Airport and in the NPIAS as a Regional Airport

Regional: *Supports regional economices connecting communities to statewide and interstate markets.*

Airport Aerial

Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

CARSON CITY AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, FireFighting, and Gliders	3
	Nearest Airport	N/A	14 Miles	2
	Longest Runway	Accommodate 100% of Small Aircraft Fleet = 6150 Feet	6,101 Feet*	5
	Based Aircraft	N/A	12.1%	5
	T-Hangar Ratio (THR)	0.70 - 0.60	0.69	5
	Fuel Availability	Jet A and 100LL Full Service (FS) and Self Service (SS) with Credit Card Reader	Jet A and 100LL Full Service (FS) and SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	Major	5
	Instrument Approach	Non-Precision with Vertical Guidance	Non-Precision	4
			Regional Significance V_{RS} Subtotal	**39**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Excellent, PCI = 77	5
	Runway Lighting	Medium-Intensity	Medium-Intensity	5
	Taxiways	Full Parallel to Primary Runway	Full Parallel to All Runways	5
	Visual Aids	Rotating Beacon, Wind Cone, REILs, and PAPIs or VASIs	Rotating Beacon, Wind Cone, REILs, and PAPIs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	GA Terminal with Public Restrooms and Pilots Lounge	GA Terminal with Public Restrooms and Pilots Lounge	5
	Utilities	Electricity, Water, and Sewer or Septic	Electricity, Water, and Sewer or Septic	5
	Security/Wildlife Fencing	Full	Full	5
	Communications Connectivity	Public Phone, Cellular (Data/4G), and Wifi	Cellular (Data/4G) and Free Wifi	5
			Airport Facilities V_{AF} Subtotal	**55**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, VASIs = Visual Approach Slope Indicator, REILs = Runway End Identifier Lights, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan

*CXP's current Master Plan includes an objective to extend the runway to 6,901 feet.

Associated City
CARSON CITY

FAA Identifier
CXP

Classification
REGIONAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	20:1 - 18:1	28:1	5
	Airspace Restrictions	N/A	38 Miles	3
	Runway Protection Zone	Full	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**19**
Airport Access V_{AA}	Community Access	N/A	3 Miles	4
	Regional Access	N/A	1.4 Miles	5
	Local Access	Collector (Major)	Arterial (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car, Bus, and Taxi or Ride Share	Rental Car, Courtesy Car, Bus, Taxi, and Ride Share	5
			Airport Access V_{AA} Subtotal	**19**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	2	3
	Airfield and Aeronautical Property	N/A	25%	5
	Surplus Property	N/A	474 Acres	5
	Airfield Expandability	N/A	329 Feet	2
			Airport Expandability V_{AE} Subtotal	**15**
Community Commitment V_{CC}	Last ALP Update	< 5 Years	2020	5
	Airport Management	Full Time	Full Time	5
	Historical Capital Improvements	≥ $1.0 Million	$4.62 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$4.96 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Education Program, Advertisments, and Website	5
			Community Commitment V_{CC} Subtotal	**35**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of CXP are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Carson City Airport	1,361 JOBS	$78,727,500	$251,350,280
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Carson City Airport (CXP) is a general aviation (GA) airport located three miles northeast of Carson City, the capital of Nevada, and in close proximity to Lake Tahoe, less than a 30-minute drive away. With a paved runway over 6,000 feet and multiple helipads, the facility hosts a full-service Fixed-Base Operator (FBO) along with a large number of hangars, maintenance facilities, and over 200 based aircraft. All of the operations originating from CXP are GA, including approximately 10 percent of total operations being air taxi. Additional services provided at CXP include flight training, sightseeing tours, and storage for regional airshows and the Burning Man festival. In addition, occasional aerial firefighting and medical operations occur at CXP. On-site business tenants located at CXP include aviation services and an aerospace manufacturing company.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$114,352,000
Carson City Airport

CXP INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

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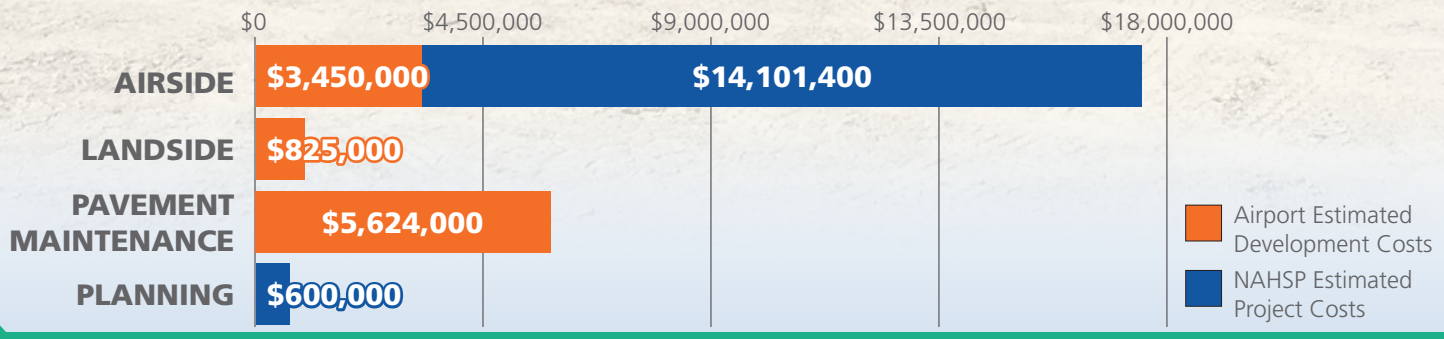


Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

CRESCENT VALLEY AIRPORT
U74

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

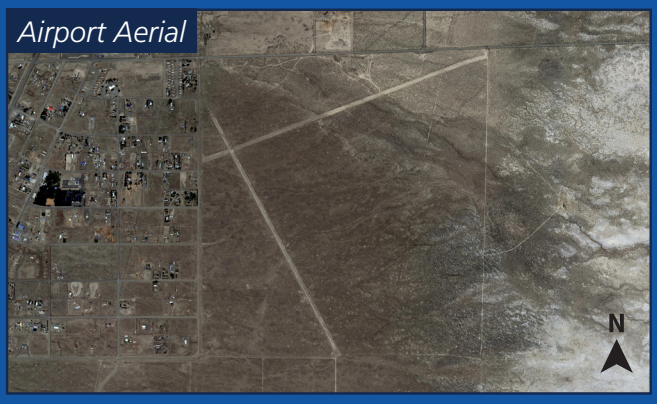
- Seven functional classifications used in the NAHSP
- U74 is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

Critical Services:

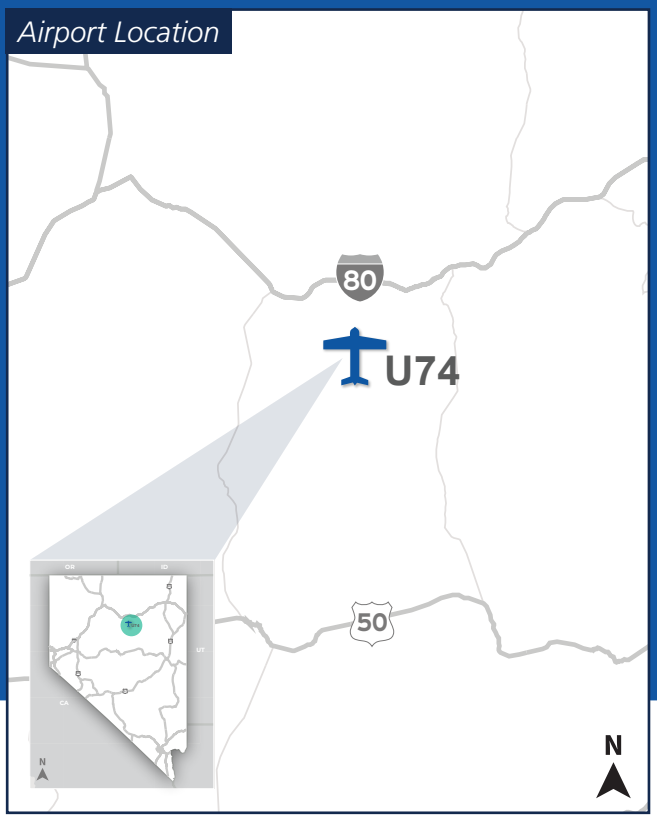
- Emergency Medical Service (EMS) Operations
- Offers Recreational Opportunities

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial



Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

CRESCENT VALLEY AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3,000 Feet	5,424 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	None	None	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Dirt	Meets
	Runway Lighting	None	None	Meets
	Taxiways	Turn Arounds or Hold Pads	None	Doesn't Meet
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	None	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
CRESCENT VALLEY

FAA Identifier
U74

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	None	Doesn't Meet
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	No Available ALP	Doesn't Meet

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of U74 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

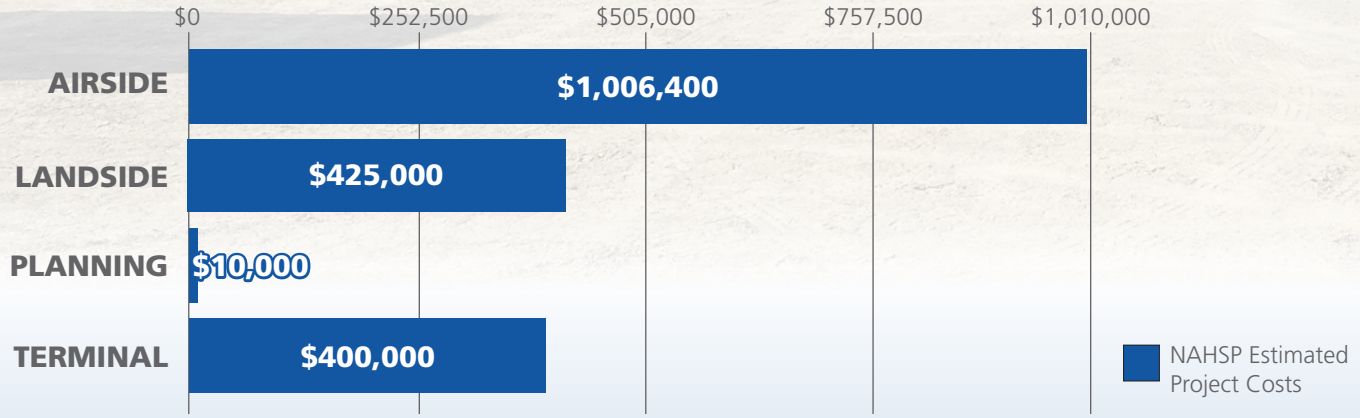
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Crescent Valley Airport	< 1 JOB	$260	$1,070
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Crescent Valley Airport (U74) is a general aviation (GA) airport located directly east of the town of Crescent Valley in Eureka County. The airport leases land from the Bureau of Land Management (BLM) and there are nearby cattle and wild horses in the open range area. With two dirt runways each approximately 5,000 feet in length, U74's activity is entirely GA. U74 sees just over 100 operations annually, with recreational flights including sightseeing tours of the Crescent Valley. The airport is located within walking distance to the entire town of Crescent Valley, providing convenient access to Emergency Medical Service (EMS) flights which may need quick access.

U74 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



NAHSP
Nevada Airport and Heliport System Plan

CURRANT RANCH AIRPORT
9U7

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 9U7 is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

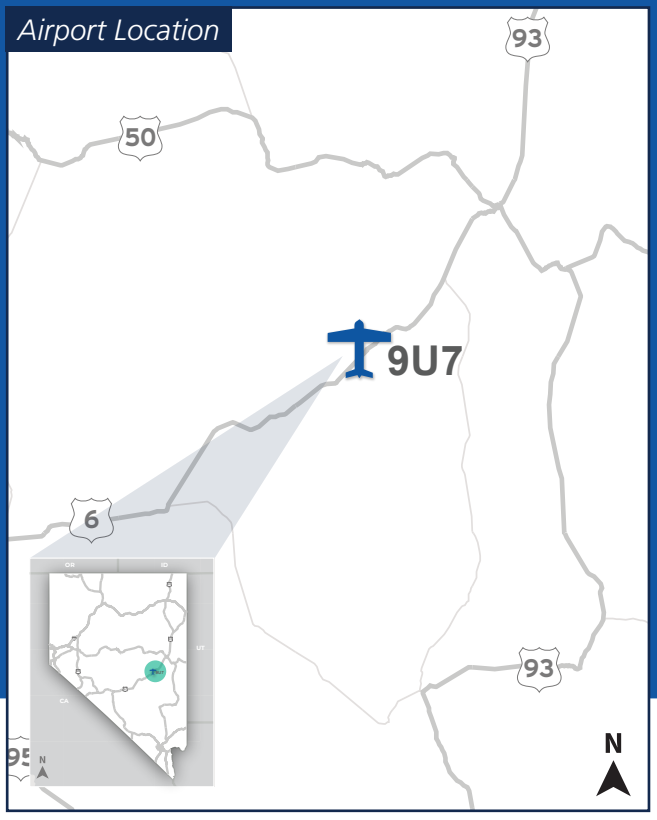
Critical Services:

- Emergency Medical Service (EMS) Operations
- Supports Medical Access
- Aerial Firefighting Operations

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

CURRANT RANCH AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	5,100 Feet	Meets
	T-Hangar Ratio	> 0.25	Based Aircraft	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Turf & Dirt and Fair	Meets
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	None	Doesn't Meet
	Visual Aids	Wind Cone	None	Doesn't Meet
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	Public Restrooms	Meets
	Utilities	Electricity and Water Available	Electricity and Water	Meets
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Public Phone	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
CURRANT

FAA Identifier
9U7

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	None	Doesn't Meet
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 9U7 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

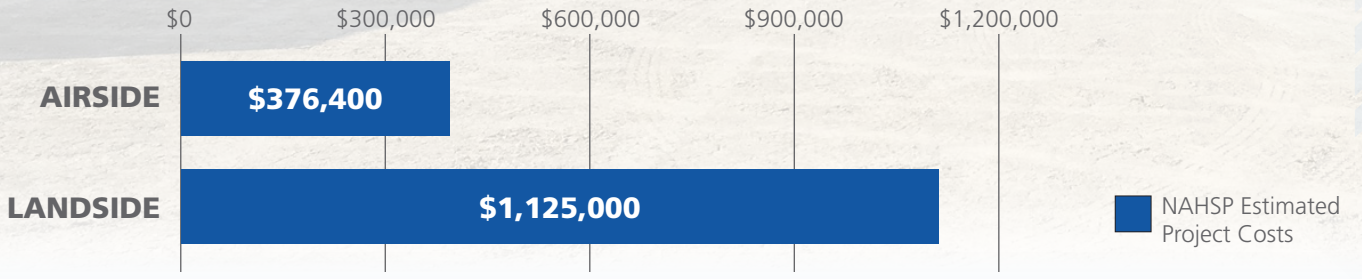
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Currant Ranch Airport	1 JOB	$40,310	$130,950
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Currant Ranch Airport (9U7) is a general aviation (GA) airport located just over a mile from Currant Ranch in Nye County, over 45 miles from Ely. The airport is located on land owned by the Bureau of Land Management (BLM). With a single turf/dirt runway of just over 5,000 feet in length, 9U7 services mainly GA operations as well as rare military flights. The type of GA operations facilitated by 9U7 include quick access for emergency medical service, doctor services for the local Duckwater Tribe, and aerial firefighting operations and staging on occasion. Nearly 25 percent of operations are emergency in nature with an average of 1,125 operations annually.

9U7 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

DAYTON VALLEY AIRPARK
A34

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- A34 is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

Critical Services:

- Emergency Medical Service (EMS) Operations
- Provides Doctors Access to Washoe Tribal Community
- Aerial Firefighting Operations

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location

FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

DAYTON VALLEY AIRPARK

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	5,343 Feet	Meets
	T-Hangar Ratio	> 0.25	0.97	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-paved and Fair, PCI > 56	Asphalt and Excellent	Meets
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	Partial Parallel to Primary Runway	Meets
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	Public Restrooms*	Meets
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer*	Meets
	Security/Wildlife Fencing	None	Partial (Access Control Only)	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan
*Facilities are available to visitors of the adjacent Dayton Valley Golf Course.

Associated City
DAYTON/CARSON CITY

FAA Identifier
A34

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Taxi and Ride Share	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	2022 ALP	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of A34 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

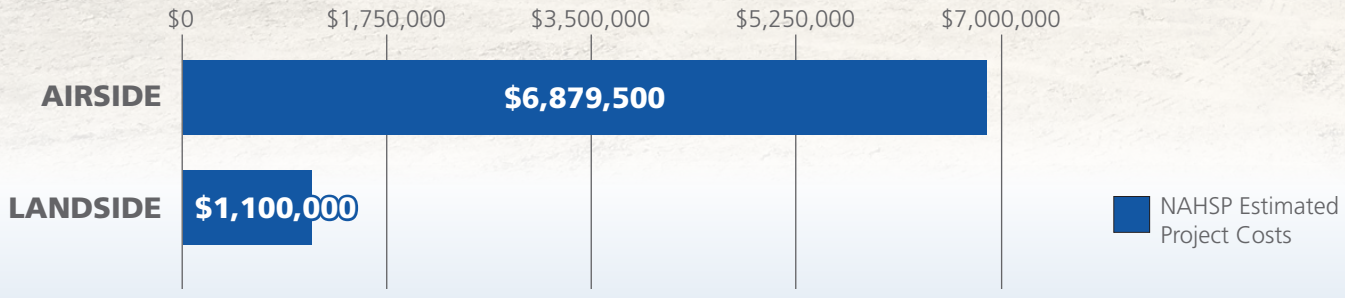
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Dayton Valley Airpark	7 JOBS	$93,390	$361,790
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Dayton Valley Airpark (A34) is a privately owned airport that is open to the public and is located two miles east of the central business district of Dayton in Lyon County, east of Carson City along US 50. With a single paved runway over 5,000 feet in length, A34 services mainly general aviation (GA) users. GA operations include recreational and business flights, flight training, and special events such as fly-ins. The airport also attracts visitors of the Dayton Valley Golf Course, which is attached to the airport. The airport also supports special events, such as being the finish line of the Legends Baja Road Race. There are occasional emergency operations conducted through the facility, including emergency medical service, aerial firefighting, and search and rescue operations. There are several dozen aircraft based at the airpark, as all of the taxiways are connected to private hangars and residential buildings.

A34 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

DEAD COW LAKEBED AIRSTRIP

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

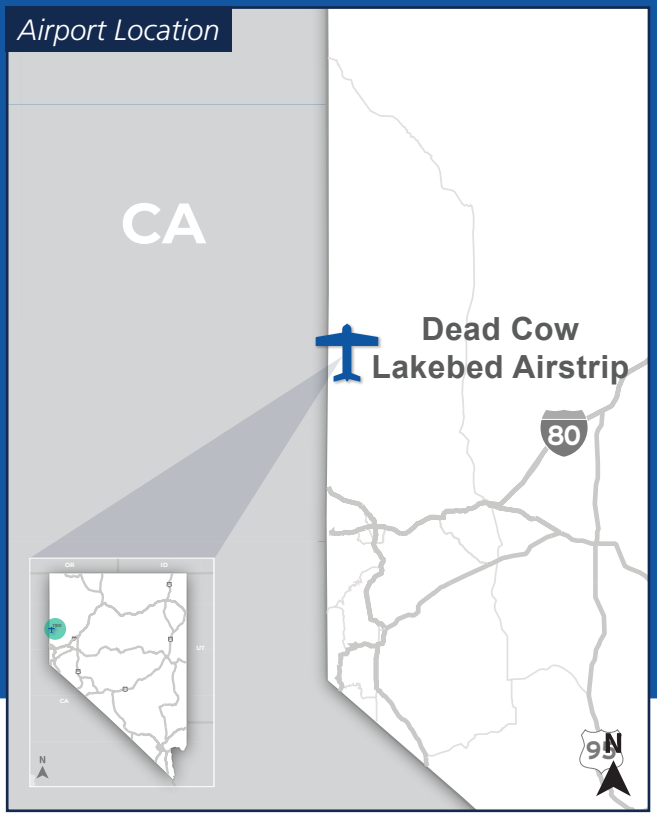
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Dead Cow Lakebed Airstrip is an Special Event airport (not eligible for Federal Aviation Administration [FAA] funding)

Critical Services:

- Supports the High Sierra Fly-in

Special Event airports: *Privately owned airports utilized for special events.*



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

DEAD COW LAKEBED AIRSTRIP

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3,000 Feet / As Appropriate	N/A	Meets
	T-Hangar Ratio	None	None	Meets
	Fuel Availability	As Appropriate	None	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	N/A	Meets
	Runway Surface Type/Condition	As Appropriate and Fair	N/A	Meets
	Runway Lighting	As Appropriate	None	Meets
	Taxiways	As Appropriate	None	Meets
	Visual Aids	As Appropriate	None	Meets
	Weather Reporting	As Appropriate	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
DEAD COW

Classification
SPECIAL EVENT

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	As Appropriate	Courtesy Car	Meets
Community Commitment	Last ALP Update	As Appropriate	None	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of Dead Cow Lakebed Airstrip are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

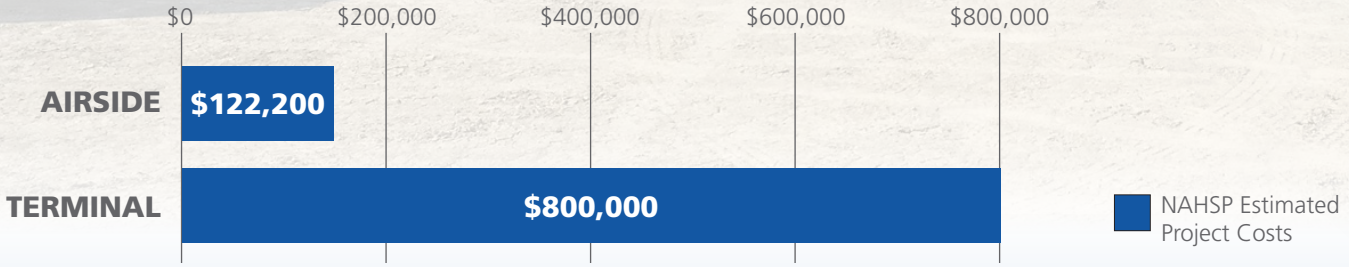
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Dead Cow Lakebed Airstrip Fly-In	0 JOBS	$0	$0
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Dead Cow Lakebed Airstrip is a privately owned airstrip used temporarily by the public over the course of a weekend once per year during the High Sierra Fly-in located in Washoe County, approximately 40 miles north of Reno. While the airstrip itself is a dried-up lakebed, the Fly-in event makes use of this land for one weekend in October each year. This event sees hundreds of aircraft and more than 2,000 patrons descend upon the lakebed for competitions in Short Take-Off and Landing (STOL), aerial drag racing, and many other aviation-based events. The Dead Cow Lakebed Airstrip is owned by Kevin Quinn, who started the Fly-in in 2009. Since then, the event has continued to grow year over year, and has become one of the largest fly-ins in the region.

DEAD COW LAKEBED AIRSTRIP INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

DENIO JUNCTION AIRPORT
E85

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

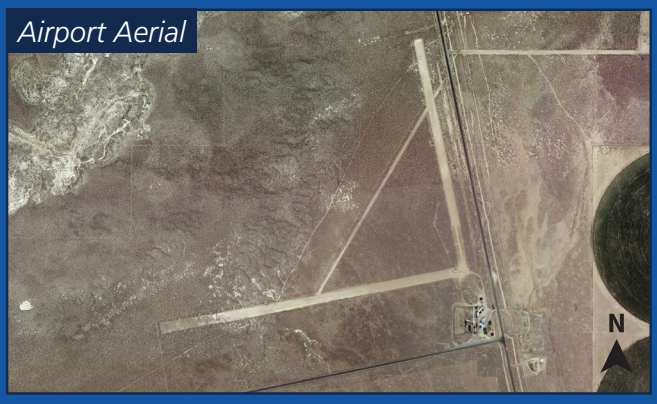
- Seven functional classifications used in the NAHSP
- E85 is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

Critical Services:

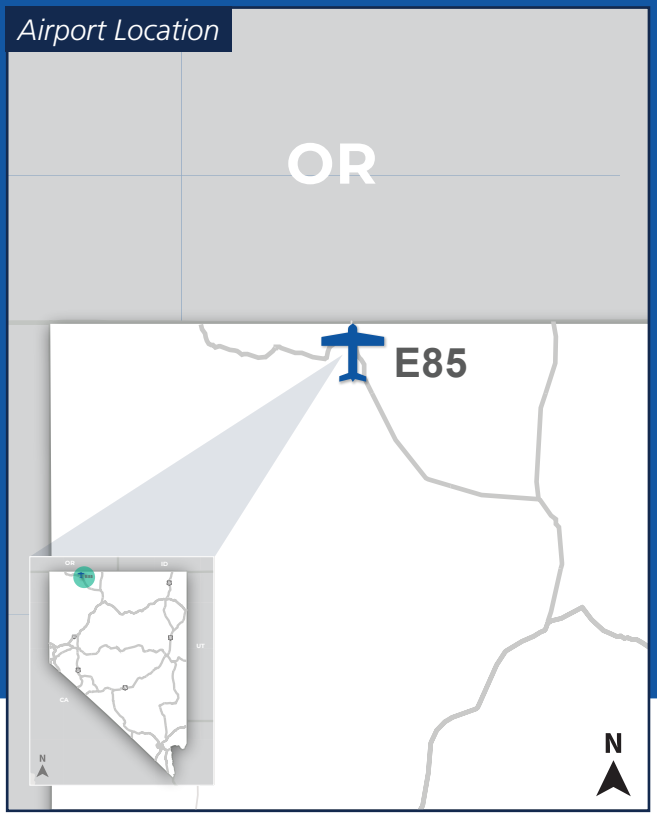
- Emergency Medical Service (EMS) Operations
- Supports Medical Access
- Aerial Firefighting Operations

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial



Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

DENIO JUNCTION AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	3,430 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Dirt and Poor	Doesn't Meet
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	None	Doesn't Meet
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	Full	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Voice	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
DENIO

FAA Identifier
E85

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of E85 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Denio Junction Airport	< 1 JOB	$6,750	$21,820
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

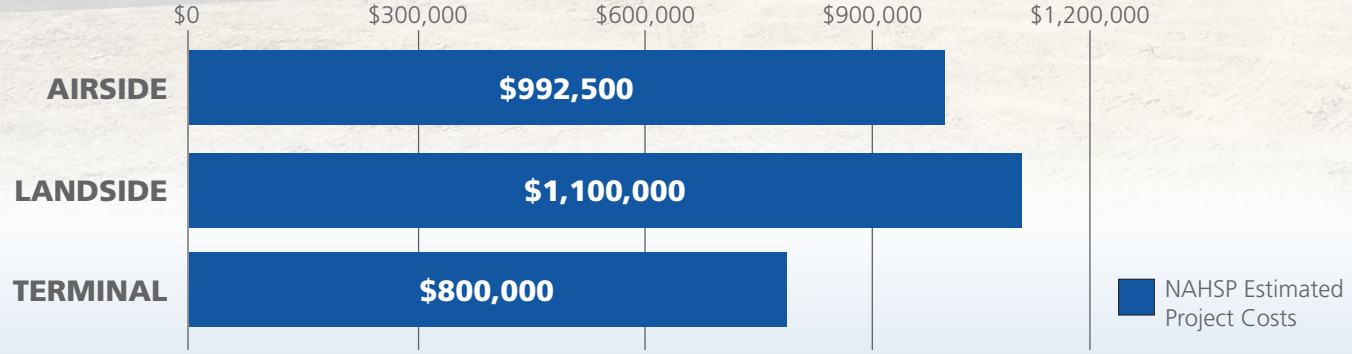
	STATEWIDE JOBS	STATEWIDE LABOR INCOME	STATEWIDE OUTPUT

AIRPORT OVERVIEW

Denio Junction Airport (E85) is a general aviation (GA) airport located three miles south of Denio in Humboldt County, over 80 miles from Winnemucca. The airport is owned by Humboldt County, which leases the airport lands from the Bureau of Land Management (BLM). E85 consists of two dirt runways, both over 3,000 feet in length. With an average of nearly 200 operations annually, E85 supports a variety of GA activities, including occasional emergency medical service and aerial firefighting operations. The airport is within walking distance to Denio Junction, which has a motel, gas station, café, and bar, and is also only a few miles from the Nevada-Oregon border which boasts a town known for bird watching, photography, fishing, and natural hot springs. E85 is also the closest airport to Thacker Pass Lithium Mine, proving quick access to the mine.

E85 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

DERBY FIELD
LOL

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

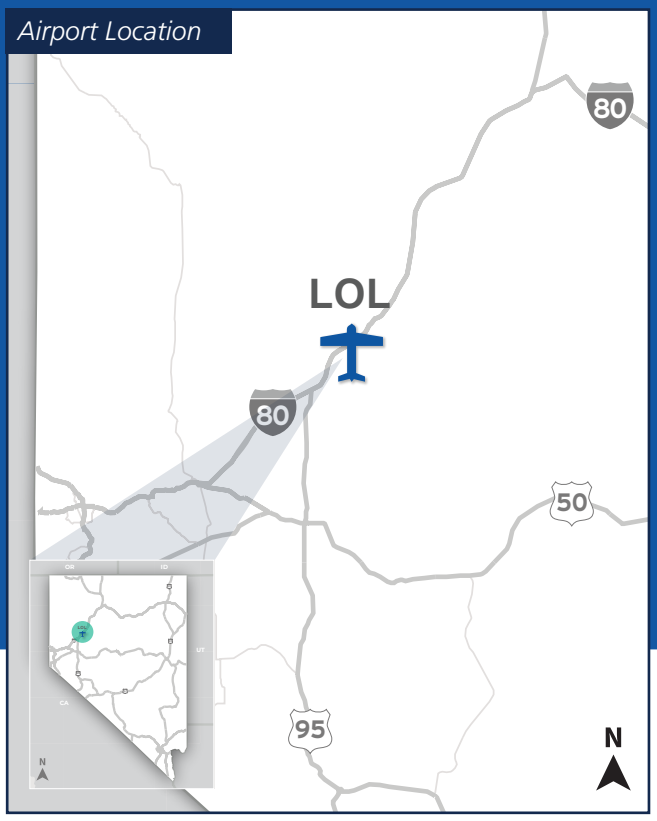
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- LOL is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

DERBY FIELD

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Fire - Temporary	1
	Nearest Airport	N/A	40.28 Miles	3
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 5,220 Feet	5,529 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	1	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	100 LL SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Non-Precision with Vertical Guidance	5
			Regional Significance V_{RS} Subtotal	**30**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Good, PCI = 78	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Turn Arounds	0
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Wind Cone, REILs, and PAPIs	5
	Weather Reporting	AWOS or ASOS	ASOS	5
	GA Terminal	Public Restrooms	Public Restroom, Conference Room, and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Septic	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone and Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**50**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, REILs = Runway End Identifier Lights, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
LOVELOCK

FAA Identifier
LOL

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	6 Miles	3
	Runway Protection Zone	Full Desired	No Available ALP	0
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**9**
Airport Access V_{AA}	Community Access	N/A	8 Miles	3
	Regional Access	N/A	10 Miles	3
	Local Access	Collector (Minor)	Arterial (Major)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car and Shuttle	3
			Airport Access V_{AA} Subtotal	**14**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	275	5
	Airfield and Aeronautical Property	N/A	7%	5
	Surplus Property	N/A	525 Acres	5
	Airfield Expandability	N/A	409 Feet	2
			Airport Expandability V_{AE} Subtotal	**17**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	Yes	5
	Airport Management	Part Time or FBO	None	0
	Historical Capital Improvements	≥ $1.0 Million	$1.32 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$5.88 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Positive News	1
			Community Commitment V_{CC} Subtotal	**21**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of LOL are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Derby Field	22 JOBS	$741,530	$2,746,670
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Derby Field (LOL) is a general aviation (GA) airport located eight miles southwest of Lovelock in Pershing County, over 70 miles from Reno. The facility includes two paved runways that are approximately 5,000 feet in length as well as multiple helipads. The facility sees an average of 4,000 operations annually and supports a variety of activities and critical services. Pilots use LOL for recreational flying, flight training, and to attend special events in the region. In addition, LOL supports occasional emergency medical service and aerial firefighting operations. With its remote location, LOL offers easy-in/easy-out convenience in a low-traffic environment.

AIRPORT REPLACEMENT VALUE

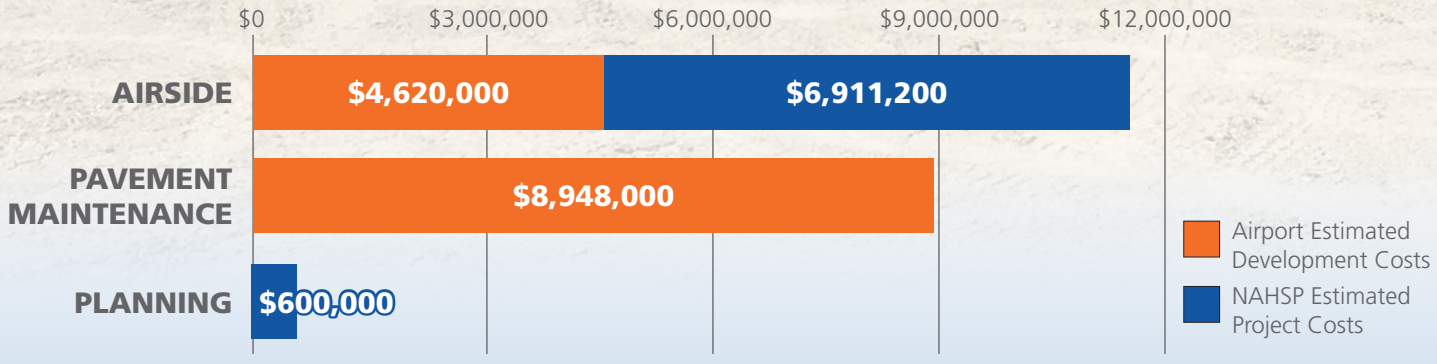
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$9,614,000
Derby Airport

LOL INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

DUCKWATER AIRPORT
01U

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 01U is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

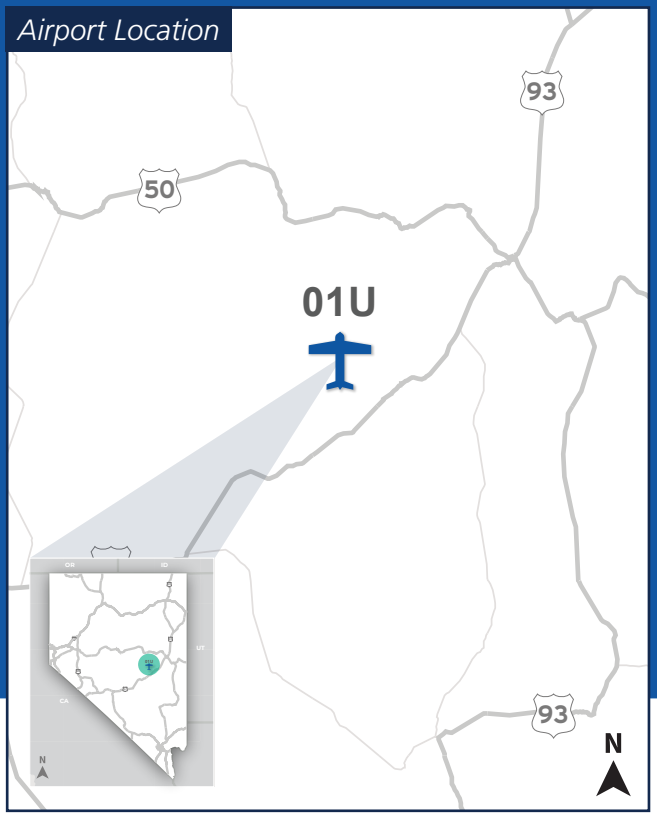
Critical Services:

- Emergency Medical Service (EMS) Operations
- Provides Doctors Access to Tribal Community
- Aerial Firefighting Operations

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

DUCKWATER AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	3,400 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	No	Doesn't Meet
	Runway Surface Type/Condition	Non-Paved and Fair	Dirt and Fair	Meets
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	None	Doesn't Meet
	Visual Aids	Wind Cone	None	Doesn't Meet
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	None	Doesn't Meet

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
DUCKWATER

FAA Identifier
01U

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	None	Doesn't Meet
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 01U are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

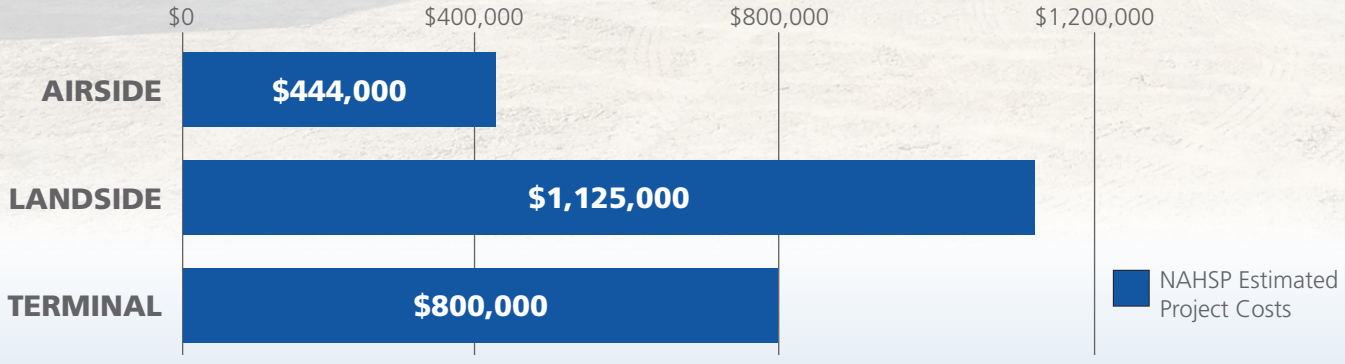
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Duckwater Airport	1 JOB	$18,900	$61,380
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Duckwater Airport (01U) is a general aviation (GA) airport located six miles southeast of Duckwater in Nye County, over 50 miles from Ely. The airport is located on land owned by the Bureau of Land Management (BLM). 01U consists of two dirt runways approximately 3,000 feet in length. 01U provides critical access to the surrounding community by providing a location for doctors to access the local Duckwater Tribe and by supporting occasional emergency operations and aerial firefighting. The airport also serves as an access point for nearby hot springs and those visiting for local wildlife viewing or game hunting. The airport is located in open range land with sheep, cattle, and wild horses.

01U INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

DYER AIRPORT
2Q9

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 2Q9 is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

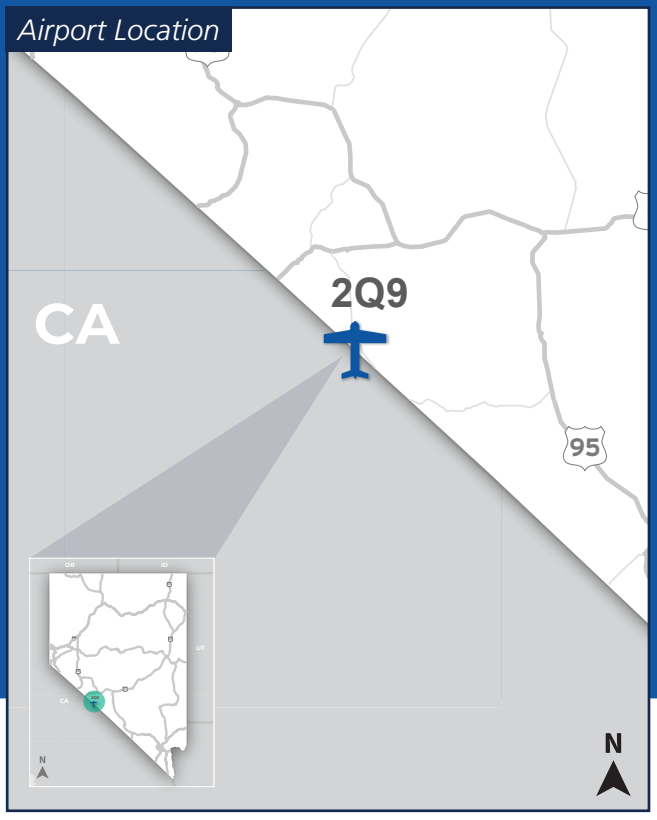
Critical Services:

- Offers Remove Access
- Provides Recreational Access

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

DYER AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3000 Feet	2,870 Feet	Doesn't Meet
	T-Hangar Ratio	> 0.25	0.2	Doesn't Meet
	Fuel Availability	None	None	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Dirt and Poor	Doesn't Meet
	Runway Lighting	None	None	Meets
	Taxiways	Turn Arounds or Hold Pads	None	Doesn't Meet
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
DYER

FAA Identifier
2Q9

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 2Q9 are presented below. Dyer Airport was selected as the location for a new FAA DME Building that will serve future ADS-B needs. While a non-NPIAS airport, this construction project at the airport generated capital expenditures that created jobs and spending in the area that is the majority of the economic impact at Dyer Airport. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

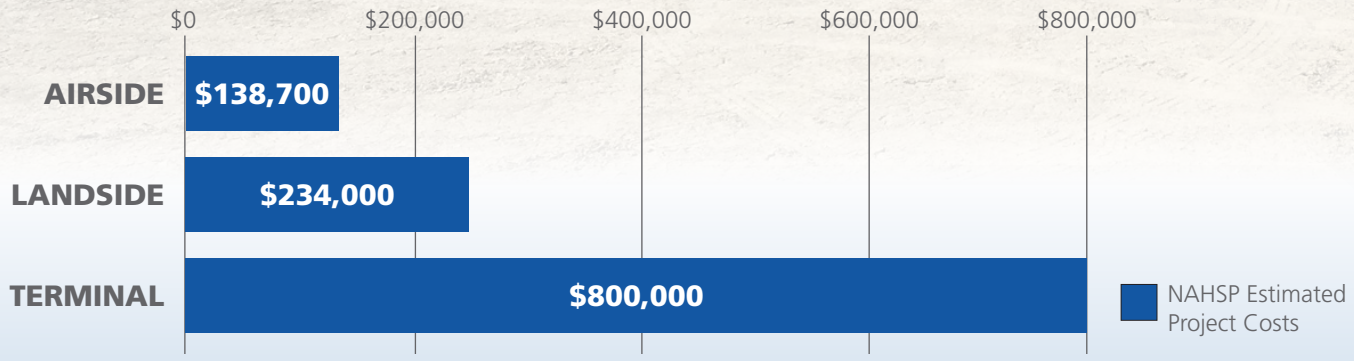
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Dyer Airport	34 JOBS	$1,508,340	$5,046,870
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Dyer Airport (2Q9) is a general aviation (GA) airport located six miles southeast of Dyer in Esmeralda County, over 140 miles from Carson City. The airport is owned by Esmeralda County, which leases land from the Bureau of Land Management (BLM). 2Q9 consists of a single dirt runway approximately 3,000 feet in length. Dyer Airport experiences almost 400 operations annually. Flights into and out of 2Q9 are almost entirely recreational and there are two based aircraft located at the airport. Dyer Airport sits along the southwestern border of Nevada with California and the town has a population of around 300. Dyer Airport's location provides access to remote communities in southwestern Nevada. The airport is currently building an FAA project along with a navigational aid project and building on property.

2Q9 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

ECHO BAY AIRPORT
0L9

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 0L9 is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

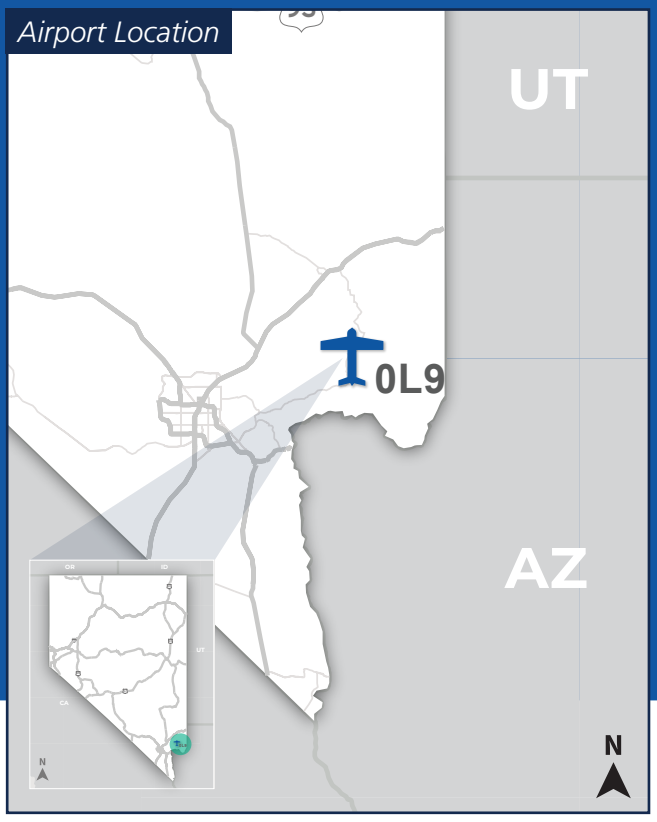
Critical Services:

- Offers Pilot Amenities and Recreational Opportunities
- Supports Military Operations

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

ECHO BAY AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3,000 Feet	3,400 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	None	None	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Asphalt and Good	Meets
	Runway Lighting	None	None	Meets
	Taxiways	Turn Arounds or Hold Pads	Turn Arounds	Meets
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
OVERTON

FAA Identifier
0L9

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	No Available ALP	Doesn't Meet

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 0L9 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

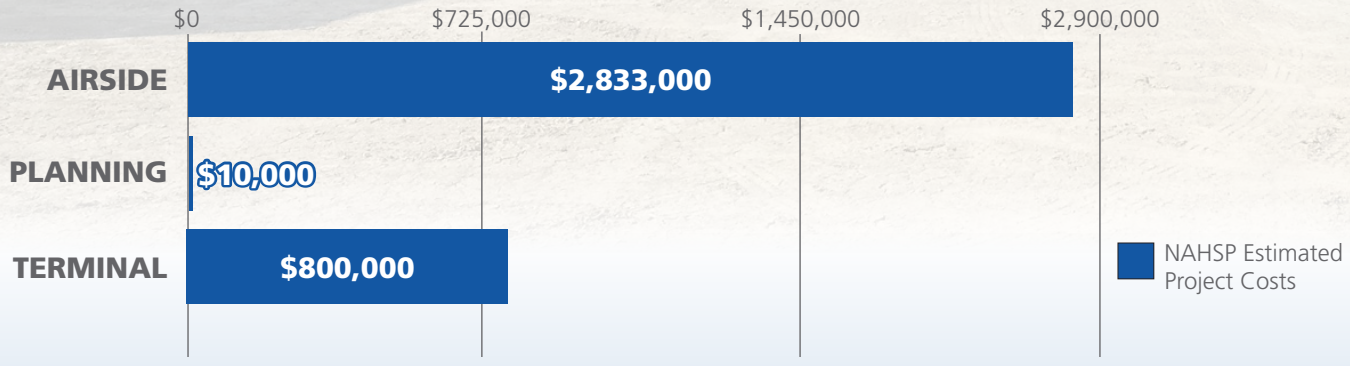
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Echo Bay Airport	< 1 JOB	$10,680	$32,520
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Echo Bay Airport (0L9) is a general aviation (GA) airport located in Clark County, 14 miles south of Overton and 40 miles east of Las Vegas. The facility has a 3,400-foot-long asphalt runway along with a taxiway and small apron. 0L9 has an average of around 500 operations annually, with the vast majority being GA operations. These operations include recreational flying along with flight training and instruction. Echo Bay Airport also experiences military training flights on rare occasions. 0L9 is located directly west of the Overton Arm of Lake Mead Recreational Area, offering on-airport fly-in camping. Providing campgrounds and a boat launch ramp, Echo Bay is a popular location for weekend vacationers and campers.

0L9 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

ELKO REGIONAL AIRPORT
EKO

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- EKO is classified by the NAHSP as a Primary Airport and in the NPIAS as a Primary Airport

Primary: *Publicly owned commercial service airports that have more than 10,000 passenger boarding's or enplanements each calendar year and receive scheduled passenger service.*

Airport Aerial

Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

ELKO REGIONAL AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, Fire - Temporary, and Helicopter Tourism	3
	Nearest Airport	N/A	59 Miles	5
	Longest Runway	Future Runway Length From ALP/MP= 8,957 Feet	7,454 Feet	0
	Based Aircraft	N/A	2%	3
	T-Hangar Ratio (THR)	> 0.90	Adequate for a Commercial Service Airport	5
	Fuel Availability	Jet A and 100LL Full Service (FS) and Self Service (SS) with Credit Card Reader	Jet A and 100 LL FS and SS with Credit Card Reader	5
	Aircraft Maintenance	Major	Major	5
	Instrument Approach	Precision	Non-Precision	3
			Regional Significance V_{RS} Subtotal	**34**
Airport Facilities V_{AF}	Runway ARC Category	C-III/C-II	C-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Excellent, PCI >86	Asphalt and Excellent, PCI = 94	5
	Runway Lighting	Medium-Intensity, High-Intensity is Desired	Medium-Intensity	5
	Taxiways	Full Parallel to All Runways	Full Parallel to All Runways	5
	Visual Aids	Rotating Beacon, Lighted Wind Cone, PAPIs or VASIs, and ALS or REILs	Rotating Beacon, Lighted Wind Cone, and PAPIs	4
	Weather Reporting	ATCT and AWOS or ASOS	ASOS	0
	GA Terminal	Terminal with Public Restrooms, Conference Rooms, and Pilots Lounge	Terminal with Public Restrooms	1
	Utilities	Electricity, Water, Sewer or Septic	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Full	Full	5
	Communications Connectivity	Public Phone, Cellular (Data/4G), and Wifi	Cellular (Data/4G) and Wifi	3
			Airport Facilities V_{AF} Subtotal	**43**

Notes: EMS = Emergency Medical Services, ALP = Airport Layout Plan, MP = Master Plan, FAA = Federal Aviation Administration, ARC = Airport Reference Code, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, ASOS = Automated Surface Observing System, GA = General Aviation

Associated City
ELKO

FAA Identifier
EKO

Classification
PRIMARY

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	20:1	20:1	5
	Airspace Restrictions	N/A	48 Miles	3
	Runway Protection Zone	Full	Partial, Plan to Acquire Full Control	3
	Land Use Compatibility	N/A	Less Than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	1 Mile	5
	Regional Access	N/A	1.1 Miles	5
	Local Access	Arterial (Major)	Arterial (Major)	5
	Ground Transportation Services	Courtesy Car, Bus, Taxi or Ride Share , and Rental Car, Train Desired	Courtesy Car, Shuttle, Taxi, and Rental Car	3
			Airport Access V_{AA} Subtotal	**18**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	9	5
	Airfield and Aeronautical Property	N/A	10%	5
	Surplus Property	N/A	627 Acres	5
	Airfield Expandability	N/A	203 Feet	1
			Airport Expandability V_{AE} Subtotal	**16**
Community Commitment V_{CC}	Last ALP Update	< 3 Years	2018	5
	Airport Management	Full Time	Full Time	5
	Historical Capital Improvements	≥ $ 20 Million	$15.5 Million	3
	Airport Capital Improvement Program (ACIP)	≥ $ 20 Million	$18.09 Million	3
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement and Operating Subsidy	0
	Goodwill	N/A	Education Program and Website	4
			Community Commitment V_{CC} Subtotal	**25**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of EKO are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Elko Regional Airport	491 JOBS	$30,074,450	$81,842,710
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Elko Regional Airport (EKO) is commercial service airport, located east of Elko in Elko County. Commercial airline service is provided by SkyWest Airlines to Salt Lake City. The airport also supports general aviation (GA) operations. EKO provides essential air service to the rural Northeastern Nevada area, including multiple helipads to accommodate helicopter traffic, such as medical flights from nearby medical centers Elko. Founded during the construction of the transcontinental railroad, Elko has grown from a small ranching community into a prosperous town. EKO is home to a Bureau of Land Management (BLM) base that operates helicopter air attacks for aerial firefighting. EKO hosts special events throughout the year and supports occasional military operations. EKO provides a full-service Fixed-base Operator (FBO) with a flight school, in addition to five other business tenants located on-site, including REACH Air Medical and MedX AirOne.

AIRPORT REPLACEMENT VALUE

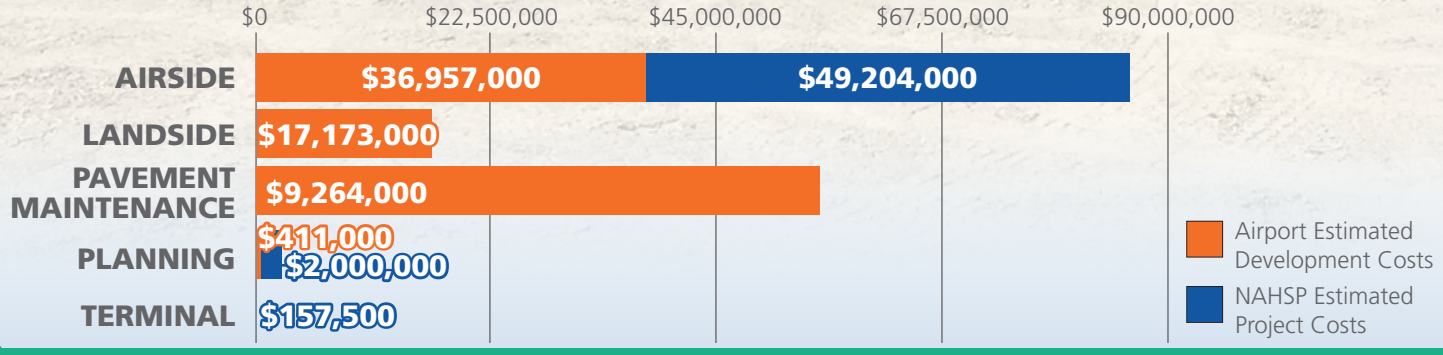
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$69,000,000
Elko Regional Airport

EKO INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

ELY AIRPORT/YELLAND FIELD
ELY

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

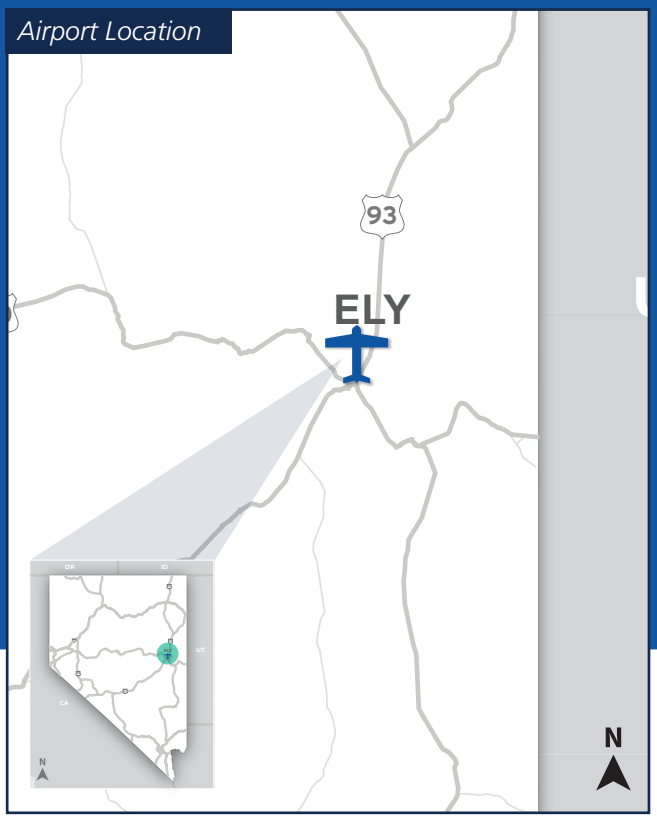
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- ELY is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

ELY AIRPORT/YELLAND FIELD

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, Fire - Permanent, and Gliders	3
	Nearest Airport	N/A	66 Miles	5
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 7,550 Feet	6,017 Feet	0
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	0.50	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100LL, SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Non-Precision with Vertical Guidance	5
			Regional Significance V_{RS} Subtotal	**29**
Airport Facilities V_{AF}	Runway ARC Category	B-II	C-III	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Excellent, PCI = 100	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Lighted Wind Cone, REIL, and PAPIs	5
	Weather Reporting	AWOS or ASOS	ASOS	5
	GA Terminal	Public Restrooms	Public Restrooms and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Septic	5
	Security/Wildlife Fencing	Partial	Partial	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone and Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**55**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, REILs = Runway End Identifier Lights, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

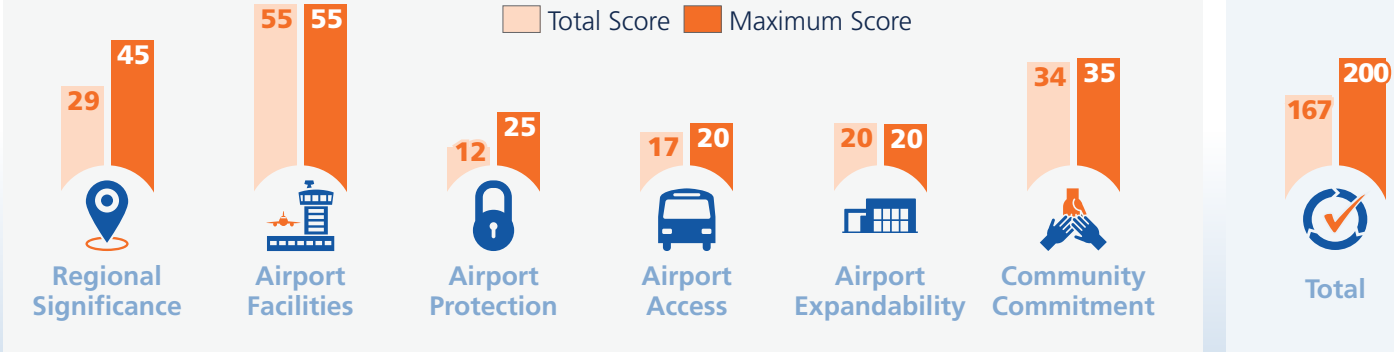
Associated City
ELY

FAA Identifier
ELY

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	18.5 Miles	3
	Runway Protection Zone	Full Desired	Partial, Plan to Acquire Full Control	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	3 Miles	4
	Regional Access	N/A	Less than 1 Mile	5
	Local Access	Collector (Minor)	Arterial (Major)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car and Shuttle	3
			Airport Access V_{AA} Subtotal	**17**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	500	5
	Airfield and Aeronautical Property	N/A	1%	5
	Surplus Property	N/A	4,967 Acres	5
	Airfield Expandability	N/A	1,070 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2015	5
	Airport Management	Part Time or FBO	Full Time	5
	Historical Capital Improvements	≥ $1.0 Million	$5.16 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$2.43 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Education Program and Website	4
			Community Commitment V_{CC} Subtotal	**34**

AIRPORT REGIONAL VALUE SUMMARY



AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of ELY are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Ely Airport/ Yelland Field	74 JOBS	$3,678,170	$11,800,790
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Ely Airport (ELY), also known as Yelland Field, is located three miles northeast of Ely in White Pine County. The facility consists of a 6,000-foot-long asphalt runway, a nearly 5,000-foot-long crosswind runway, and multiple helipads. ELY serves primarily general aviation (GA) operations, including United States Department of Agriculture (USDA) flights for local agricultural businesses as well as air taxi operations. Additional GA operations include helicopter tours, recreational, gliders, and occasional aerial agricultural operations. ELY also hosts occasional air shows and aerial races for the Eastern Nevada area. Additionally, ELY is a base for the Bureau of Land Management (BLM) which operates helicopter air attacks and smoke jumper operations for aerial firefighting.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$24,519,000
Ely Airport/Yelland Field

ELY INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

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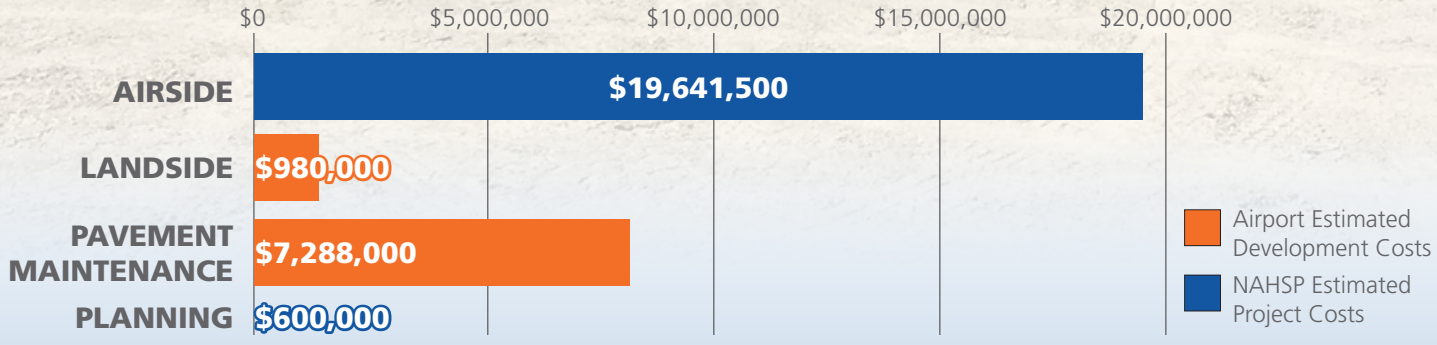


Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

EUREKA AIRPORT
05U

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

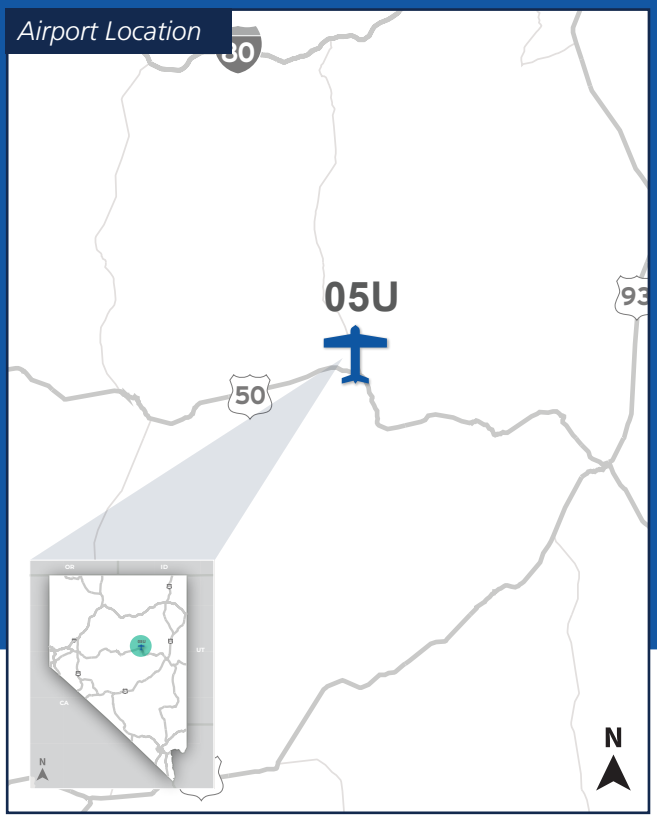
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- 05U is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

EUREKA AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS and Fire - Temporary	2
	Nearest Airport	N/A	66 Miles	5
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 7,300 Feet	7,300 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	2	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100LL, SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	Major	5
	Instrument Approach	Non-Precision	Non-Precision	5
			Regional Significance V_{RS} Subtotal	**38**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	No	0
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Excellent, PCI = 100	5
	Runway Lighting	Low-Intensity	High-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to All Runways	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Lighted Wind Cone, REILs, and PAPIs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	Public Restrooms	Public Restroom and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Septic	5
	Security/Wildlife Fencing	Partial	Partial	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone and Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**50**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, REILs = Runway End Identifier Lights, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
EUREKA

FAA Identifier
05U

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	27.5 Miles	3
	Runway Protection Zone	Full Desired	Partial	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	6 Miles	3
	Regional Access	N/A	3.5 Miles	5
	Local Access	Collector (Minor)	Collector (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	None	0
			Airport Access V_{AA} Subtotal	**13**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	800	5
	Airfield and Aeronautical Property	N/A	5%	5
	Surplus Property	N/A	761 Acres	3
	Airfield Expandability	N/A	835 Feet	4
			Airport Expandability V_{AE} Subtotal	**17**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2015	5
	Airport Management	Part Time or FBO	Part Time	5
	Historical Capital Improvements	≥ $1.0 Million	$1.18 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$2.54 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Positive News	1
			Community Commitment V_{CC} Subtotal	**31**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 05U are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Eureka Airport	32 JOBS	$1,976,090	$6,180,610
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Eureka Airport (05U) is a general aviation (GA) airport located seven miles northwest of Eureka in Eureka County, over 80 miles from Elko. The facility consists of a single asphalt runway over 7,000 feet in length. There is also a Fixed-Base Operator (FBO) which provides various aviation services. 05U serves a variety of GA operations, including recreational flights as well as emergency medical flights and business air traffic. Additionally, Eureka Airport serves as an air base for the Bureau of Land Management (BLM) during heavy wildland fire seasons. In 2007, 05U was given the honorary title of Booth Bailey Field, honoring Booth Bailey, the founder of the on-site FBO.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$13,730,900

Eureka Airport

05U INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

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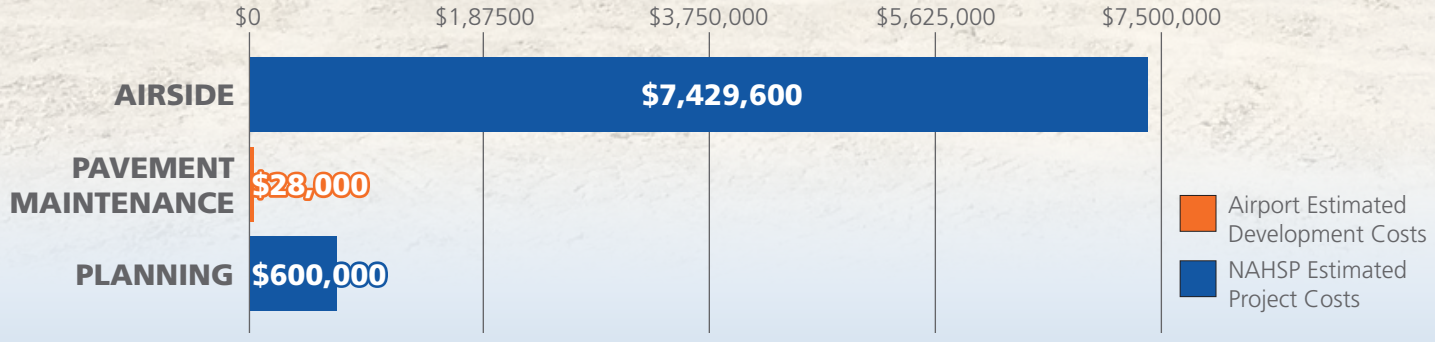


Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

FALLON MUNICIPAL AIRPORT
FLX

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

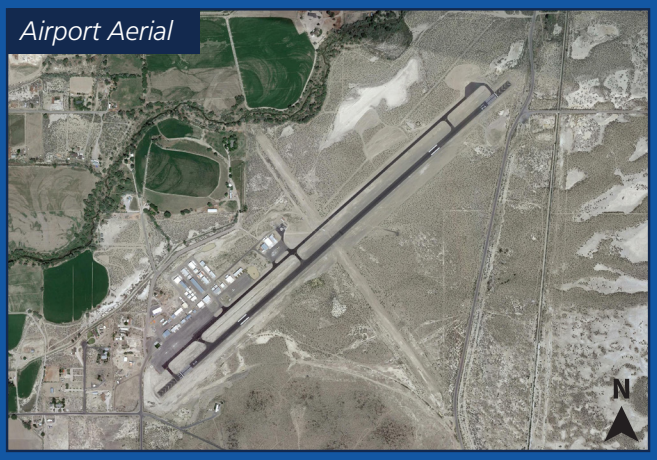
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

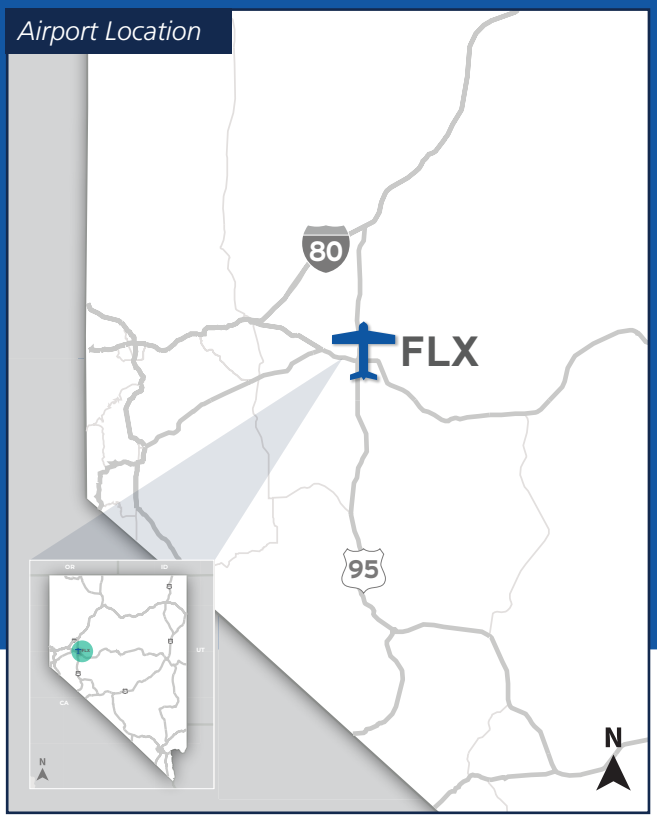
- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- FLX is classified by the NAHSP as a General Airport and in the NPIAS as a Local Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial



Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

FALLON MUNICIPAL AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS	1
	Nearest Airport	N/A	5.75 Miles	1
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 5,250 Feet	5,705 Feet	5
	Based Aircraft	N/A	2.0%	3
	T-Hangar Ratio (THR)	0.50 - 0.60	0.50	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100LL, Full Service (FS) and SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	Major	5
	Instrument Approach	Non-Precision	Non-Precision	5
			Regional Significance V_{RS} Subtotal	**35**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Fair, PCI = 70	3
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Wind Cone, and PAPIs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	Public Restrooms	Public Restrooms, Conference Room, and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Septic	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**51**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
FALLON

FAA Identifier
FLX

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	15:1 - 18:1	19:1	5
	Airspace Restrictions	N/A	9 Miles	3
	Runway Protection Zone	Full Desired	Partial, Plan to Acquire Full Control	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**17**
Airport Access V_{AA}	Total Acreage Ratio	N/A	5.5	5
	Airfield and Aeronautical Property	N/A	9%	5
	Surplus Property	N/A	402 Acres	5
	Airfield Expandability	N/A	286 Feet	2
			Airport Access V_{AA} Subtotal	**17**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	97	5
	Airfield and Aeronautical Property	N/A	4%	5
	Surplus Property	N/A	928 Acres	5
	Airfield Expandability	N/A	1,116 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2019	5
	Airport Management	Part Time or FBO	Full Time	5
	Historical Capital Improvements	≥ $1.0 Million	$3.3 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$3.95 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Education Program and Positive News	3
			Community Commitment V_{CC} Subtotal	**28**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of FLX are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Fallon Municipal Airport	64 JOBS	$4,424,170	$13,136,280
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Fallon Municipal Airport (FLX) is a general aviation (GA) airport located two miles northeast of Fallon in Churchill County. The facility consists of a single paved runway that is 5,700 feet in length and an unpaved crosswind runway, along with a large apron and a few dozen hangars. Also on site is a Fixed-Base Operator (FBO) that offers various aviation services. GA operations conducted at FLX include recreational flights and occasional emergency medical service operations. Additional operations include military flights from nearby Fallon Naval Air Station and infrequent air taxi services.

AIRPORT REPLACEMENT VALUE

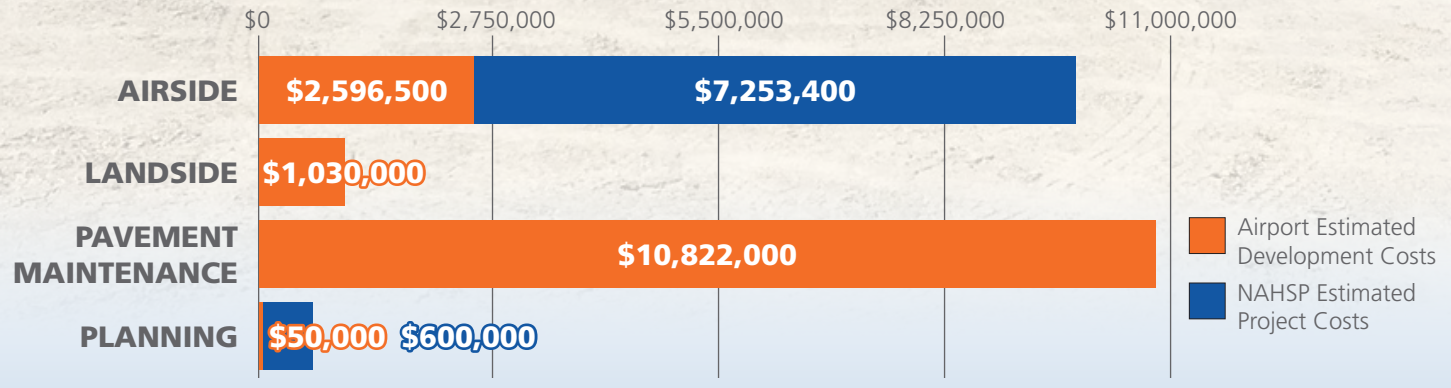
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$43,401,000
Fallon Municipal Airport

FLX INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

FLYING M RANCH AIRPORT

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Flying M Ranch Airport is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

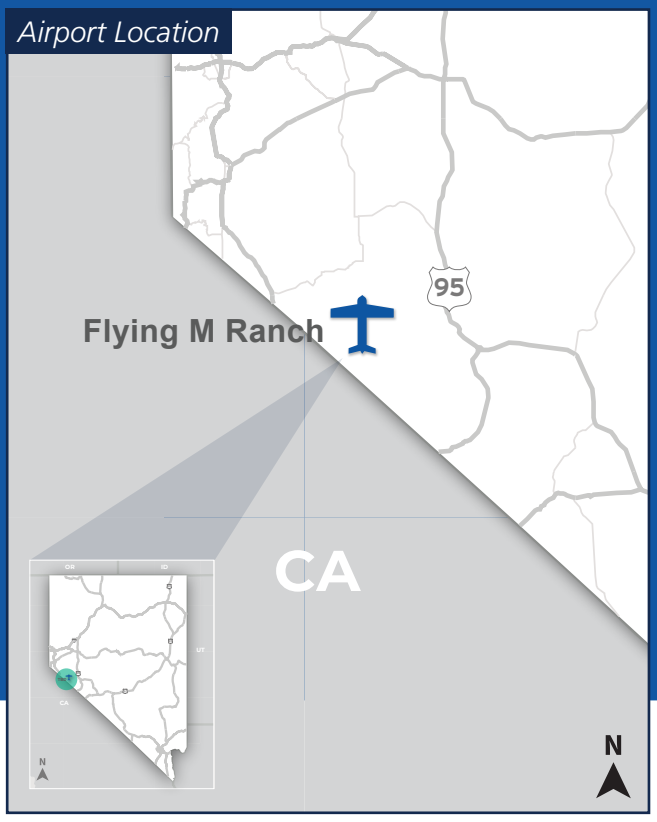
Critical Services:

- Provides Recreational Opportunities

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

FLYING M RANCH (HILTON RANCH) AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3,000 Feet	5,500 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	None	Jet A and 100 LL, Self Service with Credit Card Reader	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	No	Doesn't Meet
	Runway Surface Type/Condition	Non-Paved and Fair	Asphalt and Excellent	Meets
	Runway Lighting	None	None	Meets
	Taxiways	Turn Arounds or Hold Pads	None	Doesn't Meet
	Visual Aids	Wind Cone	None	Doesn't Meet
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	Electricity and Water	Meets
	Security/Wildlife Fencing	None	Partial	Meets
	Communications Connectivity	None	None	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
LYON COUNTY

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	None	Doesn't Meet
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of Flying M Ranch Airport are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

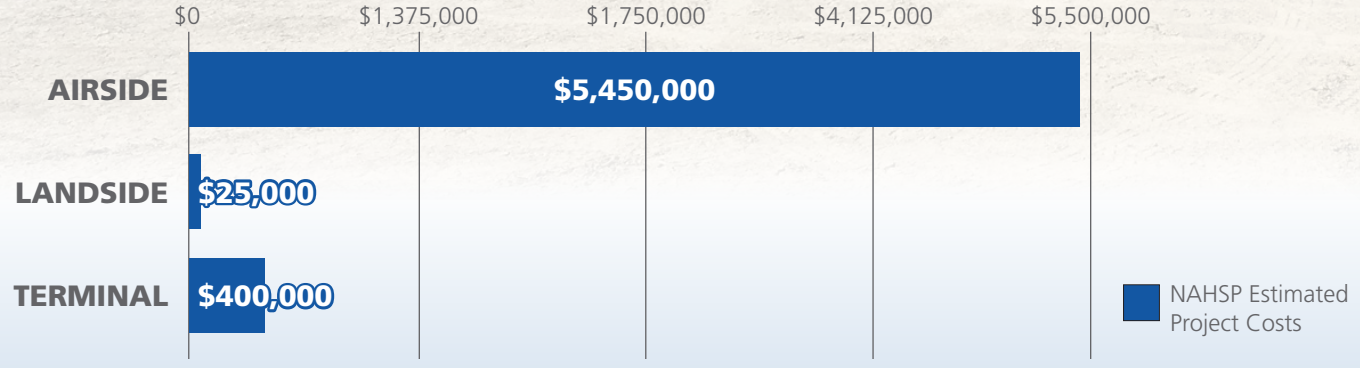
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Flying M Ranch (Hilton Ranch) Airport	0 JOBS	$0	$0
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Flying M Ranch Airport is a general aviation (GA) airport located directly adjacent to the Flying M Ranch in Lyon County, approximately 25 miles from Yerington. The airport consists of a 5,500-foot-long paved runway in addition to an adjacent heliport. Flying M Ranch Airport was transferred to the State of Nevada from the previous owner and will be a public-use facility, primarily for recreational uses due to the remote location and lack of vehicle access. Situated along the Walker River, the ranch is situated between the Wassuk Range and the Sweetwater Mountains, about 75 miles south of Reno. The surrounding desert offers good thermal soaring conditions and is used primarily for glider flights. In fact, the airport was the base for many world famous gliding competitions, including the biennial Barron Hilton Cup. Additionally, the Nevada State Parks will offer camping, cabins, and recreational vehicle (RV) parking in 2022.

FLYING M RANCH AIRPORT INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



NAHSP
Nevada Airport and Heliport System Plan

GABBS AIRPORT
GAB

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

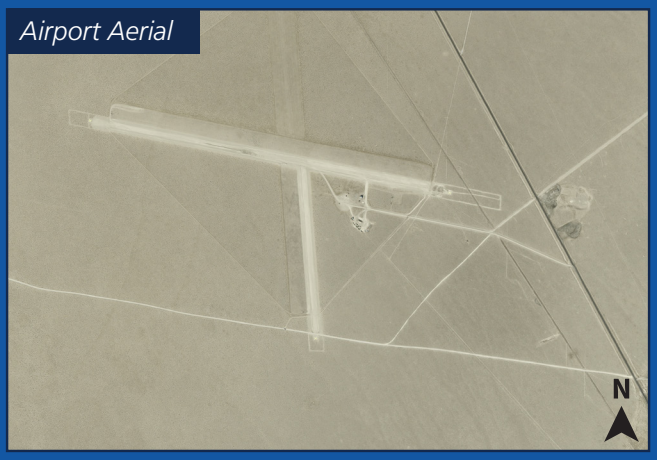
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

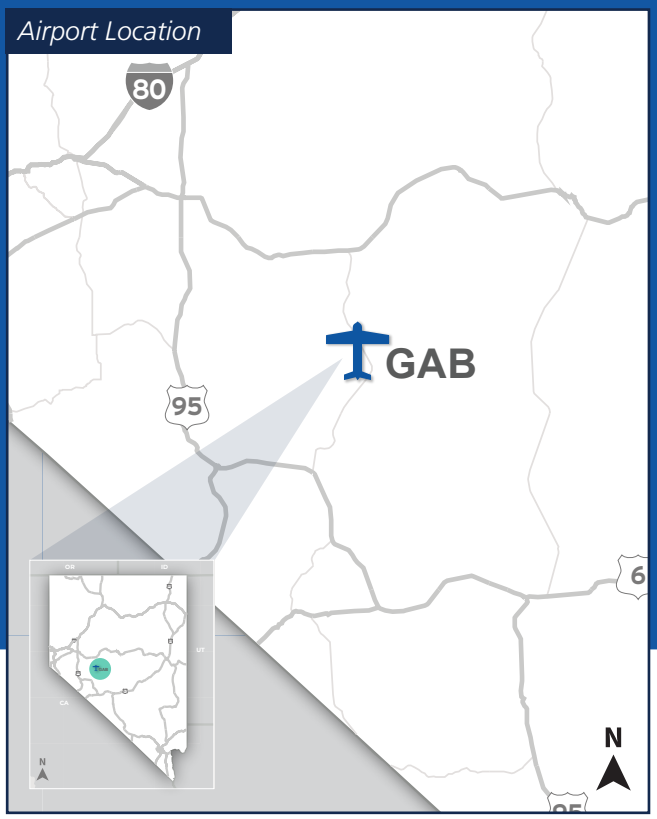
- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- GAB is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial



Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

GABBS AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Fire - Temporary	1
	Nearest Airport	N/A	45 Miles	4
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 5,810 Feet	5,950 Feet	5
	Based Aircraft	N/A	Less than 1%	3
	T-Hangar Ratio (THR)	0.50 - 0.60	1	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	None	0
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**23**
Airport Facilities V_{AF}	Runway ARC Category	B-II	A-I	0
	FAA Design Standards	Meet FAA Design Standards	No	0
	Runway Surface Type/Condition	Paved and Good, PCI >71	Dirt/Excellent	3
	Runway Lighting	Low-Intensity	None	0
	Taxiways	Partial Parallel to Primary Runway	None	0
	Visual Aids	Rotating Beacon and Wind Cone	Wind Cone	4
	Weather Reporting	AWOS or ASOS	None	0
	GA Terminal	Public Restrooms	None	0
	Utilities	Electricity and Water Available	Electricity	3
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**18**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
GABBS

FAA Identifier
GAB

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	No Data	0
	Airspace Restrictions	N/A	Overhead	1
	Runway Protection Zone	Full Desired	Partial	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**5**
Airport Access V_{AA}	Community Access	N/A	4 Miles	4
	Regional Access	N/A	36 Miles	1
	Local Access	Collector (Minor)	Collector (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car	3
			Airport Access V_{AA} Subtotal	**13**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	880	5
	Airfield and Aeronautical Property	N/A	8%	5
	Surplus Property	N/A	808 Acres	5
	Airfield Expandability	N/A	507 Feet	2
			Airport Expandability V_{AE} Subtotal	**17**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2015	5
	Airport Management	Part Time or FBO	Staff	0
	Historical Capital Improvements	≥ $1.0 Million	$196,875	1
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$1.14 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**18**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of GAB are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Gabbs Airport	3 JOBS	$122,130	$384,790
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Gabbs Airport (GAB) is a general aviation (GA) airport located four miles northwest of Gabbs in Nye County, over 95 miles from Carson City. The facility consists of two dirt runways that are 6,000 feet and 2,600 feet in length, respectively. Operations at GAB include GA flights for recreation and business travel. GAB also supports occasional emergency operations such as aerial firefighting and emergency medical service for the nearby mining operation. Located directly east of Gabbs, the Brucite Mine is one of the world's largest magnesium mines. GAB also occasionally supports military training flights and missions.

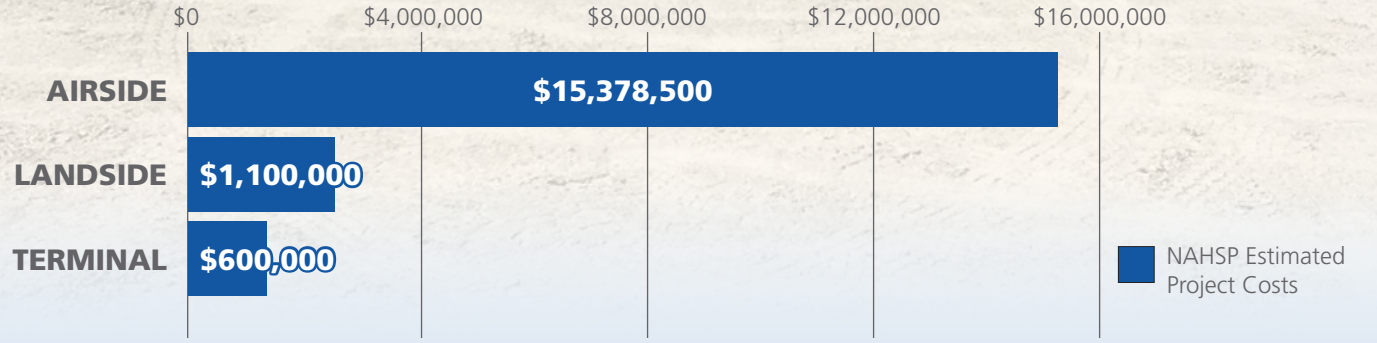
AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$1,068,500
Gabbs Airport

GAB INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

HAWTHORNE INDUSTRIAL AIRPORT
HTH

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

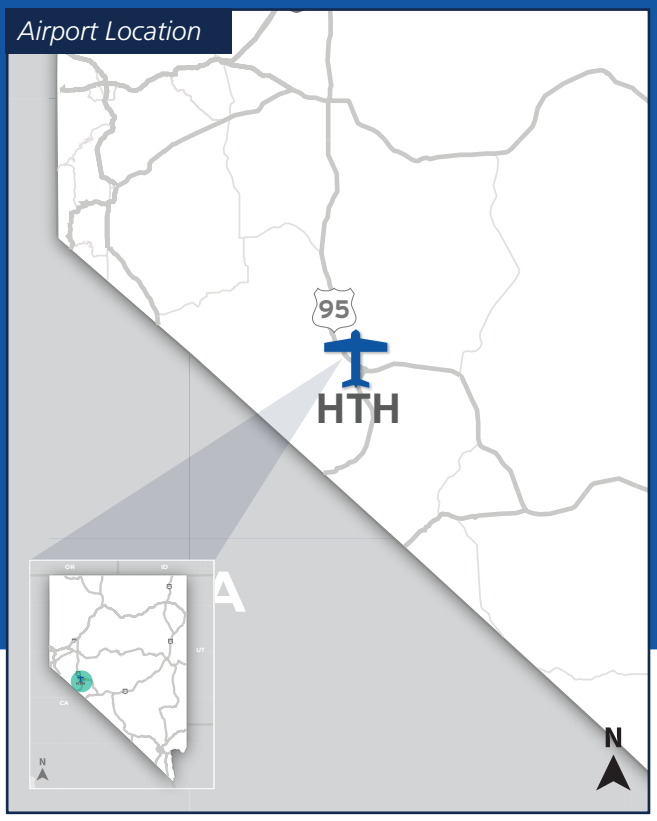
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- HTH is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

HAWTHORNE INDUSTRIAL AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Fire - Temporary	1
	Nearest Airport	N/A	60 Miles	4
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 5,600 Feet	6,000 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	1	5
	Fuel Availability	Jet A and 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100LL, SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Non-Precision	5
			Regional Significance V_{RS} Subtotal	**31**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	No	0
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Good, PCI = 71	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Partial Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Wind Cone, and REILs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	Public Restrooms	Public Restrooms and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone and Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**50**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, REILs = Runway End Identifier Lights, ATCT = Air Traffic Control Tower, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
HAWTHORNE

FAA Identifier
HTH

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	23 Miles	1
	Runway Protection Zone	Full Desired	No Available ALP	0
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**7**
Airport Access V_{AA}	Community Access	N/A	1 Mile	5
	Regional Access	N/A	Less than 1 Mile	5
	Local Access	Collector (Minor)	Collector (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car and Shuttle	3
			Airport Access V_{AA} Subtotal	**18**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	151	5
	Airfield and Aeronautical Property	N/A	7%	5
	Surplus Property	N/A	843 Acres	5
	Airfield Expandability	N/A	443 Feet	2
			Airport Expandability V_{AE} Subtotal	**17**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2020	5
	Airport Management	Part Time or FBO	None	0
	Historical Capital Improvements	≥ $1.0 Million	$753,204	3
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$6.25 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement and Operations Subsidy	0
	Goodwill	N/A	Website and Positive News	3
			Community Commitment V_{CC} Subtotal	**16**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of HTH are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Hawthorne Industrial Airport	24 JOBS	$775,130	$2,513,800
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION
	STATEWIDE JOBS	STATEWIDE LABOR INCOME	STATEWIDE OUTPUT

AIRPORT OVERVIEW

Hawthorne Industrial Airport (HTH) is a general aviation (GA) airport located one mile north of the center of Hawthorne in Mineral County. With a single paved 6,000-foot-long runway, HTH serves a mostly GA market. GA traffic includes recreational flights, emergency medical service operators, aerial firefighting operations, and occasional air taxi operations. Airport users also visit the airport for helicopter tours and to access fishing/hunting opportunities in the nearby region. Additional operations attributable to HTH are from the U.S. Army Joint Munitions Command ammunition storage depot located nearby. These operations include both military flights and recreational flights by military personnel.

AIRPORT REPLACEMENT VALUE

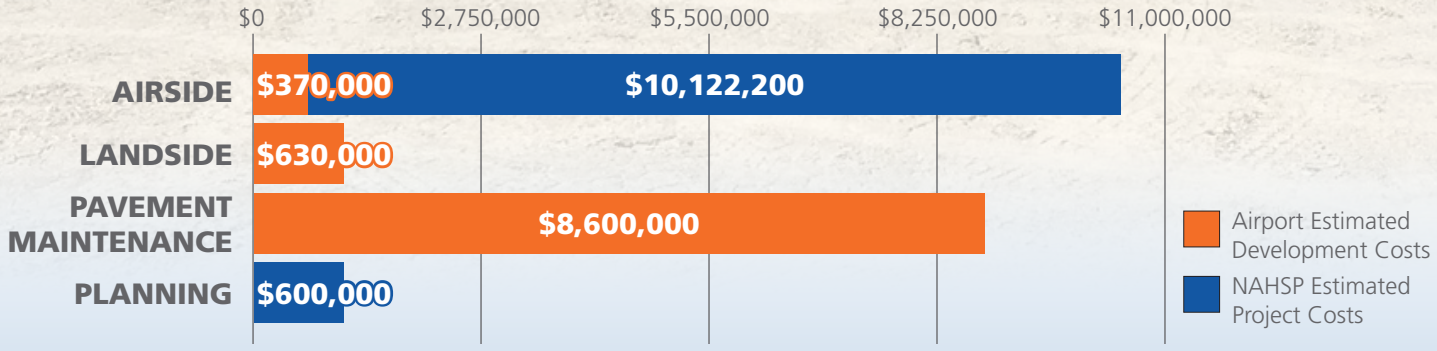
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$19,793,000
Hawthorne Industrial Airport

HTH INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

HENDERSON EXECUTIVE AIRPORT
HND

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

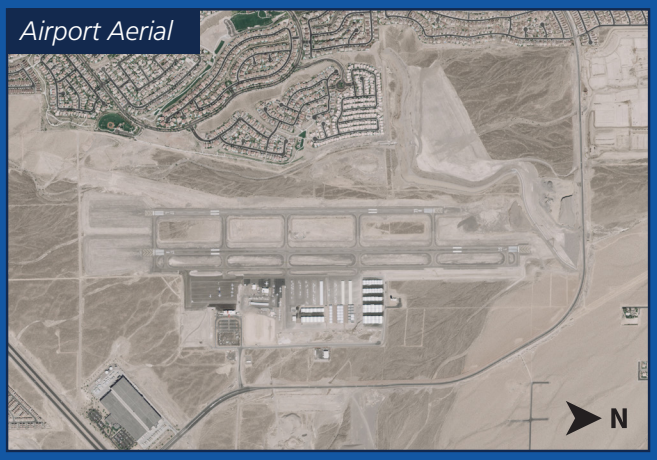
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- HND is classified by the NAHSP as a National Airport and in the NPIAS as a National Airport

National: *Supports national and state system by providing communities with access to national and international markets in multiple states and throughout the U.S.*

Airport Aerial



Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

HENDERSON EXECUTIVE AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, Special Events, Helicopter Tourism, Skydiving, Charter Services	5
	Nearest Airport	N/A	7 Miles	1
	Longest Runway	Future Runway Length From ALP/MP = 7,500 Feet	6,501 Feet	0
	Based Aircraft	N/A	10%	5
	T-Hangar Ratio (THR)	0.70 - 0.80	0.83	5
	Fuel Availability	Jet A and 100LL Full Service (FS) and Self Service (SS) with Credit Card Reader	Jet A and 100LL FS and SS with Credit Card Reader	5
	Aircraft Maintenance	Major	Minor	0
	Instrument Approach	Precision	Non-Precision	3
			Regional Significance V_{RS} Subtotal	**29**
Airport Facilities V_{AF}	Runway ARC Category	C-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	No, Solution Proposed	3
	Runway Surface Type/Condition	Paved and Excellent, PCI >86	Asphalt and Fair, PCI = 70	3
	Runway Lighting	Medium-Intensity, High-Intensity as Desired	Medium-Intensity	5
	Taxiways	Full Parallel to All Runways	Full Parallel to Primary Runway	0
	Visual Aids	Rotating Beacon, Lighted Wind Cone, PAPIs or VASIs, and ALS or REILs	Rotating Beacon, Lighted Wind Cone, PAPIs, and REILs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	GA Terminal with Public Restrooms, Conference Rooms, and Pilots Lounge	GA Terminal with Public Restrooms, Conference Rooms, and Pilots Lounge	5
	Utilities	Electricity, Water, Sewer or Septic	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Full	Full	5
	Communications Connectivity	Public Phone, Cellular (Data/4G), and Wifi	Public Phone, Cellular (Data/4G), and Wifi	5
			Airport Facilities V_{AF} Subtotal	**46**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, VASIs = Visual Approach Slope Indicator, ALS = Approach Lighting System, REILs = Runway End Identifier Lights, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan

Associated City
LAS VEGAS

FAA Identifier
HND

Classification
NATIONAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	>20:1	50:1	5
	Airspace Restrictions	N/A	18.5 Miles	3
	Runway Protection Zone	Full	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**19**
Airport Access V_{AA}	Community Access	N/A	11 Miles	2
	Regional Access	N/A	3.4 Miles	5
	Local Access	Arterial (Minor)	Collector (Minor)	0
	Ground Transportation Services	Rental or Courtesy Car, Bus, and Taxi or Ride Share	Rental Car, Courtesy Car, Bus, and Taxi or Ride Share	5
			Airport Access V_{AA} Subtotal	**12**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	3	5
	Airfield and Aeronautical Property	N/A	8%	5
	Surplus Property	N/A	701 Acres	5
	Airfield Expandability	N/A	582 Feet	3
			Airport Expandability V_{AE} Subtotal	**18**
Community Commitment V_{CC}	Last ALP Update	<5 Years	2021	5
	Airport Management	Full Time	Full Time	5
	Historical Capital Improvements	≥ $5.0 Million	$2.66 Million	3
	Airport Capital Improvement Program (ACIP)	≥ $5.0 Million	$19.53 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Education Program, Website, and Positive News	5
			Community Commitment V_{CC} Subtotal	**33**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of HND are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Henderson Executive Airport	1,042 JOBS	$44,427,750	$247,540,980
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION
	STATEWIDE JOBS	STATEWIDE LABOR INCOME	STATEWIDE OUTPUT

AIRPORT OVERVIEW

Henderson Executive Airport (HND) is a general aviation (GA) airport located in Henderson, 12 miles south of Las Vegas. It is owned and operated by the Clark County Department of Aviation. The Airport is a corporate reliever to Harry Reid International Airport (LAS) serving business jets visiting the Las Vegas Valley. HND is proximate to Las Vegas, the West Henderson I-15 Corridor, the National Football League's Las Vegas Raiders practice facility and stadium, and other major businesses. With two paved runways measuring over 5,000 feet long, HND accommodates larger jets and small GA aircraft. Many aviation businesses are located on-site offering charter flights, helicopter tours, flight schools, and more. HND experiences influxes of jet traffic for large events and conventions occurring in Las Vegas, with hundreds of flights daily during those peak times, in addition to normal daily traffic activity.

AIRPORT REPLACEMENT VALUE

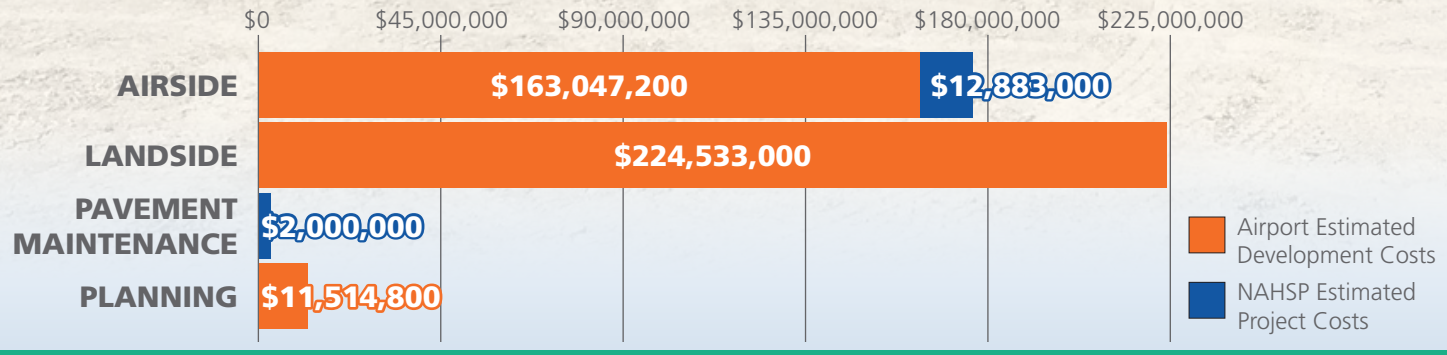
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$204,855,000
Henderson Executive Airport

HND INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

JACKPOT AIRPORT/HAYDEN FIELD
06U

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

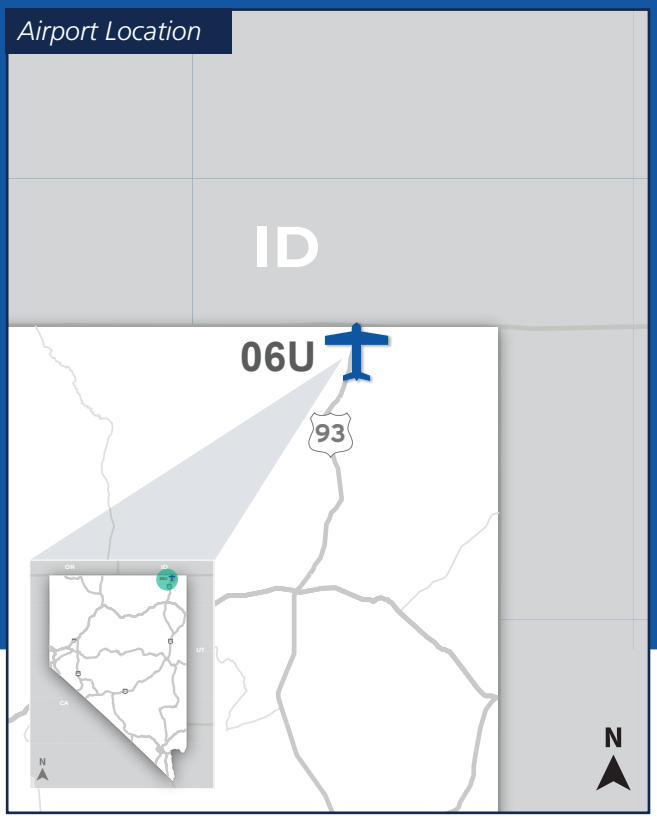
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- 06U is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

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JACKPOT AIRPORT/HAYDEN FIELD

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS and Fire -Temporary	2
	Nearest Airport	N/A	36 Miles	4
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 6,450 Feet	6,183 Feet	0
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	2	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	None	0
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**17**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-I	0
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Good, PCI = 72	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Lighted Wind Cone, REILs, and PAPIs	5
	Weather Reporting	AWOS or ASOS	None	0
	GA Terminal	Public Restrooms	Public Restrooms and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricty, Water, and Septic	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone and Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**45**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, REILs = Runway End Identifier Lights, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
JACKPOT

FAA Identifier
06U

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	15:1 - 18:1	29:1	5
	Airspace Restrictions	N/A	20 Miles	3
	Runway Protection Zone	Full Desired	No	0
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**14**
Airport Access V_{AA}	Community Access	N/A	0 Miles	5
	Regional Access	N/A	Less than 1 Mile	5
	Local Access	Collector (Minor)	Arterial (Major)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car and Shuttle	3
			Airport Access V_{AA} Subtotal	**18**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	325	5
	Airfield and Aeronautical Property	N/A	14%	5
	Surplus Property	N/A	280 Acres	5
	Airfield Expandability	N/A	417 Feet	2
			Airport Expandability V_{AE} Subtotal	**17**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	Diagram	0
	Airport Management	Part Time or FBO	None	0
	Historical Capital Improvements	≥ $1.0 Million	$1.17 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$1.36 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	None	0
			Community Commitment V_{CC} Subtotal	**20**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 06U are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Jackpot Airport/ Hayden Field	16 JOBS	$888,080	$2,539,250
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Jackpot Airport, also known as Hayden Field, (06U) is a general aviation (GA) airport located just east of Jackpot in Elko County, over 95 miles from the City of Elko. The airport property is leased from the Bureau of Land Management (BLM). 06U consists of a 6,000-foot-long runway along with a parallel taxiway and small apron. 06U supports approximately 6,000 operations annually including emergency medical service and aerial firefighting operations, as well as business and recreational operations. Pilots and airport visitors also use the airport to access nearby fishing and game hunting opportunities, as well as to access nearby golf courses, hotels, and casinos. Additional operations at 06U include occasional military training flights.

AIRPORT REPLACEMENT VALUE

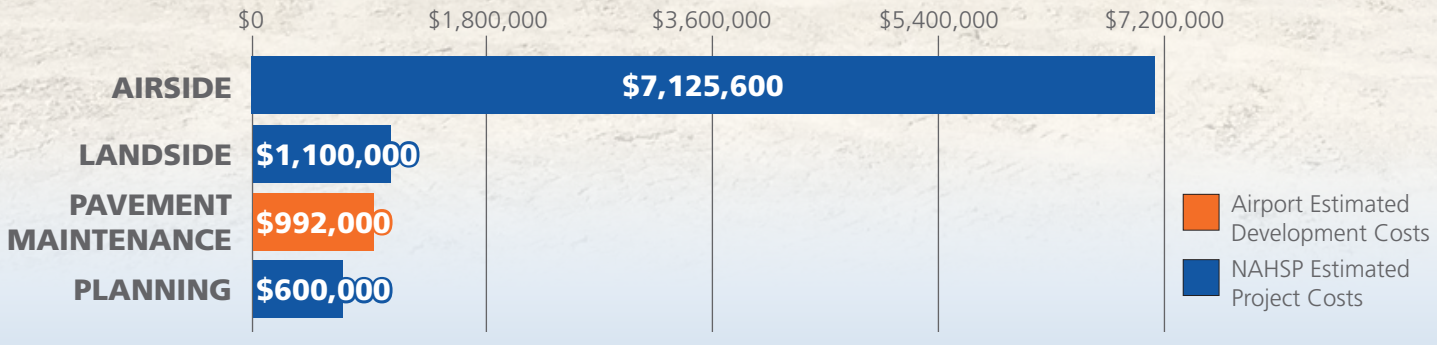
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$11,896,000
Jackpot Airport /Hayden Field

06U INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

JEAN AIRPORT
0L7

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- 0L7 is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

JEAN AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, Fire -Temporary, Skydiving, and Gliders	4
	Nearest Airport	N/A	18 Miles	2
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 6,200 Feet	4,600 Feet	0
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	0	0
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100LL, SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**17**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-I	0
	FAA Design Standards	Meet FAA Design Standards	No	0
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Good, PCI = 76	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon and Wind Cone	5
	Weather Reporting	AWOS or ASOS	None	0
	GA Terminal	Public Restrooms	Public Restrooms and Conference Room	5
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer or Septic	5
	Security/Wildlife Fencing	Partial	Partial	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**38**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
JEAN

FAA Identifier
0L7

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	34:1	5
	Airspace Restrictions	N/A	33.5 Miles	3
	Runway Protection Zone	Full Desired	Partial	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	1 Mile	5
	Regional Access	N/A	1.4 Miles	5
	Local Access	Collector (Minor)	Interstate	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	None	0
			Airport Access V_{AA} Subtotal	**15**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	18	5
	Airfield and Aeronautical Property	N/A	25%	5
	Surplus Property	N/A	174 Acres	5
	Airfield Expandability	N/A	95 Feet	1
			Airport Expandability V_{AE} Subtotal	**16**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2019	5
	Airport Management	Part Time or FBO	Part Time	5
	Historical Capital Improvements	≥ $1.0 Million	$2.55 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$1.0 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**32**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 0L7 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Jean Airport	58 JOBS	$2,600,950	$7,638,810
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Jean Airport, also known as Jean Sport Aviation Center, (0L7) is a general aviation (GA) airport located less than 30 miles from Las Vegas, in Clark County. The facility is owned and operated by Clark County Department of Aviation. 0L7 has two paved runways that are 4,600 and 3,700 feet long. Operations are recreational in nature and include skydiving, gliders, aerobatic practice, and other related aviation activities such as flight training. An aerobatic practice box is located two miles west of the field which is used by individual pilots and aerobatic clubs/teams. In addition, a small number of aerial firefighting operations are supported as well as occasional air taxi operations.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$62,362,510
Jean Airport

0L7 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

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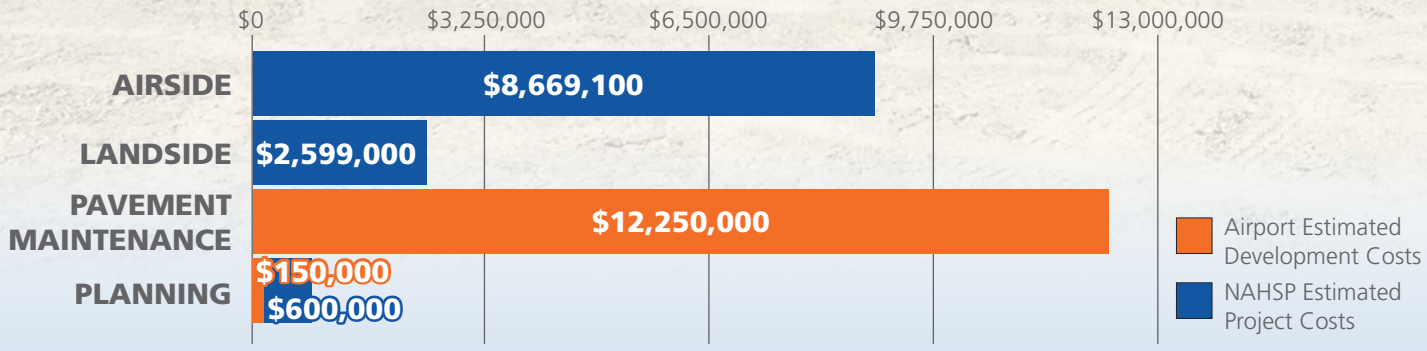


Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

KIDWELL AIRPORT
1L4

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 1L4 is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

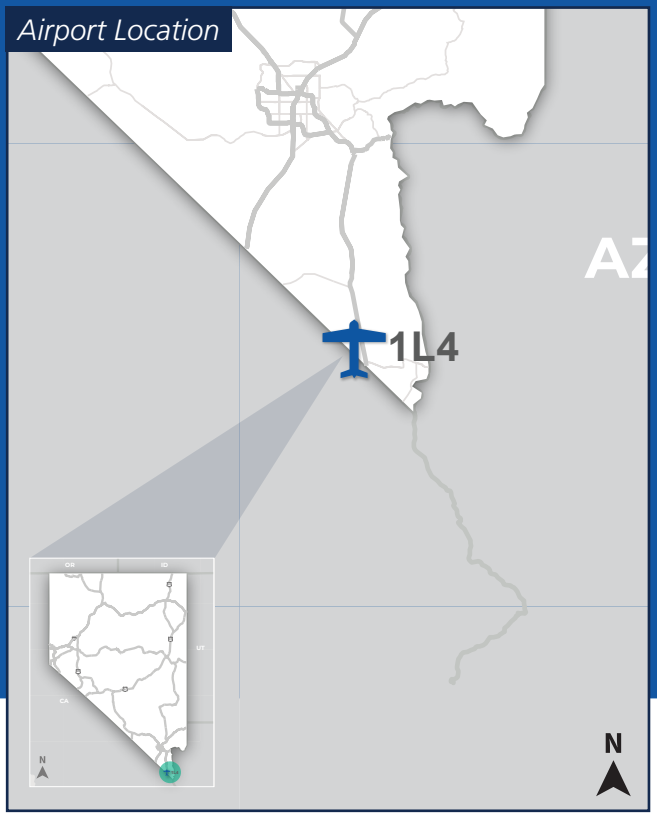
Critical Services:

- Emergency Medical Service (EMS) Operations
- Supports Medical Access
- Provides Flight Training

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

KIDWELL AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	4,140 Feet	Meets
	T-Hangar Ratio	> 0.25	0.88	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	No	Doesn't Meet
	Runway Surface Type/Condition	Non-Paved and Fair	Sand and Fair	Meets
	Runway Lighting	Reflectors, Low-Intensity is Desired	Non-Standard	Doesn't Meet
	Taxiways	Turn Arounds	Partial Parallel to Primary Runway	Meets
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	Public Restrooms	Meets
	Utilities	Electricity and Water Available	Electricity and Water	Meets
	Security/Wildlife Fencing	None	Partial	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
CAL-NEV-ARI

FAA Identifier
1L4

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Courtesy Car and Ride Share	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	1995 ALP	Doesn't Meet

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 1L4 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

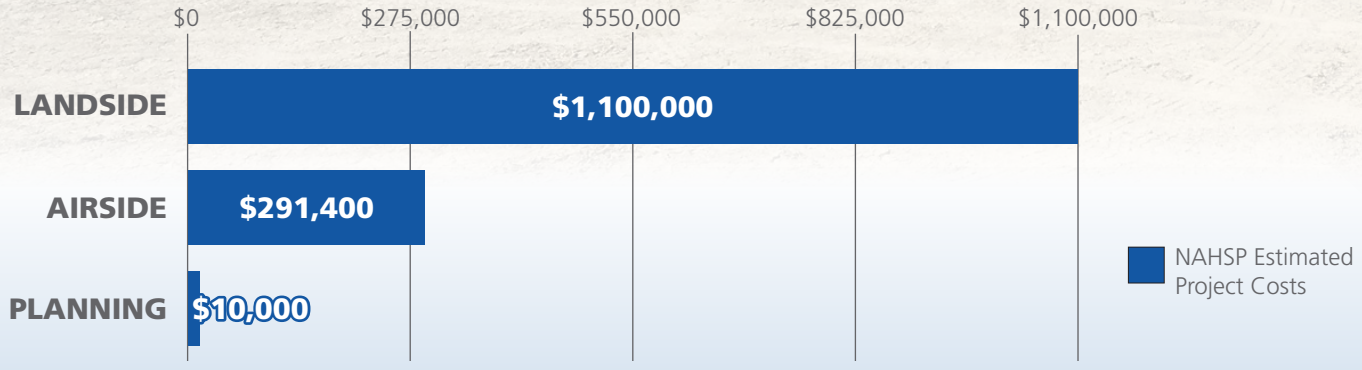
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Kidwell Airport	7 JOBS	$227,480	$692,870
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Kidwell Airport (1L4) is a privately owned, public-use general aviation (GA) airport located within Cal-Nev-Ari, a small town located approximately 25 miles from the California, Nevada, Arizona Tri-State border in Clark County. The airport is surrounded by Bureau of Land Management (BLM) lands and owned by a private owner. The airport was established in the mid-1960s and has a nearly 4,200-foot-long dirt runway. Since the 1960s the town and the airport have experienced significant growth, with the airport being home to around a dozen based aircraft and experiencing thousands of annual operations, including many from the residential air park located directly adjacent to 1L4. The GA operations at 1L4 include helicopter tours, flight training, and recreational flights, and occasional emergency medical service operations. There is also a restaurant/casino located directly adjacent to the taxiway on the south side of the airfield.

1L4 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

KINGSTON AIRPORT
N15

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- N15 is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

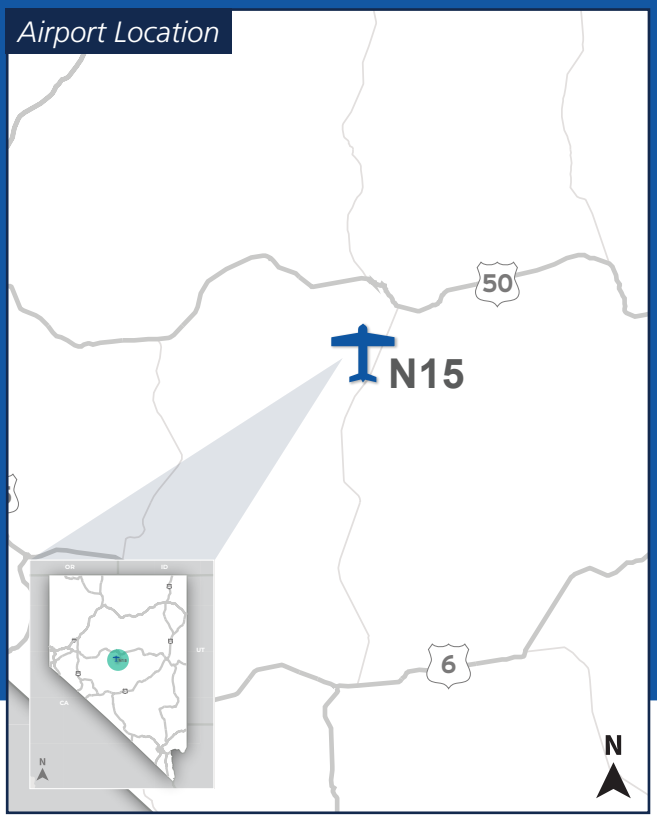
Critical Services:

- Emergency Medical Service (EMS) Operations
- Supports Medical Access
- Aerial Firefighting Operations

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

KINGSTON AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3000 Feet	3,700 Feet	Meets
	T-Hangar Ratio	> 0.25	1.75	Meets
	Fuel Availability	None	None	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Gravel/Dirt and Fair	Meets
	Runway Lighting	None	None	Meets
	Taxiways	Turn Arounds or Hold Pads	None	Doesn't Meet
	Visual Aids	Wind Cone	None	Doesn't Meet
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
KINGSTON

FAA Identifier
N15

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	None	Doesn't Meet
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of N15 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

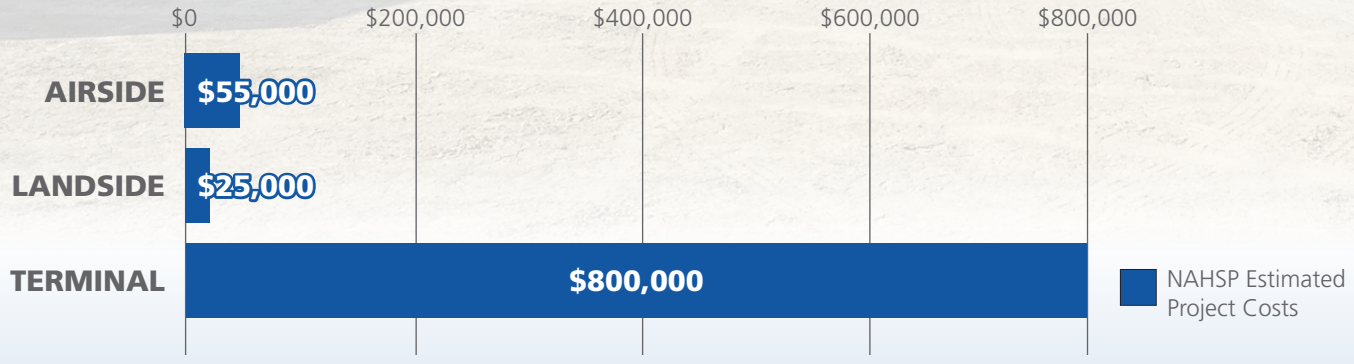
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Kingston Airport	2 JOBS	$175,000	$407,650
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Kingston Airport (N15) is a general aviation (GA) airport located two miles east of Kingston in Lander County, over 140 miles from Carson City. The airport leases land from the Bureau of Land Management (BLM). The facility has two dirt runways both at 3,000 feet in length, along with a single paved helipad. N15 offers access to a variety of activities offered in the nearby town and surrounding region, including fishing, game hunting, and other outdoor activities. In addition to the recreational flying that occurs at N15, the airport also supports occasional air taxi operations, and other critical services such as emergency medical service flights, with a medical clinic and heliport on-site, and aerial firefighting operations.

N15 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

LIDA JUNCTION AIRPORT
0L4

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 0L4 is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

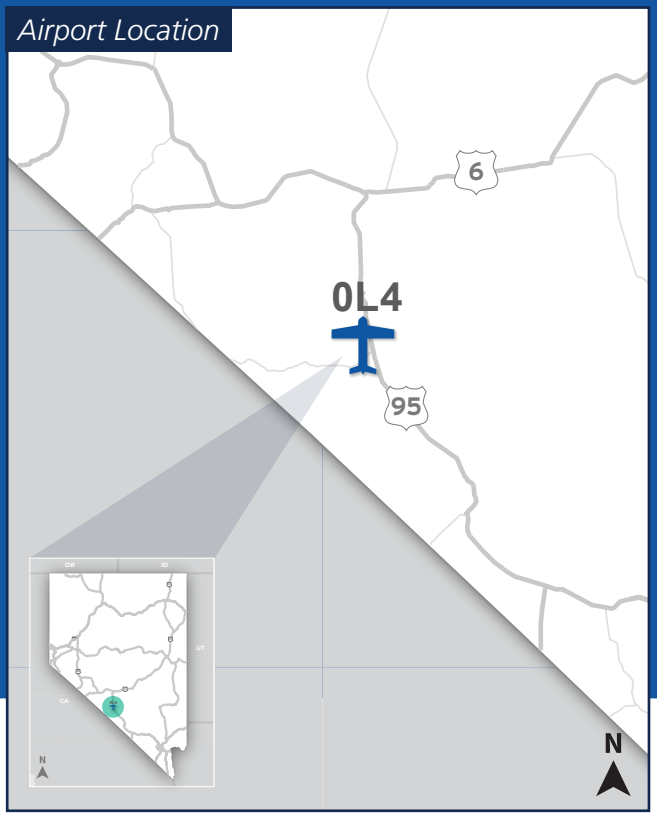
Critical Services:

- Emergency Medical Service (EMS) Operations
- Supports Medical Access
- Supports Military Operations

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

LIDA JUNCTION AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	6,100 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Dirt and Fair	Meets
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	None	Doesn't Meet
	Visual Aids	Wind Cone	None	Doesn't Meet
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
GOLDFIELD

FAA Identifier
0L4

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 0L4 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Lida Junction Airport	< 1 JOB	$3,660	$14,710
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

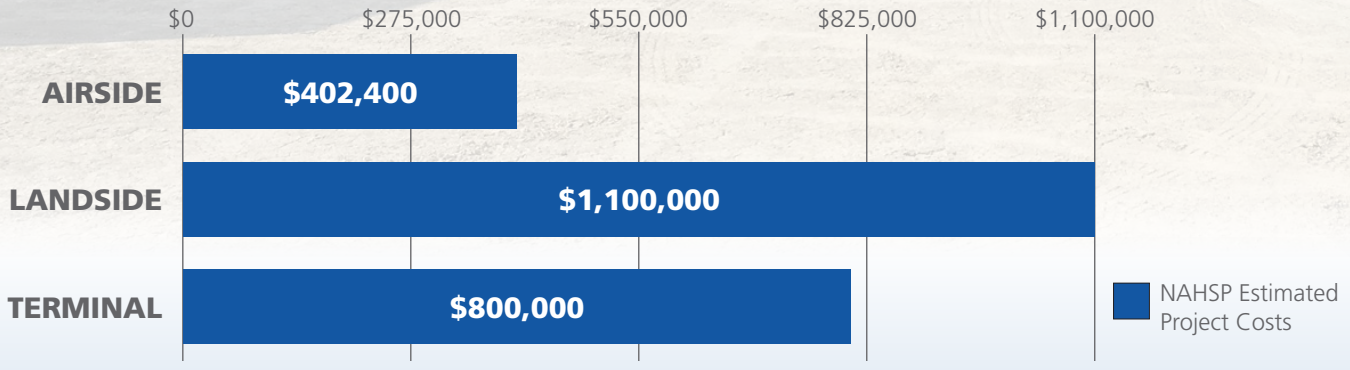
	STATEWIDE JOBS	STATEWIDE LABOR INCOME	STATEWIDE OUTPUT

AIRPORT OVERVIEW

Lida Junction Airport (0L4) is a general aviation (GA) airport located 14 miles south of Goldfield in Esmeralda County on Bureau of Land Management (BLM) property, over 130 miles from Las Vegas. Located at the junction of US Route 95 and Nevada State Route 266, the facility consists of a 6,100-foot-long dirt runway with no other facilities. 0L4 supports less than 100 GA operations annually, including recreational flying and critical emergency medical service operations. Occasionally, 0L4 is used for military training flights and missions as well. Located directly west of Stonewall Mountain, 0L4 provides access to the town of Lida and very remote parts of southwestern Nevada.

0L4 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

LINCOLN COUNTY AIRPORT
1L1

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

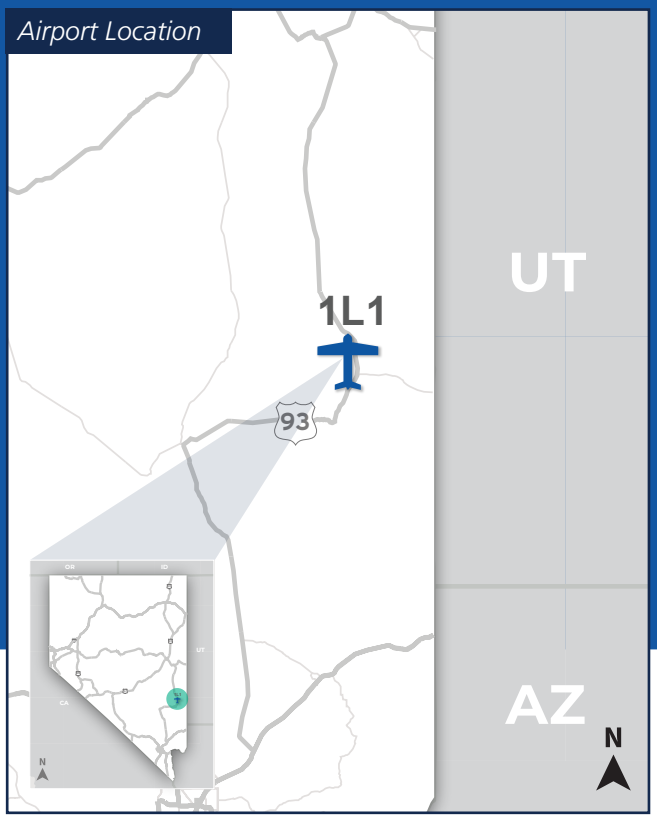
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- 1L1 is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

LINCOLN COUNTY AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Fire - Permanent	1
	Nearest Airport	N/A	69 Miles	5
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 6,100 Feet	4,606 Feet	0
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	1.5	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	100 LL SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**22**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Fair, PCI = 70	3
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Partial Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Wind Cone	4
	Weather Reporting	AWOS or ASOS	None	0
	GA Terminal	Public Restrooms	Public Restroom and Conference Room	5
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer or Septic	5
	Security/Wildlife Fencing	Partial	Partial	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**45**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
PANACA

FAA Identifier
1L1

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	17:1	5
	Airspace Restrictions	N/A	Overhead	1
	Runway Protection Zone	Full Desired	Partial	0
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**7**
Airport Access V_{AA}	Community Access	N/A	2 Miles	5
	Regional Access	N/A	Less than 1 Mile	5
	Local Access	Collector (Minor)	Collector (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car	3
			Airport Access V_{AA} Subtotal	**18**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	95	5
	Airfield and Aeronautical Property	N/A	14%	5
	Surplus Property	N/A	163 Acres	5
	Airfield Expandability	N/A	1,261 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2015	5
	Airport Management	Part Time or FBO	None	0
	Historical Capital Improvements	≥ $1.0 Million	$666,519	3
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$1.63 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement and Operations Subsidy	0
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**15**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 1L1 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Lincoln County Airport	47 JOBS	$2,261,360	$7,689,510
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Lincoln County Airport (1L1) is a general aviation (GA) airport located near the town of Panaca in Lincoln County, over 100 miles from Las Vegas, along Nevada's east border with Utah. The facility has a single paved runway that is 4,600 feet in length, along with a small apron. 1L1 sees a large variety of GA activity, from medical flights and aerial firefighting, to sightseeing of the Southern Nevada landscape and personal aviation travel. The airport recently installed a fueling station for local and transient aircraft. The surrounding areas also bring in individuals for hunting, fishing, and other recreational activities. Additionally, 1L1 is home to a seasonal base for the Bureau of Land Management (BLM) which hosts Single Engine Air Tanker (SEAT) operations which support aerial firefighting.

AIRPORT REPLACEMENT VALUE

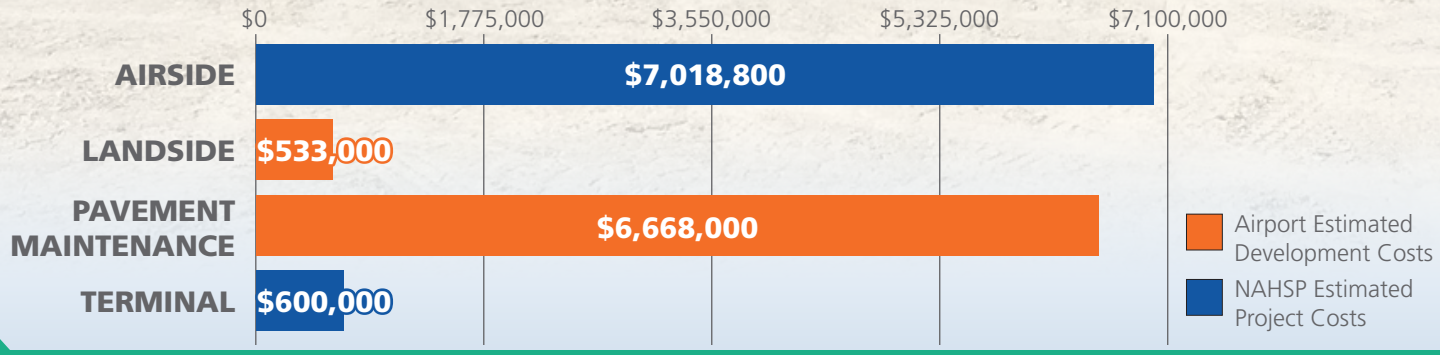
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$6,363,500
Lincoln County Airport

1L1 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

MESQUITE AIRPORT
67L

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- 67L is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

MESQUITE AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, Fire - Temporary, and Skydiving	3
	Nearest Airport	N/A	34 Miles	3
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 4,000 Feet	5,121 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	2	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100LL, Full Service (FS) and SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**27**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Poor, PCI = 100*	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Wind Cone, REILs, and PAPIs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	Public Restrooms	Public Restrooms, Conference Room, and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer or Septic	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**53**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, REILs = Runway End Identifier Lights, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

*Changes to runway surface condition occurred during the course of the project. This change may not be reflected in other NAHSP deliverables.

Associated City
MESQUITE

FAA Identifier
67L

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	21 Miles	3
	Runway Protection Zone	Full Desired	Partial	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**17**
Airport Access V_{AA}	Community Access	N/A	2 Miles	4
	Regional Access	N/A	2.3 Miles	5
	Local Access	Collector (Minor)	Collector (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car, Shuttle, and Ride Share	5
			Airport Access V_{AA} Subtotal	**19**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	17	5
	Airfield and Aeronautical Property	N/A	24%	1
	Surplus Property	N/A	117 Acres	1
	Airfield Expandability	N/A	214 Feet	1
			Airport Expandability V_{AE} Subtotal	**8**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2020	5
	Airport Management	Part Time or FBO	Part Time	5
	Historical Capital Improvements	≥ $1.0 Million	$2.66 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$4.78 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**27**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 67L are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Mesquite Airport	87 JOBS	$4,208,920	$12,172,190
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Mesquite Airport (67L) is a general aviation (GA) airport located two miles north of Mesquite in Clark County. The airport is owned by the City of Mesquite with lands leased from the Bureau of Land Management (BLM). 67L has a paved runway over 5,000 feet long with multiple helipads. There are occasional emergency medical flights and aerial firefighting operations, but most traffic at 67L is recreational. 67L offers quick access to attractions like casinos, golf courses, and various outdoor activities. 67L is also home to a BLM base for Single Engine Air Tanker (SEAT) operations. In 2020, 67L played a critical role in fighting two fires, the Bishop fire and the Comet fire. 67L was selected as the staging area for these fires because it was the nearest airport that could accommodate the aircraft required for fire air support.

AIRPORT REPLACEMENT VALUE

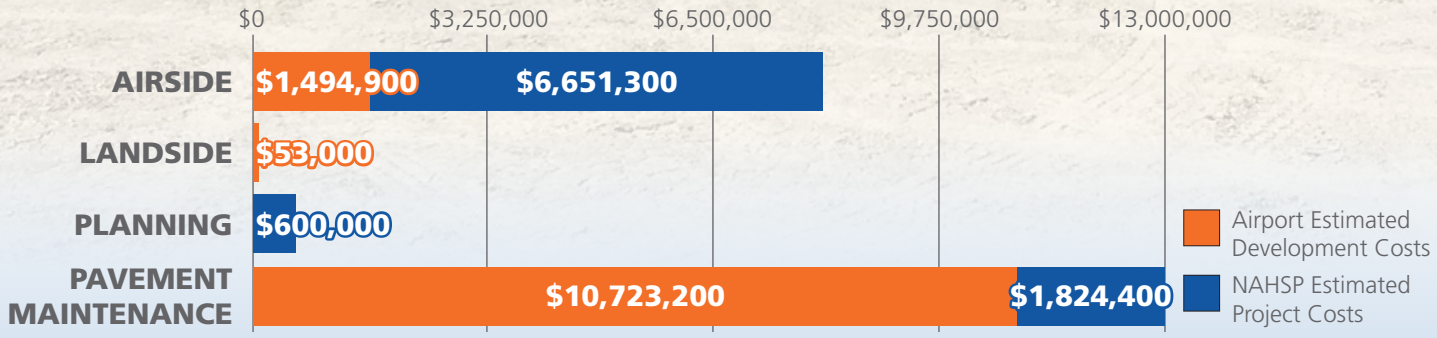
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$26,623,000
Mesquite Airport

67L INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

MINA AIRPORT
3Q0

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 3Q0 is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

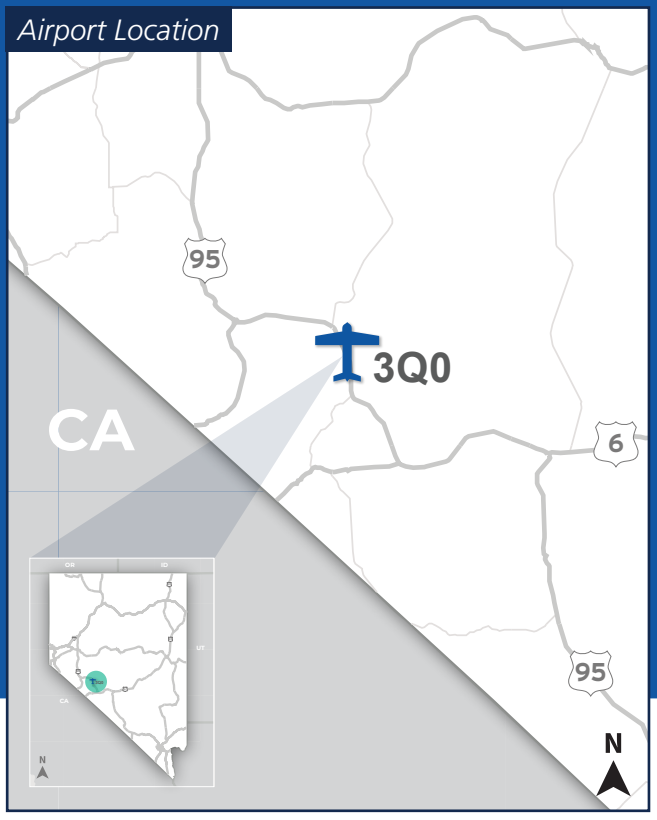
Critical Services:

- Offers Pilot Amenities and Recreational Opportunities
- Provides Courtesy Car

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

MINA AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	4,600 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Dirt and Good	Meets
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	None	Doesn't Meet
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
MINA

FAA Identifier
3Q0

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 3Q0 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

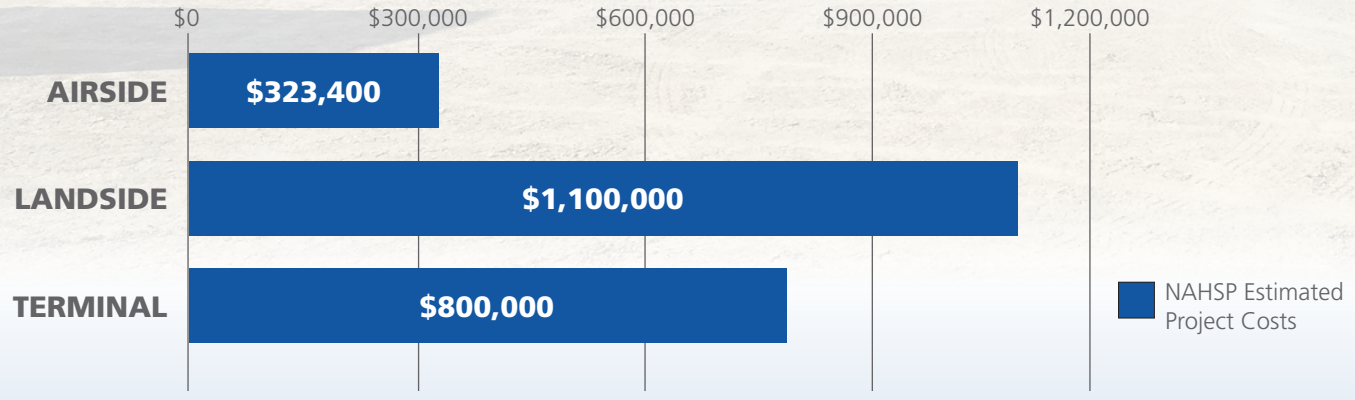
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Mina Airport	2 JOBS	$37,960	$127,340
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Mina Airport (3Q0) is a general aviation (GA) airport located 32 miles southeast of Hawthorne in Mineral County, over 100 miles from Carson City. The airport leases land from the Bureau of Land Management (BLM). 3Q0 consists of a single dirt runway at just over 5,000 feet in length and has a paved helipad. 3Q0 services the town of Mina, which was founded as a railroad town, and currently has a population of about 150. The traffic seen by Mina Airport is a mix of GA operations, with most flights being recreational in nature. Additionally, there are business parks to the north and west of the airport, which can be further developed in the future.

3Q0 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

MINDEN-TAHOE AIRPORT
MEV

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- MEV is classified by the NAHSP as a Regional Airport and in the NPIAS as a Regional Airport

Regional: *Supports regional economices connecting communities to statewide and interstate markets.*

Airport Aerial

Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

MINDEN-TAHOE AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, FireFighting, Helicopter Tourism, Skydiving, and Gliders	5
	Nearest Airport	N/A	14 Miles	2
	Longest Runway	Accommodate 100% of Small Aircraft Fleet = 6,170 Feet	7,399 Feet	5
	Based Aircraft	N/A	7%	5
	T-Hangar Ratio (THR)	0.60 - 0.70	0.61	5
	Fuel Availability	Jet A and 100LL, Full or Self Service (FS/SS) with Credit Card Reader	Jet A (Call-out) and 100 LL FS and SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	Major	5
	Instrument Approach	Non-Precision with Vertical Guidance	Visual	1
			Regional Significance V_{RS} Subtotal	**38**
Airport Facilities V_{AF}	Runway ARC Category	B-II	C-III	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Fair, PCI = 69	3
	Runway Lighting	Medium-Intensity	High-Intensity	5
	Taxiways	Full Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon, Wind Cone, REILs, and PAPIs or VASIs	Rotating Beacon, Lighted Windcone, and VASI	4
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	GA Terminal with Public Restrooms and Pilots Lounge	GA Terminal with Public Restrooms and Pilots Lounge	5
	Utilities	Electricity, Water, and Sewer or Septic	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Full	Full	5
	Communications Connectivity	Public Phone, Cellular (Data/4G), and Wifi	Cellular (Data/4G) and Wifi	3
			Airport Facilities V_{AF} Subtotal	**50**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, VASIs = Visual Approach Slope Indicator, REILs = Runway End Identifier Lights, ATCT = Air Traffic Control Tower, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan

Associated City
MINDEN

FAA Identifier
MEV

Classification
REGIONAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	18:1 - 20:1	50:1	5
	Airspace Restrictions	N/A	41 Miles	3
	Runway Protection Zone	Full	Partial	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	4 Miles	4
	Regional Access	N/A	1.3 Miles	5
	Local Access	Collector (Major)	Interstate	5
	Ground Transportation Services	Rental or Courtesy Car, Bus, and Taxi or Ride Share	Rental Car, Courtesy Car, Bus, and Taxi or Ride Share	5
			Airport Access V_{AA} Subtotal	**19**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	6	5
	Airfield and Aeronautical Property	N/A	7%	5
	Surplus Property	N/A	923 Acres	5
	Airfield Expandability	N/A	200 Feet	1
			Airport Expandability V_{AE} Subtotal	**16**
Community Commitment V_{CC}	Last ALP Update	< 5 Years	2016	5
	Airport Management	Full Time	Full Time	5
	Historical Capital Improvements	≥ $1.0 Million	$11.86 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$5.86 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Education Program and Website	4
			Community Commitment V_{CC} Subtotal	**34**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of MEV are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Minden-Tahoe Airport	376 JOBS	$19,493,520	$56,415,480
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION
	STATEWIDE JOBS	STATEWIDE LABOR INCOME	STATEWIDE OUTPUT

AIRPORT OVERVIEW

Minden-Tahoe Airport (MEV) is a general aviation (GA) airport located in and owned by Douglas County, approximately 10 miles south of Carson City and 12 miles east of Lake Tahoe. The facility boasts two paved runways that are 5,300 and 7,400 feet in length and has an unpaved runway. The facility is home to many aviation and recreational businesses such as skydiving, helicopter, flight instruction, and other light sport flying. With the facility's ample aircraft parking and close proximity to South Lake Tahoe, it is a frequent destination for vacationers coming to ski, backpack, camp, and many other outdoor activities. The facility also supports critical services such as the occasional emergency medical and aerial firefighting operations. MEV is home to over two dozen business tenants including aircraft maintenance, aircraft fueling, flight schools, avionics, aircraft rentals, aircraft charter, and aviation supplies.

AIRPORT REPLACEMENT VALUE

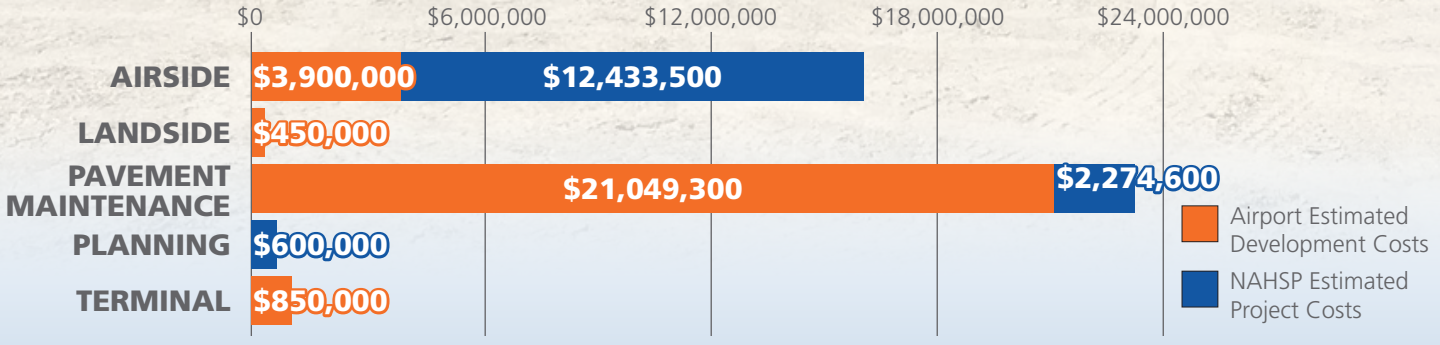
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$117,508,000
Minden-Tahoe Airport

MEV INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

NORTH LAS VEGAS AIRPORT
VGT

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

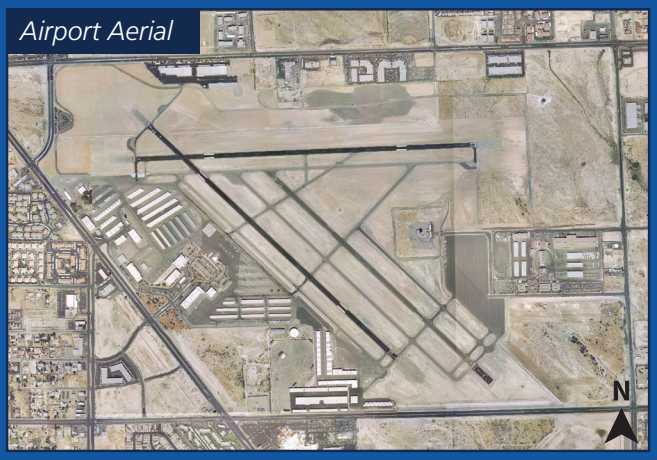
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

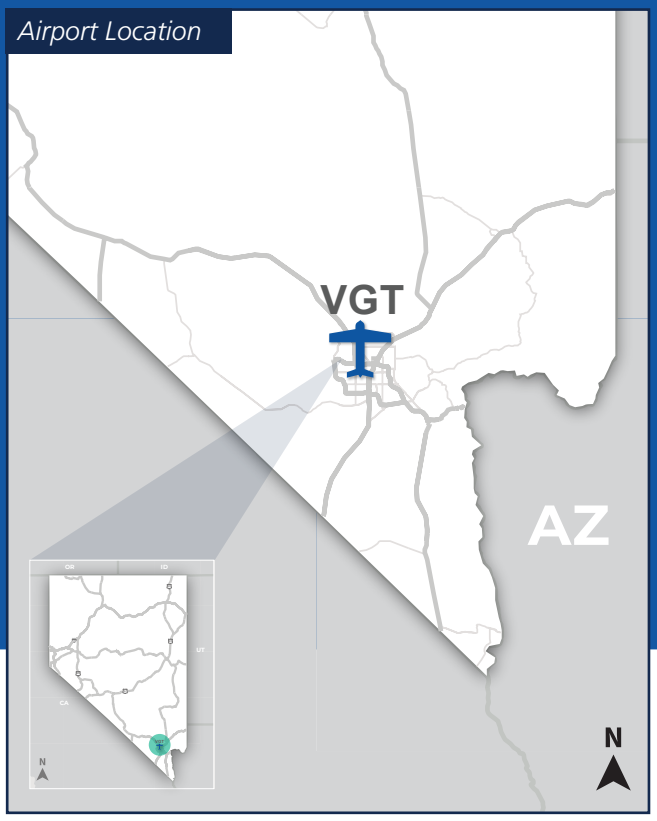
- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- VGT is classified by the NAHSP as a National Airport and in the NPIAS as a National Airport

National: *Supports national and state system by providing communities with access to national and international markets in multiple states and throughout the U.S.*

Airport Aerial



Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

NORTH LAS VEGAS AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Fire -Temp, Helicopter Tourisms, and Gliders	3
	Nearest Airport	N/A	9 Miles	1
	Longest Runway	Future Runway Length From ALP/MP = 5,005 Feet	5,005 Feet	5
	Based Aircraft	N/A	23%	5
	T-Hangar Ratio (THR)	0.70 - 0.80	0.73	5
	Fuel Availability	Jet A and 100LL Full Service (FS) and Self Service (SS) with Credit Card Reader	Jet A and 100 LL FS and SS with Credit Card Reader	5
	Aircraft Maintenance	Major	Major	5
	Instrument Approach	Precision	Precision	5
			Regional Significance V_{RS} Subtotal	**39**
Airport Facilities V_{AF}	Runway ARC Category	C-II	B-II	0
	FAA Design Standards	Meet FAA Design Standards	No, Solution Proposed	3
	Runway Surface Type/Condition	Paved and Excellent, PCI >86	Asphalt and Good, PCI = 85	3
	Runway Lighting	Medium-Intensity, High-Intensity as Desired	Medium-Intensity	3
	Taxiways	Full Parallel to All Runways	Full Parallel to All Runways	5
	Visual Aids	Rotating Beacon, Lighted Wind Cone, PAPIs or VASIs, and ALS or REILs	Rotating Beacon, Lighted Wind Cone, PAPIs, and REILs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	GA Terminal with Public Restrooms, Conference Rooms, and Pilots Lounge	GA Terminal with Public Restrooms, Conference Rooms, and Pilot Lounge	5
	Utilities	Electricity, Water, Sewer or Septic	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Full	Full	5
	Communications Connectivity	Public Phone, Cellular (Data/4G), and Wifi	Public Phone, Cellular (Data/4G), and Wifi	5
			Airport Facilities V_{AF} Subtotal	**44**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, VASIs = Visual Approach Slope Indicator, ALS = Approach Lighting System, REILs = Runway End Identifier Lights, ATCT = Air Traffic Control Tower, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan

Associated City
LAS VEGAS

FAA Identifier
VGT

Classification
PRIMARY

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	>20:1	24:1	5
	Airspace Restrictions	N/A	2.2 Miles	1
	Runway Protection Zone	Full	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**17**
Airport Access V_{AA}	Community Access	N/A	3 Miles	4
	Local Access	Arterial (Minor)	Arterial (Major)	5
	Regional Access	N/A	4.2 Miles	5
	Ground Transportation Services	Rental or Courtesy Car, Bus, and Taxi or Ride Share	Rental Car, Courtesy Car, Bus, and Taxi/Rideshare	5
			Airport Access V_{AA} Subtotal	**19**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	2	3
	Airfield and Aeronautical Property	N/A	25%	5
	Surplus Property	N/A	690 Acres	5
	Airfield Expandability	N/A	742 Feet	3
			Airport Expandability V_{AE} Subtotal	**16**
Community Commitment V_{CC}	Last ALP Update	<5 Years	2020	5
	Airport Management	Full Time	Full Time	5
	Historical Capital Improvements	≥ $5.0 Million	$1.41 Million	1
	Airport Capital Improvement Program (ACIP)	≥ $5.0 Million	$27.06 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website and Positive News	3
			Community Commitment V_{CC} Subtotal	**29**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of VGT are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
North Las Vegas Airport	919 JOBS	$39,183,400	$218,032,790
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

North Las Vegas Airport (VGT) is a general aviation (GA) airport located in North Las Vegas, six miles northwest of Las Vegas. The facility is owned and operated by the Clark County Department of Aviation. VGT has three runways, two over 5,000 feet long, and multiple helicopter parking areas. VGT is known as the major flight-training hub in Southern Nevada, offering Private Pilot through Airline Transport Pilot certification. The Instrument Landing System (ILS) supports instrument flight training and VGT is the only GA airport in Southern Nevada with a precision approach-training environment. Other operations at VGT include recreational flying, aircraft repair, charter operators, and robust helicopter tourism. VGT supports aerial firefighting operations and emergency medical flight services. In recent years, the Bureau of Land Management and Nevada Army National Guard have utilized VGT to support response to national emergencies.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$679,044,743
North Las Vegas Airport

VGT INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

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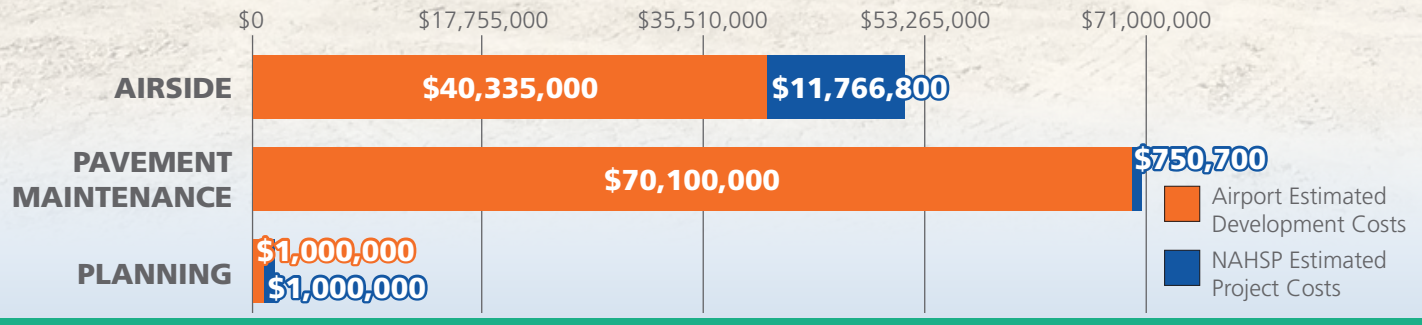


Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

OWYHEE AIRPORT
10U

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

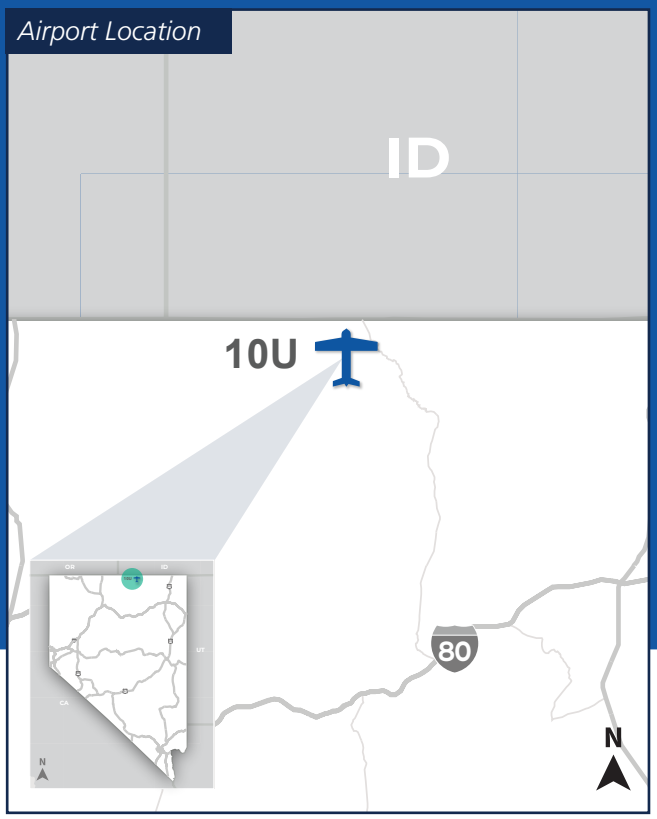
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- 10U is classified by the NAHSP as a Access Airport and in the NPIAS as a Basic Airport

Access: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

OWYHEE AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Skydiving	1
	Nearest Airport	N/A	77 Miles	5
	Longest Runway	Maintain Existing	4,700 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	> 0.25	N/A - No Based Aircraft	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	None	0
	Aircraft Maintenance	None	None	5
	Instrument Approach	Visual	Visual	5
			Regional Significance V_{RS} Subtotal	**32**
Airport Facilities V_{AF}	Runway ARC Category	B-I	B-I	5
	FAA Design Standards	Meet FAA Design Standard	Yes	5
	Runway Surface Type/Condition	Non-Paved and Fair, PCI >56	Asphalt and Excellent, PCI = 95	5
	Runway Lighting	Reflectors, Low-Intensity Desired	Medium-Intensity	5
	Taxiways	Turn Arounds	Turn Arounds	5
	Visual Aids	Wind Cone	Rotating Beacon, Lighted Wind Cone, REILs, and PAPIs	5
	Weather Reporting	Automated Unicom	AWOS	5
	GA Terminal	Public Restrooms Desired	None	0
	Utilities	Electricity and Water Available	Electricity	3
	Security/Wildlife Fencing	None	Full	5
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**48**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, REILs = Runway End Identifier Lights, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan

Associated City
OWYHEE

FAA Identifier
10U

Classification
ACCESS

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	< 15:1	50:1	5
	Airspace Restrictions	N/A	Overhead	1
	Runway Protection Zone	Full Desired	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	4 Miles	4
	Regional Access	N/A	6 Miles	4
	Local Access	Local	Collector (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	None	0
			Airport Access V_{AA} Subtotal	**13**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	135	5
	Airfield and Aeronautical Property	N/A	22%	5
	Surplus Property	N/A	105 Acres	4
	Airfield Expandability	N/A	408 Feet	2
			Airport Expandability V_{AE} Subtotal	**16**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2015	5
	Airport Management	Staff	None	0
	Historical Capital Improvements	≥ $500,000	$1.33 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $500,000	$1.25 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement and Operations Subsidy	Capital Improvement and Operations Subsidy	5
	Goodwill	N/A	Positive News	1
			Community Commitment V_{CC} Subtotal	**21**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 10U are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Owyhee Airport	15 JOBS	$902,570	$2,531,380
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Owyhee Airport (10U) is a general aviation (GA) airport located near the town of Owyhee in Elko County, along Nevada's north border with Idaho, over 75 miles from the city of Elko. 10U is the only airport within the Duck Valley Indian Reservation, providing key access for the Shoshone-Paiute Tribes community. The facility consists of a single paved runway that is 4,700 feet in length along with a taxiway and small apron with multiple helipads. Although there are no aircraft based at 10U, there are approximately 1,500 operations annually. These operations include GA recreational and business flights, emergency medical flights, and aerial firefighting operations.

AIRPORT REPLACEMENT VALUE

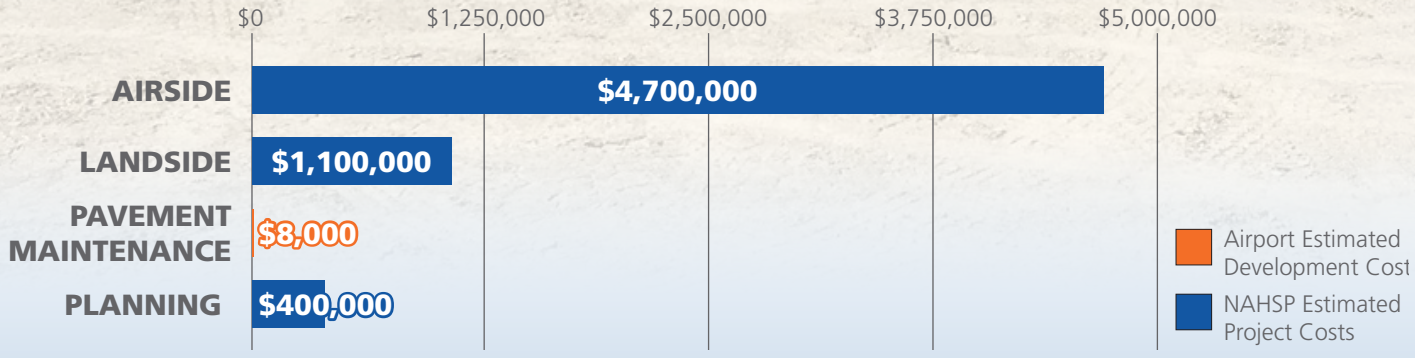
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$5,652,000
Owyhee Airport

10U INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

PERKINS FIELD
U08

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

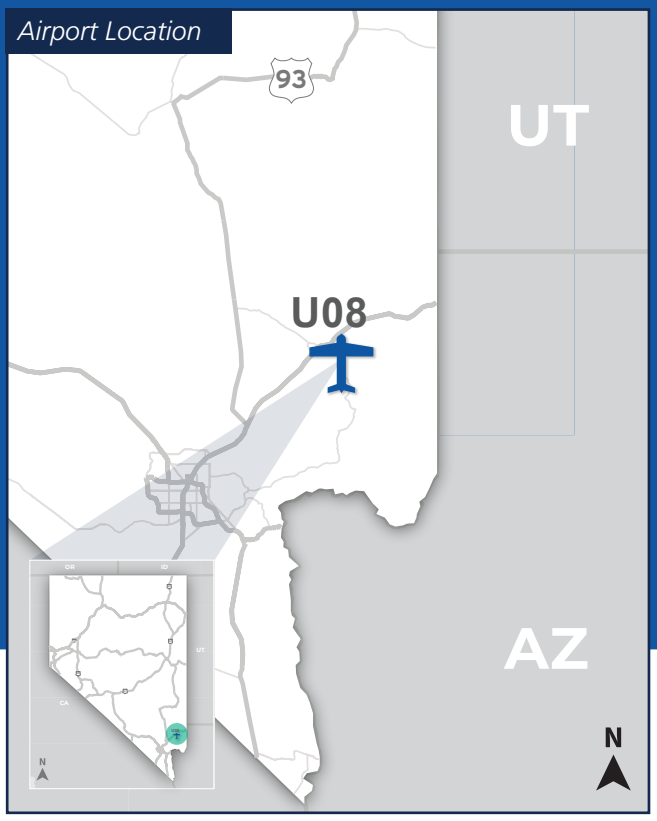
NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- U08 is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

PERKINS FIELD

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Skydiving	1
	Nearest Airport	N/A	28 Miles	3
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 3,750 Feet	4,811 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	11	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	100 LL SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**25**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	No	0
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Poor, PCI = 46	3
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon and Wind Cone	5
	Weather Reporting	AWOS or ASOS	None	0
	GA Terminal	Public Restrooms	Public Restrooms and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**41**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
OVERTON

FAA Identifier
U08

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	45:1	5
	Airspace Restrictions	N/A	13.5 Miles	3
	Runway Protection Zone	Full Desired	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**14**
Airport Access V_{AA}	Community Access	N/A	2 Miles	5
	Regional Access	N/A	11 Miles	3
	Local Access	Collector (Minor)	Collector (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	None	0
			Airport Access V_{AA} Subtotal	**13**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	250	5
	Airfield and Aeronautical Property	N/A	9%	5
	Surplus Property	N/A	226 Acres	5
	Airfield Expandability	N/A	350 Feet	2
			Airport Expandability V_{AE} Subtotal	**17**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	Unknown	0
	Airport Management	Part Time or FBO	Part Time	5
	Historical Capital Improvements	≥ $1.0 Million	$0.00	0
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$7.7 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**17**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of U08 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Perkins Field	24 JOBS	$884,460	$2,541,720
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

	STATEWIDE JOBS	STATEWIDE LABOR INCOME	STATEWIDE OUTPUT

AIRPORT OVERVIEW

Perkins Field (U08) is a general aviation (GA) airport located approximately 60 miles northeast of Las Vegas, in Clark County. The facility is owned and operated by the Clark County Department of Aviation. The facility consists of a single paved runway that is 4,800 feet in length, along with a taxiway and apron. Airport operations include skydiving, flight training, emergency medical operations, and other recreational aviation activities. U08 is also the closest public-use airport to Valley of Fire State Park, a popular tourist destination.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$32,572,482
Perkins Field

U08 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

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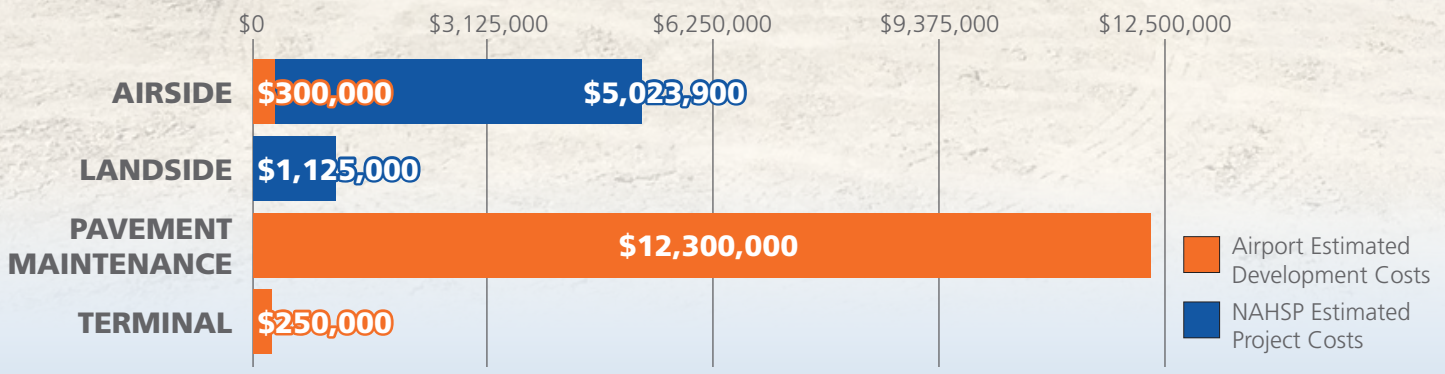

Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

RENO/STEAD AIRPORT
RTS

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NAHSP Process:

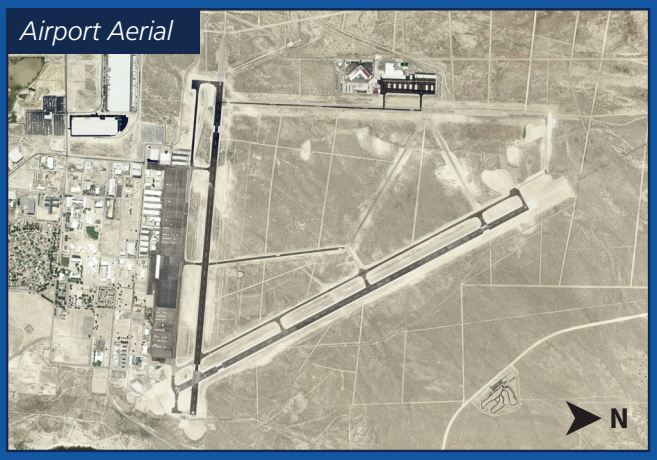
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

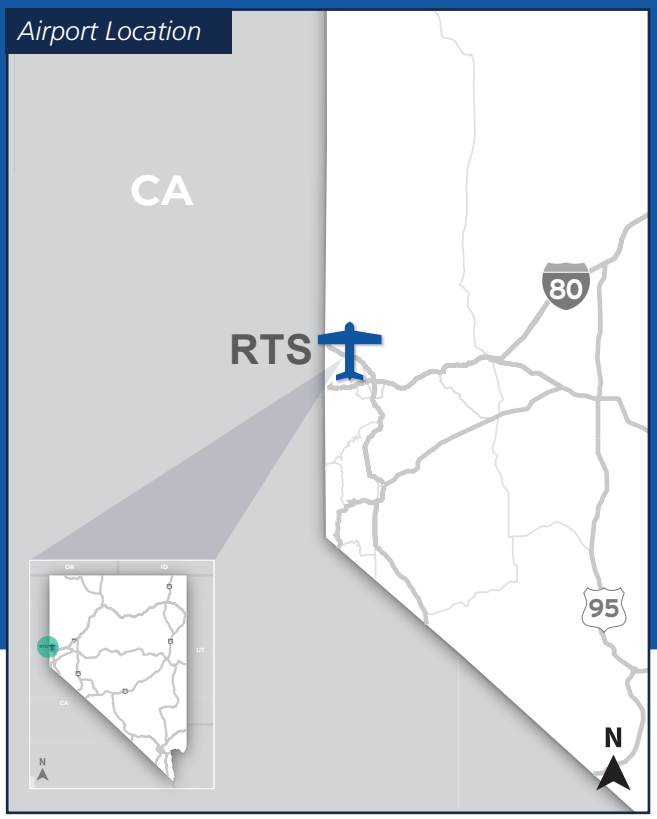
- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- RTS is classified by the NAHSP as a Regional Airport and in the NPIAS as a Regional Airport

Regional: *Supports regional economices connecting communities to statewide and interstate markets.*

Airport Aerial



Airport Location



AIRPORT REGIONAL VALUE

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RENO/STEAD AIRPORT

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Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Firefighting, Special Events, and Gliders	3
	Nearest Airport	N/A	13 Miles	2
	Longest Runway	Accommodate 100% of Small Aircraft Fleet = 6,400 Feet	9,000 Feet	5
	Based Aircraft	N/A	7%	5
	T-Hangar Ratio (THR)	0.50 - 0.60	0.74	5
	Fuel Availability	Jet A and 100LL, Full or Self Service (FS/SS) with Credit Card Reader	Jet A (FBO) and 100LL, FBO and SS	5
	Aircraft Maintenance	Minor	Major	5
	Instrument Approach	Non-Precision with Vertical Guidance	Precision	5
			Regional Significance V_{RS} Subtotal	**40**
Airport Facilities V_{AF}	Runway ARC Category	B-II	D-IV	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Good	5
	Runway Lighting	Medium-Intensity	High-Intensity	5
	Taxiways	Full Parallel to Primary Runway	Full Parallel to All Runways	5
	Visual Aids	Rotating Beacon, Wind Cone, REILs, and PAPIs or VASIs	Rotating Beacon, Lighted Wind Cone, REILs, and PAPIs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	GA Terminal with Public Restrooms and Pilots Lounge	GA Terminal, Public Restrooms, Conference Room, and Pilot Lounge	5
	Utilities	Electricity, Water, and Sewer or Septic	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Full	Full	5
	Communications Connectivity	Public Phone, Cellular (Data/4G), and Wifi	Cellular (Data/4G) and Wifi	3
			Airport Facilities V_{AF} Subtotal	**53**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, VASIs = Visual Approach Slope Indicator, REILs = Runway End Identifier Lights, ATCT = Air Traffic Control Tower, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan

Associated City
RENO

FAA Identifier
RTS

Classification
REGIONAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	18:1 - 20:1	50:1	5
	Airspace Restrictions	N/A	38 Miles	3
	Runway Protection Zone	Full	Partial	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**12**
Airport Access V_{AA}	Community Access	N/A	10 Miles	2
	Regional Access	N/A	6 Miles	4
	Local Access	Collector (Major)	Arterial (Minor)	5
	Ground Transportation Services	Rental or Courtesy Car, Bus, and Taxi or Ride Share	Rental Car, Bus, Taxi, and RideShare	5
			Airport Access V_{AA} Subtotal	**16**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	30	5
	Airfield and Aeronautical Property	N/A	25%	5
	Surplus Property	N/A	3,878 Acres	5
	Airfield Expandability	N/A	1,012 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 5 Years	2018	5
	Airport Management	Full Time	Full Time	5
	Historical Capital Improvements	≥ $1.0 Million	$30.13 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$55.11 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement and Operating Subsidy	0
	Goodwill	N/A	Education Program, Advertising, and Website	4
			Community Commitment V_{CC} Subtotal	**29**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of RTS are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Reno/Stead Airport	1,409 JOBS	$70,261,580	$191,465,910
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Reno-Stead Airport (RTS) is a general aviation (GA) airport located approximately 10 miles north of Reno in Washoe County. RTS has two runways between 7,600 and 9,000 feet long, approximately 200 based aircraft, 5,000+ acres of land, and 40,000+ annual operations. RTS is home to the National Championship Air Races which bring in over 115,000 aviators and spectators annually. RTS is an FAA Designated UAS test range with unique testing conditions for UAS development. Additional operations at RTS include flight training, charter business, search and rescue, and emergency medical services. RTS has a Bureau of Land Management (BLM) base that operates Single Engine Air Tanker (SEAT) operations for aerial firefighting. BLM also fly a variety of aircraft out of RTS, including C130, CRJ, and MD80/90 fixed wing aircraft, as well as a variety of helicopters. There are also military operations with the on-site Nevada Army National Guard facility. Tenants at RTS include multiple on-site businesses, including aircraft supplies and a defense contractor.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$589,775,000
Reno/Stead Airport

RTS INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.

Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

RENO/TAHOE INTERNATIONAL AIRPORT
RNO

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- RNO is classified by the NAHSP as a Primary Airport and in the NPIAS as a Primary Airport

Primary: *Publicly owned commercial service airports that have more than 10,000 passenger boarding's or enplanements each calendar year and receive scheduled passenger service.*

Airport Aerial

Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

RENO/TAHOE INTERNATIONAL AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Law Enforcement, Special Events, EMS, and Aerial FireFighting	4
	Nearest Airport	N/A	13 Miles	2
	Longest Runway	Future Runway Length From ALP/MP= 9,000 Feet	9,000 Feet	5
	Based Aircraft	N/A	5%	4
	T-Hangar Ratio (THR)	> 0.90	Adequate for a Commercial Service Airport	5
	Fuel Availability	Jet A and 100LL Full Service (FS) and Self Service (SS) with Credit Card Reader	Jet A and 100 LL, Full Service (FS)	3
	Aircraft Maintenance	Major	Major	5
	Instrument Approach	Precision	Precision	5
			Regional Significance V_{RS} Subtotal	**38**
Airport Facilities V_{AF}	Runway ARC Category	C-III/C-II	D-IV	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Excellent, PCI >86	Concrete and Good, PCI > 71	3
	Runway Lighting	Medium-Intensity, High-Intensity is Desired	High-Intensity	5
	Taxiways	Full Parallel to All Runways	Full Parallel to All Runways	5
	Visual Aids	Rotating Beacon, Lighted Wind Cone, PAPIs or VASIs, and ALS or REILs	Rotating Beacon, Lighted Wind Cone, PAPIs, and ALS	5
	Weather Reporting	ATCT and AWOS or ASOS	ATCT and ASOS	5
	GA Terminal	Terminal with Public Restrooms, Conference Rooms, and Pilots Lounge	Terminal, Public Restrooms, Conference Room, and Pilot Lounge	5
	Utilities	Electricity, Water, Sewer or Septic	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Full	Full	5
	Communications Connectivity	Public Phone, Cellular (Data/4G), and Wifi	Public Phone, Cellular (Data/4G), and Wifi	5
			Airport Facilities V_{AF} Subtotal	**53**

Notes: EMS = Emergency Medical Services, ALP = Airport Layout Plan, MP = Master Plan, FAA = Federal Aviation Administration, ARC = Airport Reference Code, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, VASIs = Visual Approach Slope Indicator, ALS = Approach Lighting System, REILs = Runway End Identifier Lights, ATCT = Air Traffic Control Tower, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation

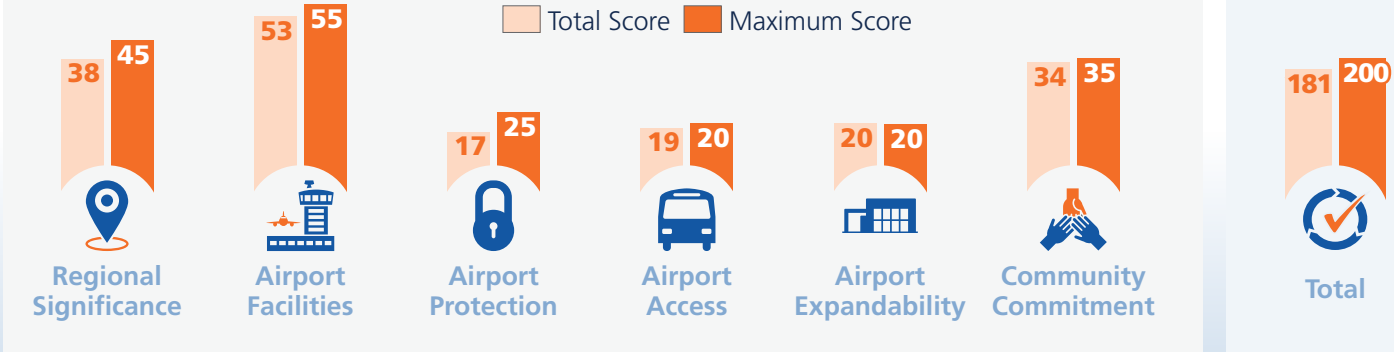
Associated City
RENO

FAA Identifier
RNO

Classification
PRIMARY

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	20:1	50:1	5
	Airspace Restrictions	N/A	40 Miles	3
	Runway Protection Zone	Full	Partial, Plan to Acquire Full Control	3
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**17**
Airport Access V_{AA}	Community Access	≥ 2 Miles but < 5 Miles	3 Miles	4
	Local Access	Arterial (Major)	Interstate	5
	Regional Access	< 5 Miles	1.3 Miles	5
	Ground Transportation Services	Courtesy Car, Bus, Taxi or Ride Share , and Rental Car, Train Desired	Courtesy Car, Bus, Shuttle, RideShare/Taxi, and Rental Car	5
			Airport Access V_{AA} Subtotal	**19**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	12	5
	Airfield and Aeronautical Property	N/A	12%	5
	Surplus Property	N/A	1,279 Acres	5
	Airfield Expandability	N/A	1,026 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 3 Years	2018	5
	Airport Management	Full Time	Full Time	5
	Historical Capital Improvements	≥ $ 20 Million	$63.87 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $ 20 Million	$361.0 million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Education Program and Website	4
			Community Commitment V_{CC} Subtotal	**34**

AIRPORT REGIONAL VALUE SUMMARY



AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of RNO are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

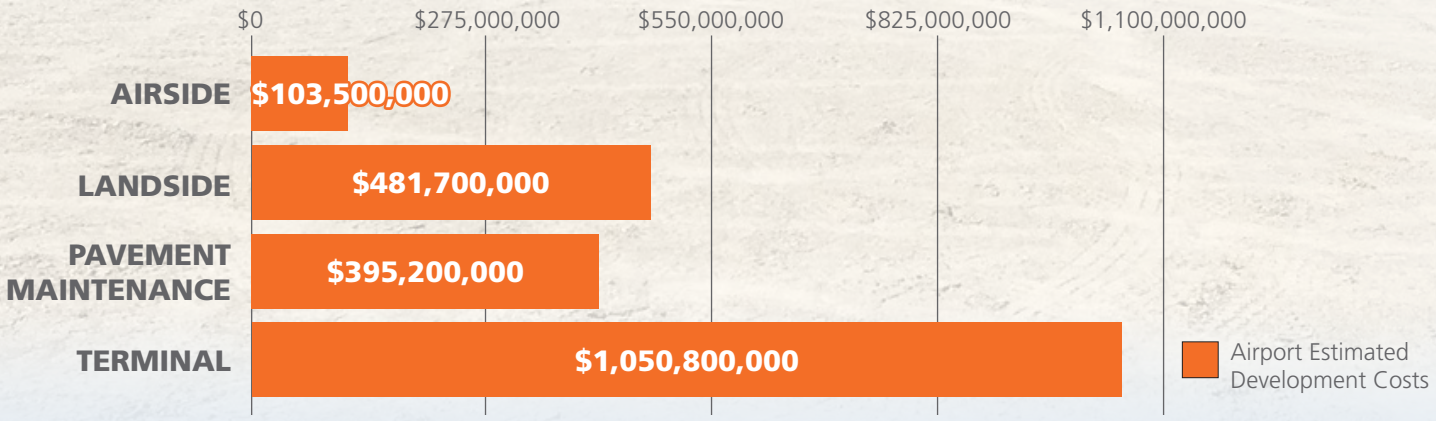
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Reno/Tahoe International Airport	33,823 JOBS	$1,414,626,230	$4,258,311,830
Statewide	STATEWIDE JOBS 285,522 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Reno-Tahoe International Airport (RNO) is located approximately four miles from the central business district of Reno in Washoe County. RNO has three runways all over 6,000 feet with the longest at 11,000 feet, more than 160 based aircraft, over 1,450 acres of land, and over 100,000 annual operations. RNO serves as the region's hub for commercial and air taxi activity. Commercial flights account for just under 50 percent of RNO's aircraft operations with 11 airlines offering more than 130 daily flights to 32 domestic and international non-stop destinations. In addition to the approximately 4.2 million passengers per year, RNO accommodates general aviation (GA), military, and air cargo operations with GA operations accounting for over 40 percent of the annual operations. GA operations at RNO include flight school activities, emergency medical services, firefighting operations, aircraft repair and maintenance, and recreational and business flights. Additionally, the 152nd Airlift Wing and the 152nd Intelligence Squadron operate out of the Nevada Air National Guard RNO facility.

RNO INVESTMENT NEEDS

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

ROSASCHI AIR PARK
N59

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- N59 is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

Critical Services:

- Offers Recreational Opportunities
- Services Agricultural Operators

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial

Airport Location

FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

ROSASCHI AIR PARK AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3000 Feet	4800 Feet	Meets
	T-Hangar Ratio	> 0.25	0.25	Meets
	Fuel Availability	None	None	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-paved and Fair, PCI > 56	Asphalt and Poor	Doesn't Meet
	Runway Lighting	None	None	Meets
	Taxiways	Turn Arounds or Hold Pads	None	Doesn't Meet
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
SMITH

FAA Identifier
N59

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of N59 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

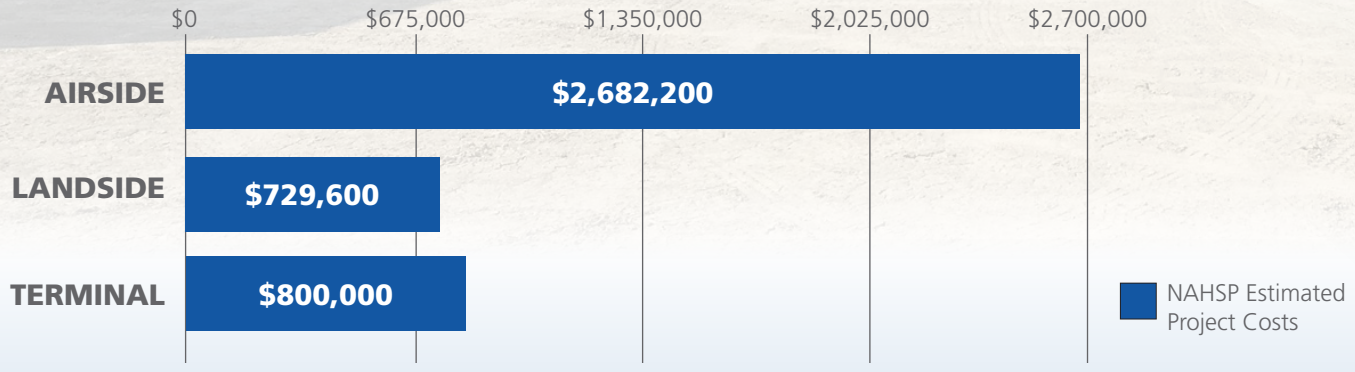
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Rosaschi Air Park	< 1 JOB	$3,320	$13,070
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Rosaschi Air Park (N59) is a general aviation (GA) airport located near Smith Valley in Lyon County, approximately 30 miles southeast of Carson City. The airport leases land from the Bureau of Land Management (BLM). N59 consists of a paved runway at 4,800 feet as well as a dirt runway at 3,700 feet in length. There are four aircraft based at N59 and the airport experiences approximately 1,600 operations annually. The large majority of operations at N59 are transient GA operations, including crop dusting, and recreational flights. N59 is also the only public-use airport located within Smith Valley. Additionally, there is a business park located to the southwest of the airport with potential for development and access to Highway 395.

N59 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

SAMSARG/TIGER FIELD
N58

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- N58 is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

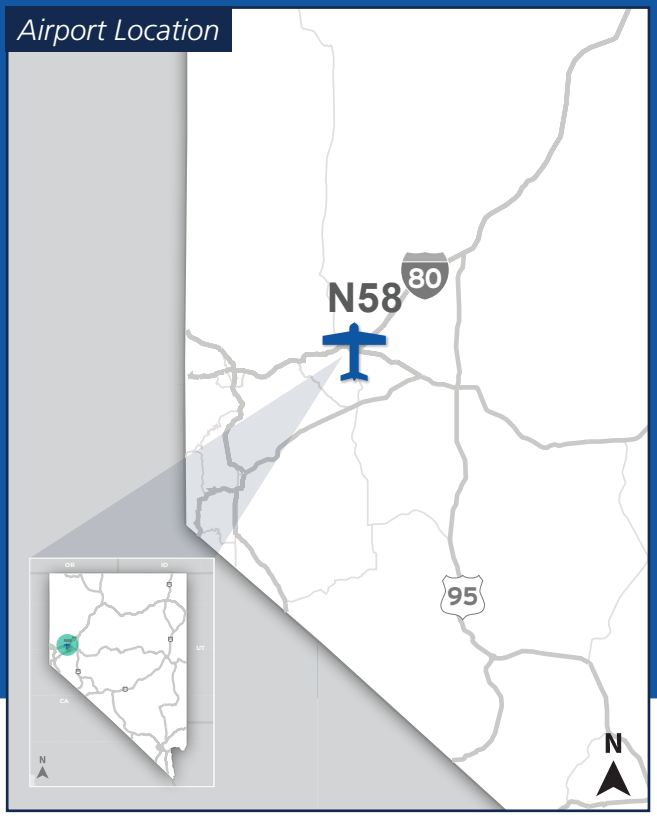
Critical Services:

- Supports Military and Recreational Operations
- Offers Pilot Amenities

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

SAMSARG/TIGER FIELD

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	3,974 Feet	Meets
	T-Hangar Ratio	> 0.25	0.33	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-paved and Fair, PCI > 56	Asphalt and Poor	Doesn't Meet
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	Full Parallel to Primary Runway	Meets
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
FERNLEY

FAA Identifier
N58

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of N58 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

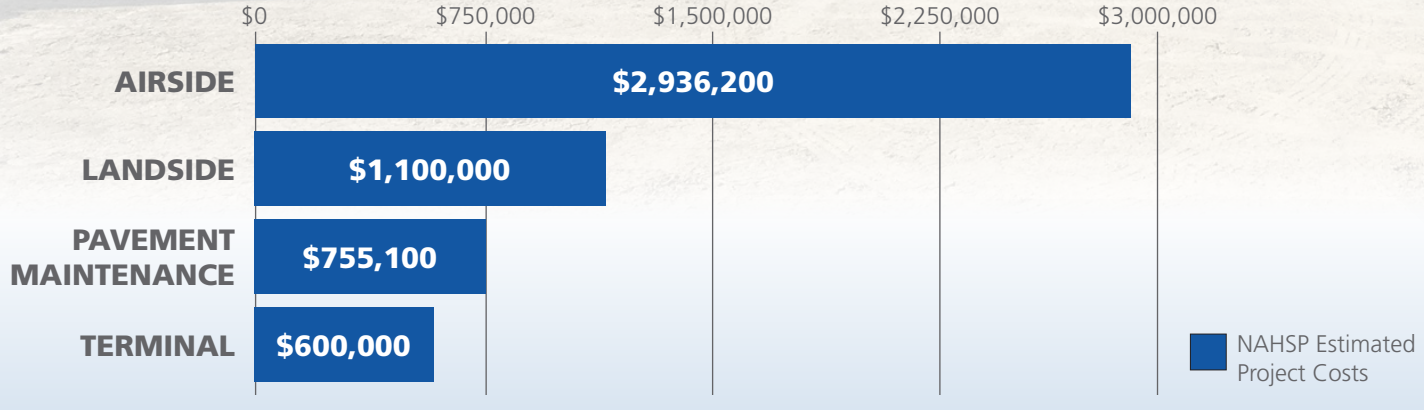
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Samsarg/Tiger Field Airport	6 JOBS	$76,030	$299,850
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Samsarg (or SAMSARG) Field (N58), sometimes referred to as Tiger Field, is a general aviation (GA) airport located three miles south of Fernley in Lyon County. The airport is located on lands owned by the Bureau of Land Management (BLM) and is currently leased by Growth Resources, Assets, Safety, & Stability (GRASS), an opportunity zone fund that intends to enhance the airport's facilities, including new state-of-the-art hangars, and develop the facility as a drone center. SAMSARG, Inc., the namesake of the airport, is a firm that installs specific software on transport and cargo planes as part of the defense industry. Previously called Tiger Field, Samsarg Field consists of a single paved runway nearly 4,000 feet in length, along with a small apron. The majority of operations conducted at N58 are GA, including recreational flights and air taxi operations, with a small number of military training operations. Additionally, N58 is located directly north of Fernley 95A Speedway, which draws in motorsports enthusiasts from across the region.

N58 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

SEARCHLIGHT AIRPORT
1L3

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 1L3 is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

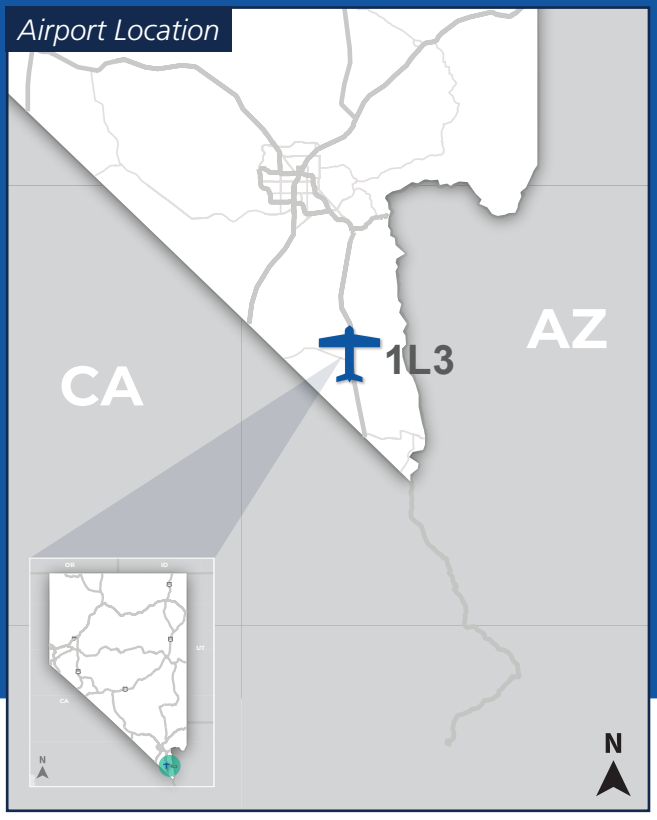
Critical Services:

- Emergency Medical Service (EMS) Operations
- Supports Medical Access
- Aerial Firefighting Operations

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

SEARCHLIGHT AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	5,040 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-paved and Fair, PCI > 56	Asphalt and Fair, PCI > 56	Meets
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	None	Doesn't Meet
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	Public Restroom, Conference Room, and Pilot Lounge	Meets
	Utilities	Electricity and Water Available	Electricity and Water	Meets
	Security/Wildlife Fencing	None	Partial	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	Cellular (Data/4G) and Wifi	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
SEARCHLIGHT

FAA Identifier
1L3

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 1L3 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

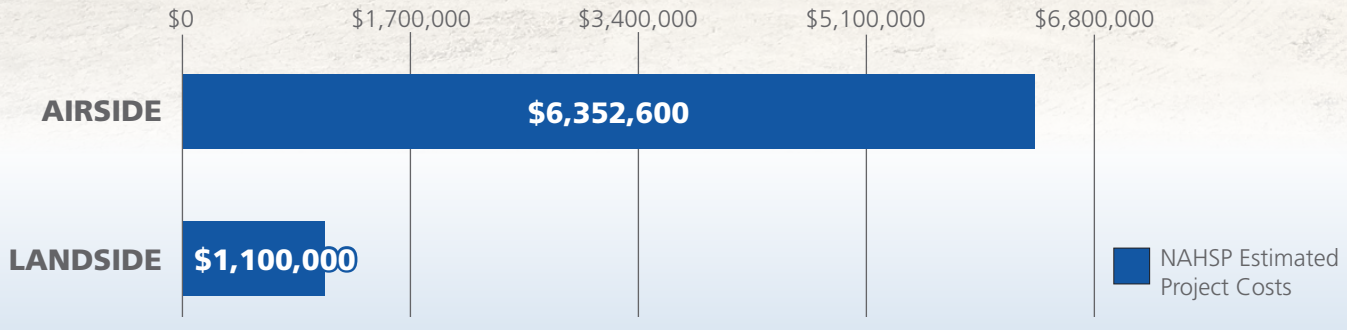
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Searchlight Airport	13 JOBS	$684,430	$1,926,980
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Searchlight Airport (1L3) is a privately owned, public-use airport located near the town of Searchlight in Clark County, over 45 miles from Las Vegas. 1L3 consists of a single paved runway that is 5,000 feet in length and has multiple helipads, with half of the airport's property located on Bureau of Land Management (BLM) land. A major component of operations at 1L3 are Unmanned Aerial Systems (UAS). The facility is primarily used by UAS pilots and developers, including beyond visual line of sight (BVLOS) flight operations for small UAS. In late 2018, the FAA approved a 38-mile BVLOS corridor between Searchlight Airport and Boulder City for UAS operations. This corridor is managed by the FAA and offers no airspace restriction due to no nearby airports or approaches. 1L3 support the lowest cost of entry for any UAS Test Range within the Southwest United States with 3 active helipads available. Additionally, University of Nevada, Las Vegas Career and Technical Education (CTE) will sometimes host companies conducting flight training including traditional aircraft along with UAS.

1L3 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

SILVER SPRINGS AIRPORT
SPZ

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

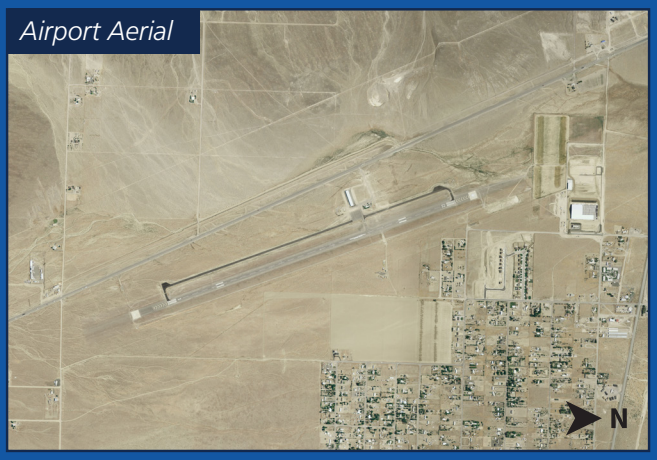
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- SPZ is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial



Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

SILVER SPRINGS AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Fire - Temporary and Helicopter Tourism	2
	Nearest Airport	N/A	28 Miles	3
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 5,550 Feet	6,001 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	1.08	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A Full Service and 100LL SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Non-Precision with Vertical Guidance	5
			Regional Significance V_{RS} Subtotal	**31**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Good, PCI = 79	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Lighted Wind Cone, REILs, and PAPIs	5
	Weather Reporting	AWOS or ASOS	AWOS	5
	GA Terminal	Public Restrooms	Public Restrooms, Conference Room, and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Septic	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G) and Wifi	5
			Airport Facilities V_{AF} Subtotal	**55**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, REILs = Runway End Identifier Lights, ATCT = Air Traffic Control Tower, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
SILVER SPRINGS

FAA Identifier
SPZ

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	12 Miles	3
	Runway Protection Zone	Full Desired	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**14**
Airport Access V_{AA}	Community Access	N/A	2 Miles	4
	Regional Access	N/A	Less than 1 Mile	5
	Local Access	Collector (Minor)	Arterial (Major)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car	3
			Airport Access V_{AA} Subtotal	**17**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	33	5
	Airfield and Aeronautical Property	N/A	0%	5
	Surplus Property	N/A	300 Acres	5
	Airfield Expandability	N/A	1,434 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2015	5
	Airport Management	Part Time or FBO	FBO	5
	Historical Capital Improvements	≥ $1.0 Million	$1.17 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$4.02 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**32**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of SPZ are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Silver Springs Airport	27 JOBS	$894,870	$2,739,920
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Silver Springs Airport (SPZ) is a general aviation (GA) airport located near Silver Springs, approximately 30 miles east of Reno in Lyon County. SPZ has a single paved runway over 6,000 feet long with a taxiway and apron. SPZ has numerous based aircraft and experiences approximately 11,000 operations annually. The majority of operations at SPZ are GA, which include flight training, aerial surveying, and aerial firefighting during high fire risk seasons. A smaller portion of operations include daily military operations. Additionally, SPZ sits on 350 acres of industrial zoned public land that is available for development, as well as approximately 400 acres of private land adjacent to the airport that is available for industrial and commercial development. With nearby residential areas, booming tech centers in the region, and a well-planned regional roadway network, Silver Springs is well positioned for growth.

AIRPORT REPLACEMENT VALUE

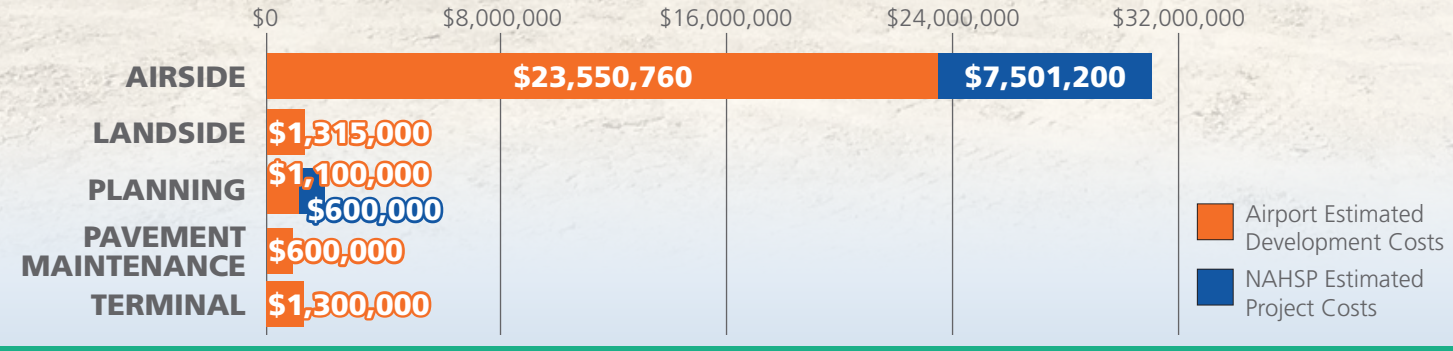
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$14,460,000
Silver Springs Airport

SPZ INVESTMENT NEEDS

Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

SKY RANCH AIRPORT
3L2

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

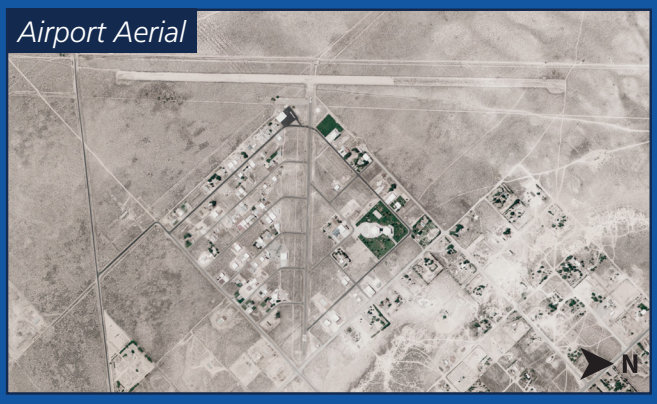
- Seven functional classifications used in the NAHSP
- 3L2 is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

Critical Services:

- Offers Pilot Amenities and Recreational Opportunities
- Provides Courtesy Car

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial



Airport Location

FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

SKY RANCH AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	>3,000 Feet	3,340 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	None	None	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	No	Doesn't Meet
	Runway Surface Type/Condition	Non-Paved and Fair	Asphalt and Good	Meets
	Runway Lighting	None	None	Meets
	Taxiways	Turn Arounds or Hold Pads	None	Doesn't Meet
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
SANDY VALLEY

FAA Identifier
3L2

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	Courtesy Car	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 3L2 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

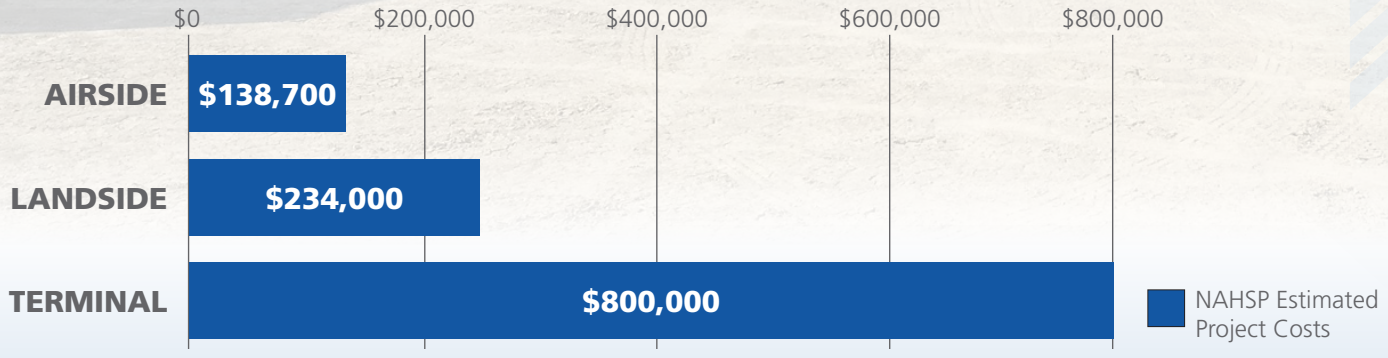
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Sky Ranch Airport	1 JOB	$44,420	$135,290
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Sky Ranch Airport (3L2) is a privately owned, public-use general aviation (GA) airport located approximately 35 miles southwest of Las Vegas in Clark County. The airport leases land from the Bureau of Land Management (BLM). 3L2 consists of a single paved runway that is 2,600 feet in length along with an unpaved runway at 3,300 feet in length. In addition, the facility has several taxiways off the runway which lead to private hangars and residential buildings. 3L2 has nearly 90 based aircraft, primarily single engine aircraft with a few multi-engine aircraft, helicopters, gliders, and ultralights. Almost all flights operating at 3L2 are recreational flights. The airport offers a true pilot lifestyle with houses connected to private hangars which lead directly out to the runway.

3L2 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

SPANISH SPRINGS AIRPORT
N86

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

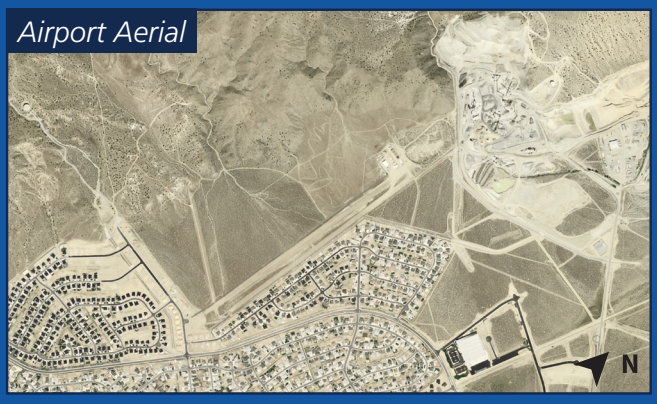
- Seven functional classifications used in the NAHSP
- N86 is an Backcountry airport (not eligible for Federal Aviation Administration [FAA] funding)

Critical Services:

- Aerial Firefighting Operations
- Provides Flight Training

Backcountry airports: *Recreational use airports not utilized on a regular basis for another specific access purpose.*

Airport Aerial



Airport Location

FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

SPANISH SPRINGS AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	> 3,000 Feet	3,318 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	None	None	Meets
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	No	Doesn't Meet
	Runway Surface Type/Condition	Non-Paved and Fair	Dirt, Failed	Doesn't Meet
	Runway Lighting	None	Non-Standard Reflectors	Meets
	Taxiways	Turn Arounds or Hold Pads	None	Doesn't Meet
	Visual Aids	Wind Cone	Wind Cone	Meets
	Weather Reporting	None	None	Meets
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	None	Cellular (Data/4G)	Meets

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
RENO

FAA Identifier
N86

Classification
BACKCOUNTRY

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share Desired	Rental Car, Courtesy Car, Taxi, and Ride Share	Meets
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	2020 ALP	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of N86 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

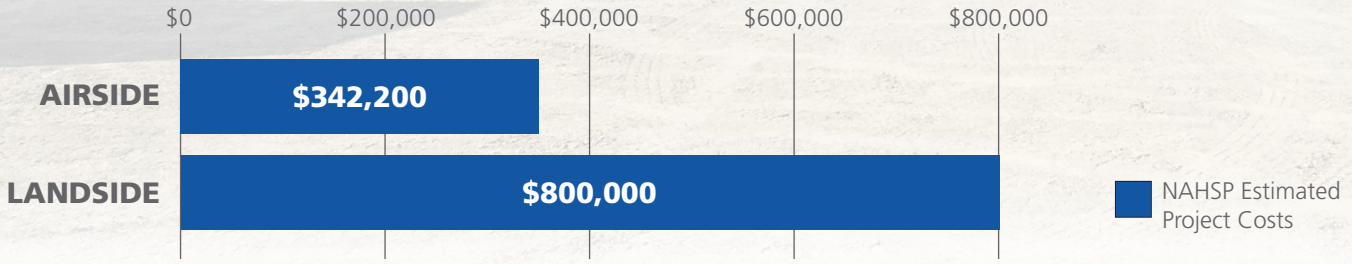
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Spanish Springs Airport	1 JOB	$31,900	$90,970
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Spanish Springs Airport (N86) is a general aviation (GA) airport located approximately 10 miles north of Reno in Washoe County on property leased from the Bureau of Land Management (BLM). N86 is located near Griffiths Canyon, a popular hiking and backpacking destination. The facility consists of a single dirt runway that is 3,400 feet in length as well as a half dozen hangars and aircraft storage buildings. As of 2021, there are four aircraft based at N86, with approximately 100 operations annually. GA operations conducted at N86 include flight training as well as occasional aerial firefighting operations when necessary.

N86 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP FSO and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

STEVENS-CROSBY AIRPORT
08U

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Establish goals and project metrics
- Determine existing system performance
- Identify future performance targets
- Outline policy and project recommendations

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- 08U is an Access airport (not eligible for Federal Aviation Administration [FAA] funding)

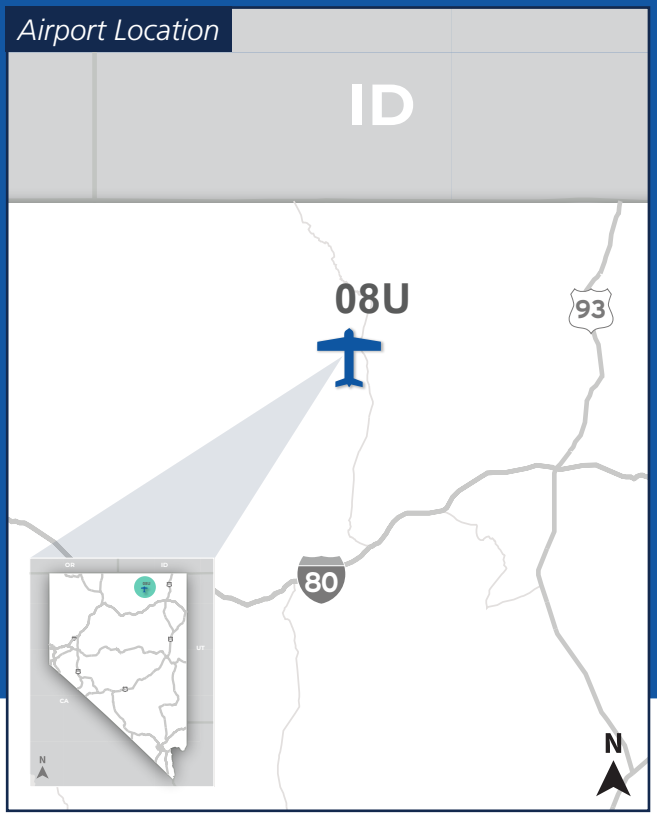
Critical Services:

- Emergency Medical Service (EMS) Operations
- Supports Medical Access
- Aerial Firefighting Operations

Access airports: *Regularly utilized for a specific reason related to accessing the location such as emergency, medical, or business (e.g. mining, casinos).*

Airport Aerial

Airport Location



FACILITY AND SERVICE OBJECTIVES

Airports not included in the FAA's system were evaluated using a set of Facility and Service Objectives (FSOs). FSOs establish a minimum level of facilities and services recommended based on each airport's NAHSP role. FSOs help guide development at an airport level to ensure that each airport has the facilities and services recommended to fulfill their role within the system. The results of this evaluation are presented as an Airport Development Report included in this brochure's centerfold. The Airport Development Report clearly indicates the FSOs that the airport is meeting and not meeting.

STEVENS-CROSBY AIRPORT

The Airport Development Report presents a snapshot of NAHSP objectives for the airport and current performance. In areas where the objective is not met, a development project may be recommended, as appropriate, for the airport to achieve the desired objectives in this table.

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Regional Significance	Longest Runway	Maintain Existing at a Minimum of 3,000 Feet	3,600 Feet	Meets
	T-Hangar Ratio	> 0.25	No Based Aircraft	Meets
	Fuel Availability	Jet A or 100 LL, Self Service with Credit Card Reader	None	Doesn't Meet
	Instrument Approach	Visual	Visual	Meets
Airport Facilities	FAA Design Standards	Meet FAA Design Standards	Yes	Meets
	Runway Surface Type/Condition	Non-Paved and Fair	Dirt and Fair	Meets
	Runway Lighting	Reflectors, Low Intensity Desired	None	Doesn't Meet
	Taxiways	Turn Arounds	None	Doesn't Meet
	Visual Aids	Wind Cone	None	Doesn't Meet
	Weather Reporting	Automated Unicom	None	Doesn't Meet
	GA Terminal	Public Restrooms Desired	None	Doesn't Meet
	Utilities	Electricity and Water Available	None	Doesn't Meet
	Security/Wildlife Fencing	None	None	Meets
	Communications Connectivity	Public Phone or Cellular (Data/4G)	None	Doesn't Meet

Notes: FAA = Federal Aviation Administration, PCI = Pavement Condition Index, GA = General Aviation, ALP = Airport Layout Plan

Associated City
NORTH FORK

FAA Identifier
08U

Classification
ACCESS

Category	Facility & Service Objective	NAHSP Objective (Minimum)	Current Performance	Meets Objective?
Airport Access	Ground Transportation Services	Rental or Courtesy Car and Taxi/Ride Share	None	Doesn't Meet
Community Commitment	Last ALP Update	< 10 yrs and after 2013 or Airport Diagram	Diagram	Meets

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of 08U are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

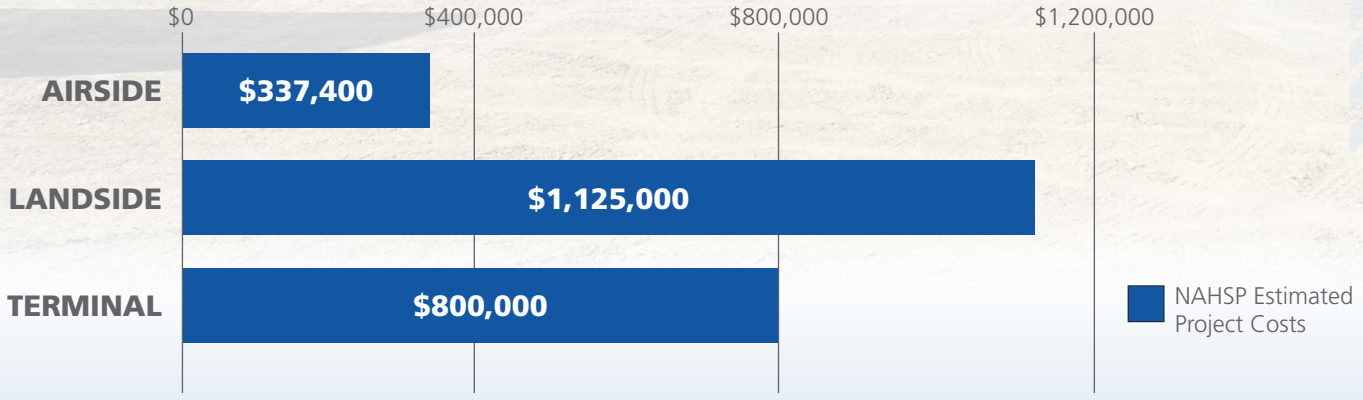
	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Stevens-Crosby Airport	< 1 JOB	$7,000	$22,330
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Stevens-Crosby Airport (08U) is a general aviation (GA) airport located just north of North Fork in Elko County, over 45 miles away from the City of Elko. The facility consists of a single dirt runway that is 3,600 feet in length. The airport leases land from the Bureau of Land Management (BLM). 08U provides aerial access for the Jerritt Canyon Mine, which is approximately nine miles south. 08U supports a variety of GA activities, including the occasional emergency medical service and aerial firefighting operations, when necessary. The airport offers access to many of the cattle ranches which surround the airport.

08U INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include airport diagrams and terminal needs include utility connections. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

TONOPAH AIRPORT
TPH

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

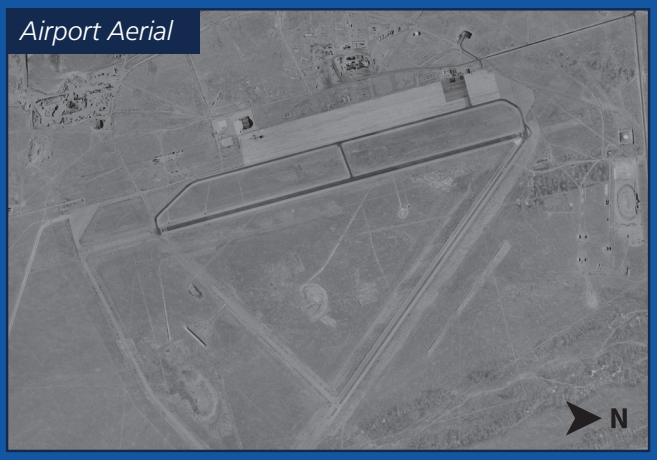
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

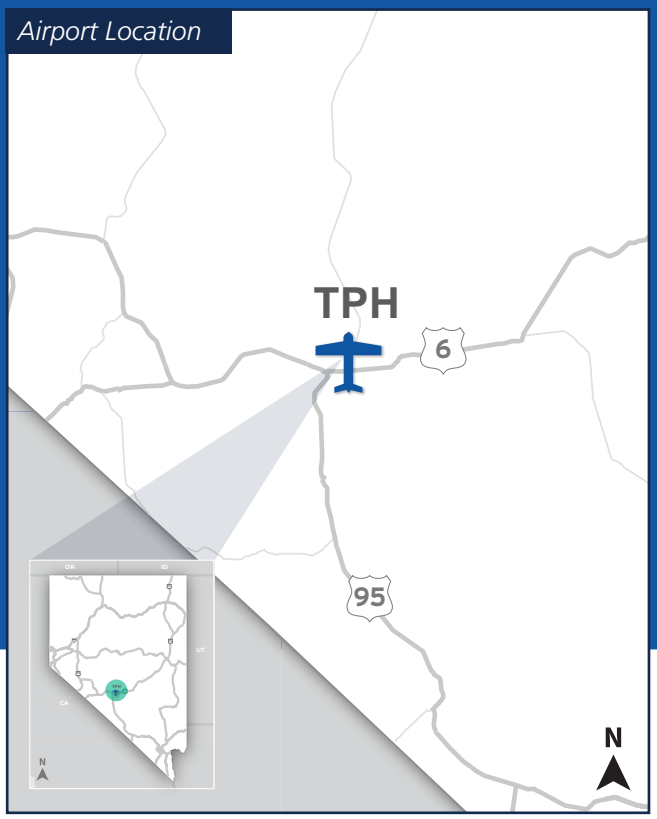
- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- TPH is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial



Airport Location



AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

TONOPAH AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS, Fire - Temporary, Skydiving, and Gliders	4
	Nearest Airport	N/A	24 Miles	3
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 6,750 Feet	7,158 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	0.44	0
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A & 100LL, Full Service (FS) & SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	Major	5
	Instrument Approach	Non-Precision	Non-Precision	5
			Regional Significance V_{RS} Subtotal	**33**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Excellent, PCI = 81	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Lighted Wind Cone, and PAPIs	5
	Weather Reporting	AWOS or ASOS	ASOS	5
	GA Terminal	Public Restrooms	Public Restrooms and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone and Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**55**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
TONOPAH

FAA Identifier
TPH

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	No	0
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	12.5 Miles	3
	Runway Protection Zone	Full Desired	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**14**
Airport Access V_{AA}	Community Access	N/A	7 Miles	3
	Regional Access	N/A	Less than 1 Mile	5
	Local Access	Collector (Minor)	Interstate	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car and Shuttle	3
			Airport Access V_{AA} Subtotal	**16**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	425	5
	Airfield & Aeronautical Property	N/A	0%	5
	Surplus Property	N/A	3,820 Acres	5
	Airfield Expandability	N/A	1,435 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2010	0
	Airport Management	Part Time or FBO	Staff	0
	Historical Capital Improvements	≥ $1.0 Million	$3.19 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$2.39 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**17**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of TPH are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Tonopah Airport	43 JOBS	$1,996,090	$6,290,990
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Tonopah Airport (TPH) is a general aviation (GA) airport located near the town of Tonopah in Nye County, over 160 miles from Carson City. TPH consists of two paved runways that are 5,600 and 7,100 feet in length, along with taxiways and a very large apron which includes multiple helipads. TPH had originally been used as an Army airport during World War II, and now supports a variety of GA activity. There are nine aircraft based on-site with an average of 7,000 operations annually. GA operations at the facility include recreational flights, skydiving, and gliders along with emergency medical operations and aerial firefighting. Care Flight, the aerial branch of Regional Emergency Medical Services Authority (REMSA), operates out of TPH almost daily using the operation's fixed wing aircraft. TPH is also located near plenty of outdoor activity sites such as game hunting and fishing.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$25,874,000
Tonopah Airport

TPH INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.

Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

WELLS MUNICIPAL/HARRIET FIELD
LWL

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- LWL is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

***General:** Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

WELLS MUNICIPAL/HARRIET FIELD

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	EMS and Fire - Temporary	2
	Nearest Airport	N/A	50 Miles	5
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 7,050 Feet	5,508 Feet	0
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	1.5	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100 LL , Full Service (FS) and SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**23**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Excellent, PCI = 88	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Turn arounds or hold pads	0
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon and Lighted Wind Cone	5
	Weather Reporting	AWOS or ASOS	None	0
	GA Terminal	Public Restrooms	Public Restrooms	5
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer or Septic	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone and Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**45**

Notes: EMS = Emergency Medical Services, ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
WELLS

FAA Identifier
LWL

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	15:1 - 18:1	50:1	5
	Airspace Restrictions	N/A	25 Miles	3
	Runway Protection Zone	Full Desired	Partial	0
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**14**
Airport Access V_{AA}	Community Access	N/A	2 Miles	4
	Regional Access	N/A	Less than 1 Mile	5
	Local Access	Collector (Minor)	Arterial (Major)	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car and Shuttle	3
			Airport Access V_{AA} Subtotal	**17**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	177	5
	Airfield and Aeronautical Property	N/A	25%	5
	Surplus Property	N/A	708 Acres	5
	Airfield Expandability	N/A	1,051 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2018	5
	Airport Management	Part Time or FBO	None	0
	Historical Capital Improvements	≥ $1.0 Million	$366,545	1
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$6.93 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	5
	Goodwill	N/A	Website	2
			Community Commitment V_{CC} Subtotal	**18**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of LWL are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Wells Municipal Airport/Harriet Field	103 JOBS	$4,692,070	$15,037,900
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

	STATEWIDE JOBS	STATEWIDE LABOR INCOME	STATEWIDE OUTPUT

AIRPORT OVERVIEW

Wells Municipal Airport/Harriet Field (LWL) is a general aviation (GA) airport located directly east of the town of Wells, over 45 miles from the town of Elko. The facility consists of a single paved runway that is 5,500 feet in length, a 2,600-foot-long dirt runway, and a small apron directly attached. LWL supports a variety of GA operations, including recreational and personal flights, emergency medical service (EMS) operations, and search and rescue efforts. LWL is also home to a base for the Bureau of Land Management (BLM) and the Single Engine Air Tanker (SEAT) operations. The City of Wells Industrial Park is located adjacent to LWL and offers 158 acres of opportunities for economic development. Adjacent to the airport, less than a mile from the Union Pacific Railroad, and at the crossroads of I-80 and U.S. Highway 93, this industrial park has potential to bring growth to the region and to the airport.

AIRPORT REPLACEMENT VALUE

Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$13,086,000
Wells Municipal/Harriet Field

LWL INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.

Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

WINNEMUCCA MUNICIPAL AIRPORT
WMC

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

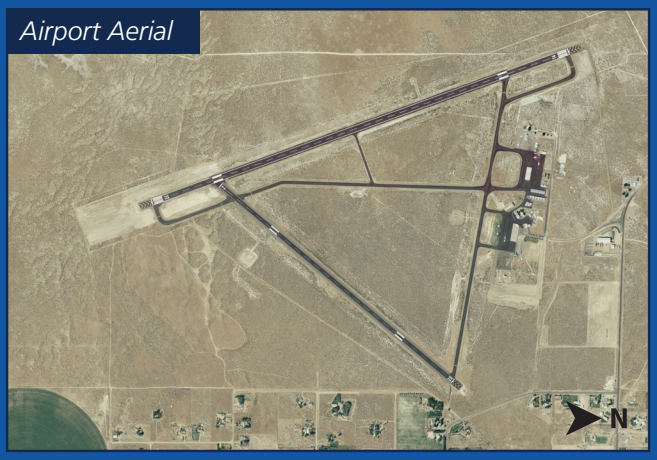
- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- WMC is classified by the NAHSP as a General Airport and in the NPIAS as a Basic Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial



Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

WINNEMUCCA MUNICIPAL AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	FireFighting	1
	Nearest Airport	N/A	53 Miles	5
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 5,510 Feet	7,000 Feet	5
	Based Aircraft	N/A	0.4%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	1.5	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	Jet A and 100 LL Full Service (FS) and SS	5
	Aircraft Maintenance	Minor	Minor	5
	Instrument Approach	Non-Precision	Non-Precision with Vertical Guidance	5
			Regional Significance V_{RS} Subtotal	**37**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-II	5
	FAA Design Standards	Meet FAA Design Standards	Yes	5
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Good, PCI = 76	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Full Parallel to All Runways	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Lighted Wind Cone, and PAPIs	5
	Weather Reporting	AWOS or ASOS	ASOS	5
	GA Terminal	Public Restrooms	Public Restrooms, Conference Room, and Pilot Lounge	5
	Utilities	Electricity and Water Available	Electricity, Water, and Septic	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Public Phone and Cellular (Data/4G)	5
			Airport Facilities V_{AF} Subtotal	**55**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
WINNEMUCCA

FAA Identifier
WMC

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	15:1 - 18:1	26:1	5
	Airspace Restrictions	N/A	42 Miles	3
	Runway Protection Zone	Full Desired	Full	5
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**19**
Airport Access V_{AA}	Community Access	N/A	5 Miles	3
	Local Access	Collector (Minor)	Collector (Minor)	5
	Regional Access	N/A	3.2 Miles	5
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car and Taxi	3
			Airport Access V_{AA} Subtotal	**16**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	97	5
	Airfield and Aeronautical Property	N/A	4%	5
	Surplus Property	N/A	928 Acres	5
	Airfield Expandability	N/A	1,116 Feet	5
			Airport Expandability V_{AE} Subtotal	**20**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2020	5
	Airport Management	Part Time or FBO	Full Time	5
	Historical Capital Improvements	≥ $1.0 Million	$5.95 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$7.15 Million	5
	Economic Development Partnership	Established Partnership	Yes	5
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement Subsidy	3
	Goodwill	N/A	Education Program and Positive News	4
			Community Commitment V_{CC} Subtotal	**32**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of WMC are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Winnemucca Municipal Airport	92 JOBS	$5,474,500	$16,179,840
Statewide	285,521 JOBS	$12.2 BILLION	$40.0 BILLION

AIRPORT OVERVIEW

Winnemucca Municipal Airport (WMC) is a general aviation (GA) airport located approximately six miles southwest of the City of Winnemucca in Humboldt County. The airport is located just off I-80, offering quick access to much of the rest of Northern Nevada. WMC has two paved runways that are 4,800 and 7,000 feet in length, along with two helipads, multiple hangars, airport parking pads, and an industrial park located adjacent to WMC. There are 10 aircraft based at WMC with approximately 6,500 operations annually. These operations include recreational flights, air taxi operations, and cargo flights. Additionally, WMC is a base for the Bureau of Land Management (BLM), with many operations including Single Engine Air Tanker (SEAT), smoke jumpers, and air attacks. The development of a nearby lithium mine and salmon farm will contribute to the fast-growing Winnemucca community.

AIRPORT REPLACEMENT VALUE

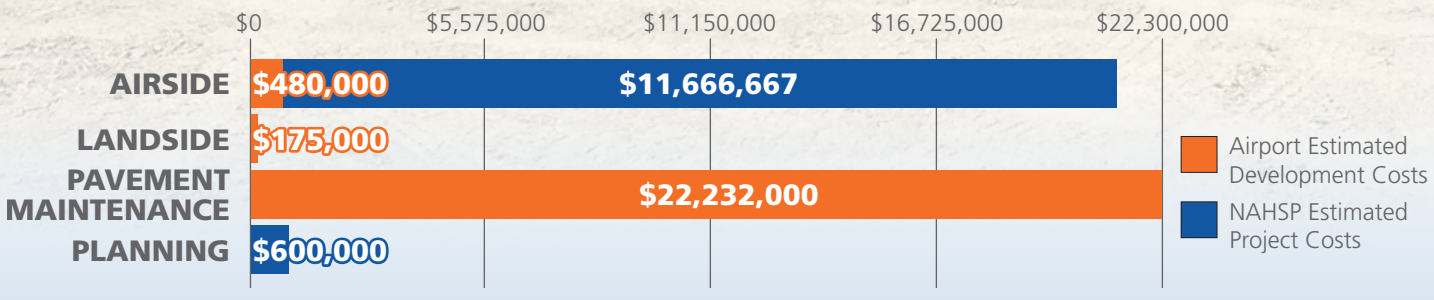
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$38,251,000
Winnemucca Municipal Airport

WMC INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

NAHSP
Nevada Airport and Heliport System Plan

YERINGTON MUNICIPAL AIRPORT
O43

The 2022 Nevada Airport and Heliport System Plan (NAHSP) and Airport Economic Impact Study (AEIS) are critical documents to the Nevada Department of Transportation (NDOT) Aviation Program. Combined, these are used to provide guidance and direction on how to maintain the aviation system, monitor performance, and invest in the future.

NAHSP Process:

- Monitor aviation system performance
- Provide guidance and direction to maintain the aviation system
- Provide justification for continued investment in the aviation system

NAHSP Roles:

- Seven functional classifications used in the NAHSP
- Mix of Federal Aviation Administration (FAA) National Plan of Integration Airport Systems (NPIAS) and unique NAHSP roles
- O43 is classified by the NAHSP as a General Airport and in the NPIAS as a Local Airport

General: *Serve a variety of general aviation (GA) activities, support local economies, and provide basic aeronautical needs.*

Airport Aerial

Airport Location

AIRPORT REGIONAL VALUE

The Airport Regional Value (ARV) measures the economic, social, environmental, emergency, and facility metrics associated with each airport. ARV results can inform airports about the impact and benefit of specific capital improvements and demonstrates the tie between airport investment and economic impact. There are three components of ARV: economic impact, replacement value, and value rating variables (VRV). Economic impact and replacement value are featured on the back page of this brochure while the results of the VRV analysis, presented as an Airport Development Report, are presented in the centerfold.

YERINGTON MUNICIPAL AIRPORT

This Individual Airport Report presents the results of the Value Rating Variable (VRV) analysis that was conducted as part of the Airport Regional Value (ARV) assessment. More information regarding the ARV methodology is included in Chapter 5. Airport Regional Value (ARV) Methodology. The information in this table can be used by airports to identify opportunities to improve their airport, with the scores indicating where deficiencies may exist. As airports complete improvement projects, they can see their ARV score increase, allowing airports to track their progress over time and understand how their facility compares to other facilities within their NAHSP role.

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Regional Significance V_{RS}	Airport Ownership	N/A	Public	5
	Airport Uses	N/A	Recreational and Military Use	2
	Nearest Airport	N/A	28 Miles	3
	Longest Runway	Accommodate 95% of Small Aircraft Fleet = 5,520 Feet	5,814 Feet	5
	Based Aircraft	N/A	Less than 1%	1
	T-Hangar Ratio (THR)	0.50 - 0.60	0.5	5
	Fuel Availability	Jet A or 100LL, Self Service (SS) with Credit Card Reader	100 LL SS with Credit Card Reader	5
	Aircraft Maintenance	Minor	None	0
	Instrument Approach	Non-Precision	Visual	0
			Regional Significance V_{RS} Subtotal	**26**
Airport Facilities V_{AF}	Runway ARC Category	B-II	B-I	0
	FAA Design Standards	Meet FAA Design Standards	No	0
	Runway Surface Type/Condition	Paved and Good, PCI >71	Asphalt and Excellent, PCI = 100	5
	Runway Lighting	Low-Intensity	Medium-Intensity	5
	Taxiways	Partial Parallel to Primary Runway	Partial Parallel to Primary Runway	5
	Visual Aids	Rotating Beacon and Wind Cone	Rotating Beacon, Lighted Wind Cone, and PAPIs	5
	Weather Reporting	AWOS or ASOS	None	0
	GA Terminal	Public Restrooms	Pilot Lounge	0
	Utilities	Electricity and Water Available	Electricity, Water, and Sewer	5
	Security/Wildlife Fencing	Partial	Full	5
	Communications Connectivity	Public Phone and Cellular (Data/4G)	Cellular (Data/4G)	3
			Airport Facilities V_{AF} Subtotal	**33**

Notes: ARC = Airport Reference Code, FAA = Federal Aviation Administration, PCI = Pavement Condition Index, PAPIs = Precision Approach Path Indicators, AWOS = Automated Weather Observing System, ASOS = Automated Surface Observing System, GA = General Aviation, ALP = Airport Layout Plan, FBO = Fixed-base operator

Associated City
YERINGTON

FAA Identifier
O43

Classification
GENERAL

Category	Value Rating Variable (VRV)	NAHSP Objective (Minimum)	Current Performance	Score
Airport Protection V_{AP}	Height Hazard Zoning	Present	Yes	5
	Obstruction Mitigation	15:1 - 18:1	20:1	5
	Airspace Restrictions	N/A	12 Miles	3
	Runway Protection Zone	Full Desired	No Available ALP	0
	Land Use Compatibility	N/A	Less than 1 Mile	1
			Airport Protection V_{AP} Subtotal	**14**
Airport Access V_{AA}	Community Access	N/A	1 Mile	5
	Regional Access	N/A	1.3 Miles	5
	Local Access	Collector (Minor)	Local	0
	Ground Transportation Services	Rental or Courtesy Car and Taxi or Ride Share	Courtesy Car	3
			Airport Access V_{AA} Subtotal	**13**
Airport Expandability V_{AE}	Total Acreage Ratio	N/A	6	5
	Airfield and Aeronautical Property	N/A	35%	5
	Surplus Property	N/A	65 Acres	4
	Airfield Expandability	N/A	357 Feet	2
			Airport Expandability V_{AE} Subtotal	**16**
Community Commitment V_{CC}	Last ALP Update	< 10 Years and After 2013	2018	5
	Airport Management	Part Time or FBO	None	0
	Historical Capital Improvements	≥ $1.0 Million	$4.0 Million	5
	Airport Capital Improvement Program (ACIP)	≥ $1.0 Million	$3.51 Million	5
	Economic Development Partnership	Established Partnership	No	0
	Financial Subsidies	Capital Improvement Subsidy	Capital Improvement and Operations Subsidy	0
	Goodwill	N/A	None	0
			Community Commitment V_{CC} Subtotal	**15**

AIRPORT REGIONAL VALUE SUMMARY

AIRPORT ECONOMIC IMPACT STUDY

The Nevada Airport Economic Impact Study (AEIS) evaluated the economic impacts of all system airports in Nevada. The components that comprise the total economic impact of Nevada's aviation system and the economic impact of O43 are presented below. These components include on-airport direct impacts as well as multiplier impacts generated throughout Nevada through re-spending and supplier purchases. Visit the NDOT website to learn more about the methodology used to determine the statewide and airport-specific economic impacts.

	TOTAL EMPLOYMENT	LABOR INCOME	TOTAL OUTPUT
Yerington Municipal Airport	43 JOBS	$2,215,150	$6,170,480
Statewide	STATEWIDE JOBS 285,521 JOBS	STATEWIDE LABOR INCOME $12.2 BILLION	STATEWIDE OUTPUT $40.0 BILLION

AIRPORT OVERVIEW

Yerington Municipal Airport (O43) is a general aviation (GA) airport located in the town of Yerington in Lyon County, approximately 35 miles east of Carson City. O43 consists of a single paved runway that is 5,800 feet in length along with a paved helipad, with additional amenities including a pilot's lounge and restaurants within walking distance. There are nearly 20 aircraft based at O43 with just under 2,500 operations annually. These operations are mostly GA in nature, with recreational flying by locals or transient individuals. Additional GA operations include emergency medical service, aerial firefighting, and a limited number of air taxi flights. O43 also hosts occasional fly-ins throughout the year, which improves the airport's relationship with the local community.

AIRPORT REPLACEMENT VALUE

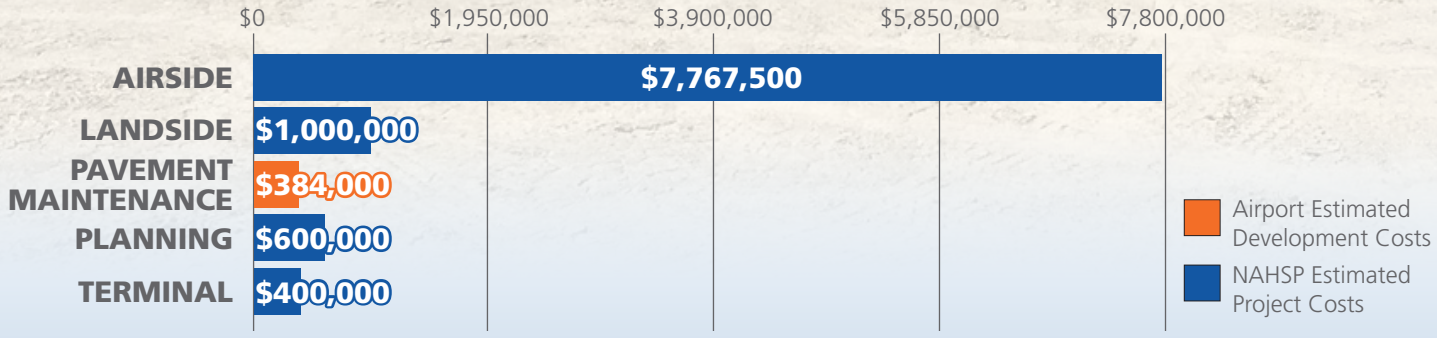
Airports generate economic impacts from their operation, but also have tremendous value as a physical asset. Airports are comprised of large tracts of land, sometimes miles of pavement, and numerous buildings that have substantial value, especially in terms of replacement. Replacement value was estimated based on existing facilities and current costs.

$29,225,000
Yerington Municipal Airport

O43 INVESTMENT NEEDS

NAHSP Estimated Project Costs were developed by summing the estimated costs of project recommendations from the NAHSP ARV and PM analysis. Airside needs include runway, taxiway, apron, NAVAIDS and lighting; landside needs include fuel, hangars, and ground transportation; pavement maintenance includes runway, taxiway, and apron pavement rehabilitation projects; planning needs include projects such as airport layout plans, master plans, and environmental assessments; terminal needs include items such as new buildings, wayfinding, restrooms, escalators, and concourses. Costs were developed as planning level estimates only and do not include the level of detail needed to design projects or prepare grants.

Airport Estimated Development Costs were sourced from each Airport's Capital Improvement Plan (ACIP), as well as other costs from Master Plans and other studies provided by the airports. ACIPs are developed by airport sponsors and consultants to plan for capital improvement needs over the planning horizon.



Visit the NDOT Aviation Program website to learn more: nevadaaviationsystem.com

Appendix B. Airport Replacement Values

B.1. Introduction

In order to better understand the value of the National Plan of Integrated Airport Systems (NPIAS) airports within Nevada's state airport system, a high-level analysis of replacement costs of airport lands and facilities was conducted. This appendix details the methodology used to collect and analyze this data in order to determine approximate airport replacement values. This analysis focused on NPIAS airports within Nevada since these airports are federally or state funded and are most crucial to the Nevada airport system. As a note, Harry Reid International (LAS) and Reno/Tahoe International Airport (RNO) were not included in this analysis because the data collection needs required to make accurate estimates of their replacement value is outside of the scope of this high-level assessment.

This analysis assesses three categories of assets in order to better understand the general replacement costs for the airports included in this analysis. The asset categories are:

- Land
- Pavement
- Buildings

The pavement and buildings categories were further broken down to get a more accurate estimate of replacement costs based on pavement type and building functionality. To determine the value of each airport's lands and assets, multiple sources and methodologies were used. The following subsections provide details for each asset category and the methodology used for gathering and compiling data. Together, the methodologies result in estimated replacement costs for each of Nevada's NPIAS airports (except LAS and RNO) and provide a planning-level estimate of the total value of the aviation assets that comprise the airports included in this assessment.

B.2. Methodology

As mentioned above, the methodology for calculating replacement values included three categories of assets. This section describes in more detail these categories and provides details regarding how unit costs were developed.

B.2.1. Land

The size of an airport's land envelope varies greatly across Nevada's system of airports. From as small as 100 acres, to as large as 5,000 acres, the size of an airport's property is a factor to account for in the overall valuation of an airport's replacement cost. Property acreage for each airport was sourced from the Federal Aviation Administration's (FAA) 5010 Airport Master Records.

In order to find the value of the land for each airport, the acreage was multiplied by the land value per acre. Nevada county assessors were contacted to obtain the estimated land value per acre that was used in this assessment. Information was requested for the specific land value of each airport within the individual county. For some airports, exact land values based on the parcel of land where the airport is located was provided by the county assessor. In these instances, the land values were highly accurate as

they came directly from the county assessor's office and did not have to be estimated. Additionally, exact land values for Henderson Executive (HND), Jean Sport (0L7), North Las Vegas (VGT), and Perkins Field Overton (U08) were provided by the Clark County Department of Aviation (CCDOA).

For the remaining airports where exact land values were not provided by the county assessor or other sources, an average value was calculated using the land values obtained from other Nevada counties. For Clark and Washoe counties (the most populated counties with the highest land value), an average was developed based on the land value that was provided for other airports in Clark and Washoe County. This average came out to be $79,400 per acre. For the airports located outside Clark and Washoe counties, an average land value was calculated from all other airport land values outside Clark and Washoe counties. This average land value came to $1,000 per acre. These values were then applied to the remaining airports to identify the value of airport lands of each airport included in the analysis.

B.2.2. Pavement

Airport pavement sizes also vary greatly across facilities within Nevada's system of airports. Pavement represents one of the costliest assets to replace at an airport as there can be millions of square feet and it requires routine monitoring and maintenance to maintain its quality. Airport pavement is separated into three sub-categories as each type of pavement requires different thickness and strength. The pavement sub-categories included in the replacement value assessment were runways, taxiways, and aprons. Where able, existing airport layout plans (ALPs) and data from the NAHSP Airport Inventory Data Collection Survey were used to determine the square footage of airport pavement by category. CCDOAs 2019 Pavement Condition Index (PCI) Report prepared under Clark County's Airport Pavement Management Program were referenced to obtain runway, taxiway, and apron square footage for Henderson Executive Airport (HND), Jean Sport Airport (0L7), North Las Vegas Airport (VGT), and Perkins Field (U08). When data was not readily available, measurements for the runways were sourced from 5010 Airport Master Records and measurements for the taxiways and aprons were gathered from geospatial analysis using Google Earth. This method resulted in estimated measurements that provided an adequate level of accuracy for this analysis.

Once the pavement square footage was collected and compiled, the value per square foot of pavement was obtained by consulting with airport professionals working at Nevada airports. Consideration was given to pavement costs based on the airport role or classification, as airport pavement depth and strength relate directly to the type of aircraft the airport serves. For Primary airports, $15 per square foot of pavement was used. National airports were valued at $13 per square foot, Regional and General airports were valued at $12 per square foot, and Access airports were valued at $10 per square foot of pavement. Using each of these values per square foot, the total value of each airport's pavement was calculated.

B.2.3. Buildings

In addition to the estimated value of an airport's land and pavement, this analysis also factored in the estimated value of each airport's existing buildings. It is recognized that some buildings may not be owned by the airport sponsor and may be privately owned, but for purposes of this analysis, an estimated replacement cost was developed for all identified buildings. For this evaluation, the category was split into

four sub-categories: terminal, conventional hangars, T-hangars, and air traffic control tower (ATCT). To obtain the value of airport-owned buildings (terminal, conventional hangars, and T-hangars), the square footage of each building type was obtained by reviewing currently available ALPs or estimating building dimensions in Google Earth when the ALP was not available. This method resulted in building estimations that were close enough to the total square footage needed for a high-level estimation of the replacement value of each airport's buildings.

Once the square footage of the terminal and covered aircraft storage buildings had been established, the value per square foot was obtained from local land development experts and Nevada airport professionals. These values were separated into three categories for T-hangars, conventional hangars, and terminal buildings. T-hangars were valued at $200 per square foot, conventional hangars valued at $275 per square foot, and terminals valued at $350 per square foot. Using these values, the square footage of each building type was multiplied by their respective value and a total buildings value was calculated.

There were two general aviation (GA) airports included in this analysis that have ATCTs. Cost estimates for these ATCTs were based on development cost of similar facilities recently developed at similar airports.

B.3. Results

After calculating the separate values of each airport's land, pavement, and building values, the totals were compiled in **Table B-1**. It is important to note that these values are planning-level estimates of the overall replacement value of an airport's facilities, and there are other factors that go into an airport's value that are not considered in this methodology. As demonstrated, the replacement value of airports encompassed by the NAHSP varies largely, from just over a million dollars to over half of a billion dollars. The highest replacement values were estimated for the Primary and more demanding GA airports that have more pavement and more facilities, such as Reno-Stead (RTS), North Las Vegas (VGT), and Henderson Executive (HND). On the other end of the total valuation range are more remote and low-traffic GA airports, such as Gabbs (GAB), Owyhee (10U), and Alamo Landing Field (L92). Even with shorter runways and fewer airport buildings, some of these airports total value is estimated to be over $1 million. The smaller GA airports generate a larger percentage of their overall value from their lands, as the airports often sit on larger plots of lands as compared to commercial service airports, which can be contained within cities and populated areas.

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Table B-1: Airport Replacement Values

Associated City	Airport Name	FAA ID	Land Value		Pavement Value				Building Value					Total Value
			Acres	Value	Runway (sq ft)	Taxiway (sq ft)	Apron (sq ft)	Value	T-hangar (sf)	Conventional (sf)	Terminal (sf)	ATCT	Value	
Alamo	Alamo Landing Field	L92	640	$646,000	261,700	90,700	100,100	$4,525,000	N/A	2,000	N/A	None	$550,000	$5,721,000
Austin	Austin Airport	TMT	1,205	$1,216,000	449,900	50,900	161,300	$7,945,000	N/A	2,000	2,500	None	$1,425,000	$10,587,000
Battle Mountain	Battle Mountain Airport	BAM	1,066	$1,076,000	1,824,900	827,000	269,500	$29,214,000	N/A	3,000	1,400	None	$1,315,000	$31,604,000
Beatty	Beatty Airport	BTY	440	$394,000	336,900	53,200	105,200	$5,944,000	N/A	6,500	N/A	None	$1,787,500	$8,124,500
Boulder City	Boulder City Airport	BVU	530	$43,725,000	671,600	614,500	1,171,500	$36,864,000	25,000	300,000	11,000	None	$91,350,000	$171,938,000
Carson City	Carson	CXP	632	$638,000	457,600	1,109,900	1,021,100	$31,063,000	200,000	150,000	4,000	None	$82,650,000	$114,352,000
Elko	Elko Regional Airport	EKO	700	$706,000	1,299,000	664,800	780,800	$41,169,000	40,000	25,000	35,000	None	$27,125,000	$69,000,000
Ely	Ely Airport	ELY	4,999	$1,470,000	1,192,100	40,600	240,200	$17,675,000	N/A	10,000	7,500	None	$5,375,000	$24,519,000
Eureka	Eureka Airport - Booth Bailey Field	05U	800	$320,000	438,000	287,700	168,700	$10,733,000	N/A	N/A	7,700	None	$2,678,900	$13,730,900
Fallon	Fallon Municipal	FLX	440	$220,000	642,700	376,100	302,500	$15,856,000	30,000	75,000	2,000	None	$27,325,000	$43,401,000
Gabbs	Gabbs Airport	GAB	880	$656,000	N/A	N/A	N/A	$0	N/A	1,500	N/A	None	$412,500	$1,068,500
Hawthorne	Hawthorne Industrial Airport	HTH	901	$1,802,000	600,000	374,000	266,900	$14,891,000	N/A	10,000	1,000	None	$3,100,000	$19,793,000
Jackpot	Jackpot/Hayden Field	06U	325	$328,000	371,000	310,900	98,800	$9,368,000	N/A	8,000	N/A	None	$2,200,000	$11,896,000
Jean	Jean Sport Airport	0L7	232	$44,069,510	567,000	335,085	418,173	$15,843,000	N/A	N/A	7,000	None	$2,450,000	$62,362,510
Las Vegas	Henderson Executive	HND	760	$637,974, 404	1,025,000	1,353,626	3,079,470	$70,955,000	60,000	400,000	14,000	$7,000,000	$133,900,000	$204,855,000
Las Vegas	North Las Vegas	VGT	920	$367,503,743	1,042,791	1,528,069	4,393,812	$90,541,000	425,000	450,000	15,000	$7,000,000	$221,000,000	$679,044,743
Lovelock	Derby Field Airport	LOL	550	$715,000	414,700	131,200	60,300	$7,274,000	N/A	4,000	1,500	None	$1,625,000	$9,614,000
Mesquite	Mesquite Municipal Airport	67L	155	$7,130,000	384,100	223,900	270,600	$10,543,000	11,000	22,000	2,000	None	$8,950,000	$26,623,000
Minden	Minden	MEV	996	$1,005,000	1,137,300	1,182,100	1,014,100	$40,002,000	200,000	120,000	10,000	None	$76,500,000	$117,508,000
Owyhee	Owyhee Airport	10U	135	$136,000	282,000	76,700	192,900	$5,516,000	N/A	N/A	N/A	None	$0	$5,652,000
Overton	Perkins Field Overton	U08	250	$13,500,482	360,000	190,583	278,324	$9,947,000	N/A	30,000	2,500	None	$9,125,000	$32,572,482
Panaca	LC Airport - Panaca	1L1	190	$192,000	276,400	36,300	121,500	$5,210,000	N/A	3,500	N/A	None	$962,500	$6,363,500
Reno	Reno-Stead Airport	RTS	5,000	$397,000,000	2,491,200	1,680,600	2,284,400	$77,474,000	9,000	400,000	10,000	None	$115,300,000	$589,775,000
Silver Springs	Silver Springs	SPZ	400	$404,000	450,100	307,600	130,300	$10,656,000	17,000	N/A	N/A	None	$3,400,000	$14,460,000
Tonopah	Tonopah Airport	TPH	3,820	$2,850,000	820,000	539,300	353,100	$20,549,000	N/A	9,000	N/A	None	$2,475,000	$25,874,000
Wells	Wells Muni Harriet Field	LWL	708	$714,000	413,100	31,300	99,000	$6,521,000	N/A	20,000	1,000	None	$5,850,000	$13,086,000
Winnemucca	Winnemucca Municipal Airport	WMC	968	$571,000	1,060,000	908,200	409,300	$28,530,000	25,000	10,000	4,000	None	$9,150,000	$38,251,000
Yerington	Yerington	O43	101	$264,000	436,100	221,800	130,500	$9,461,000	15,000	60,000	N/A	None	$19,500,000	$29,225,000

Notes: Building square foot estimates and values rounded to the nearest hundred. Totals may not sum due to rounding. Exact pavement and land value data for HND, 0L7, U08, and VGT was provided by Clark County Department of Aviation (CCDOA) and was not rounded for this analysis.
Sources: FAA Form 5010, Google Earth, NV County Assessor's Office, Airport Layout Plans, Kimley-Horn

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