

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 50¹ 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).

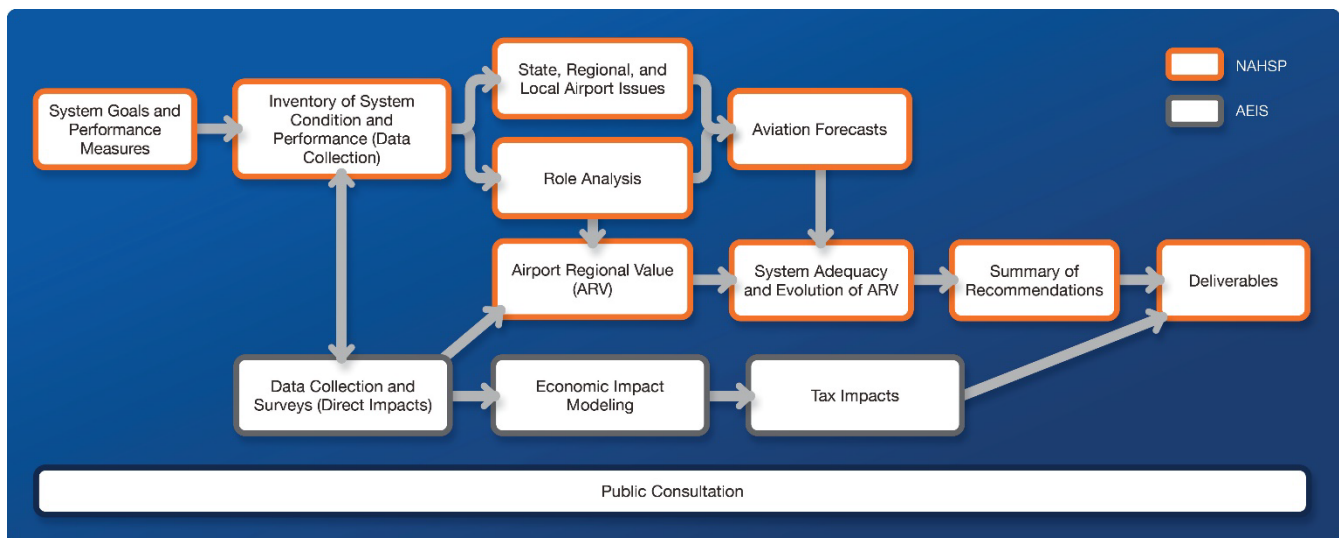
of airports based on existing and future needs. This process is achieved through coordination between the NPIAS and the federal Airports Capital Improvement Plan (ACIP) which identifies, prioritizes, and assigns funds to projects most critical to the National Airspace System (NAS).

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.

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.

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



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

1.3.1. 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)	<ul style="list-style-type: none"> 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%)	<ul style="list-style-type: none"> 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%)	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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
<p data-bbox="220 407 250 688">Transform Economies</p> <p data-bbox="302 338 610 558">Improve the contribution of the aviation system to Nevada’s economic competitiveness through a supportive and innovative transportation framework.</p> 	<p data-bbox="639 338 1398 478">Percent of airports with active development partnerships with chambers of commerce, tourism bureaus, service organizations, industries, governments, military officials, and recreational user groups</p> <p data-bbox="639 489 1308 516">Percent of airports with expansion/development potential</p> <p data-bbox="639 583 1349 653">Percent of airports that can support regular business aircraft activity (runway length, approach, weather, fuel)</p> <p data-bbox="639 678 1325 747">Percent of airports with tour operators, specifically utilizing helicopters</p>
<p data-bbox="220 856 250 1117">Foster Sustainability</p> <p data-bbox="302 774 610 995">Develop an aviation network that reduces emissions while being environmentally, historically, culturally, and financially sustainable.</p> 	<p data-bbox="639 774 1300 915">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</p> <p data-bbox="639 926 1393 953">Percent of airports with or pursuing an alternative energy source</p> <p data-bbox="639 1020 1325 1089">Percent of airports with an airport manager to operate and maintain the airport</p> <p data-bbox="639 1115 1409 1184">Percent of airports that have received federal and/or state funding within the last five years</p>
<p data-bbox="220 1297 250 1558">Connect Communities</p> <p data-bbox="302 1220 610 1440">Enhance opportunity, livability, and quality of life through better connections between aviation system and other modes.</p> 	<p data-bbox="639 1220 1321 1289">Percent of airports capable of supporting aerial firefighting operations</p> <p data-bbox="639 1314 1256 1383">Percent of airports capable of supporting emergency (medical/police) operations</p> <p data-bbox="639 1409 1273 1436">Population within 30 minutes of any public-use airport</p> <p data-bbox="639 1503 1338 1530">Percent of airports providing access to remote communities</p>

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.