

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

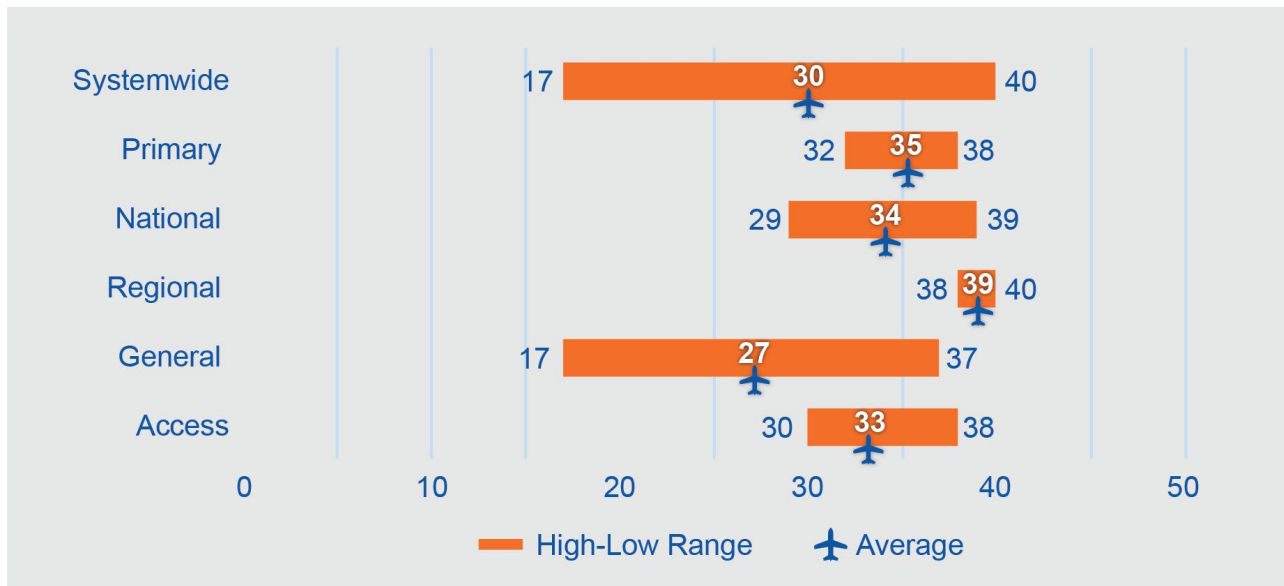
Source: Kimley-Horn 2021

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



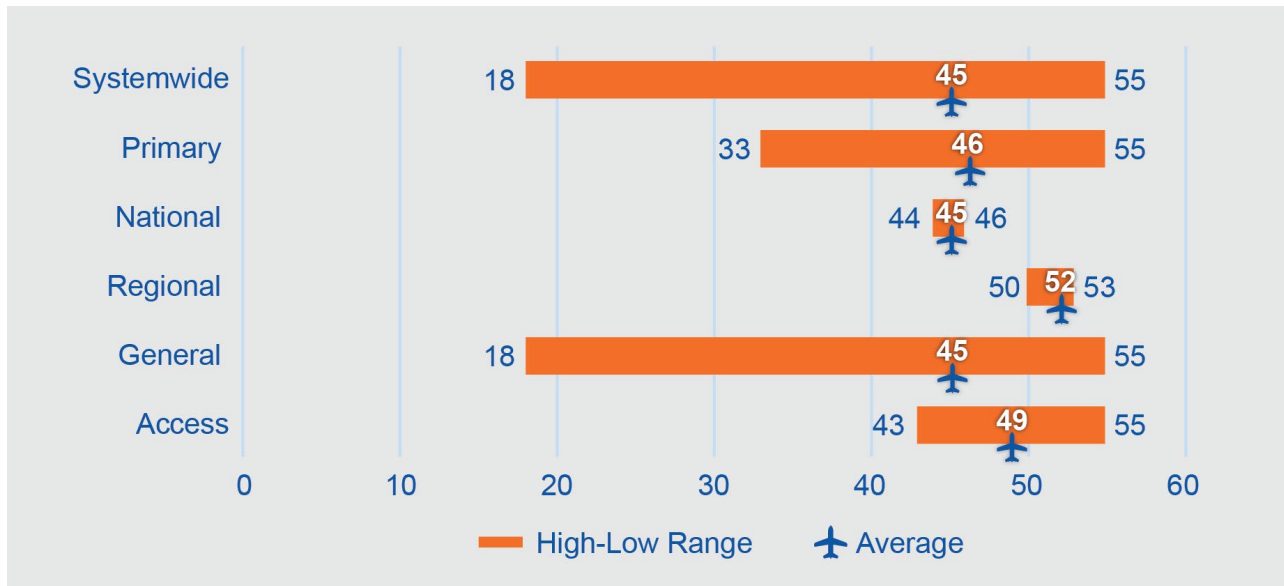
Source: Kimley-Horn 2021

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



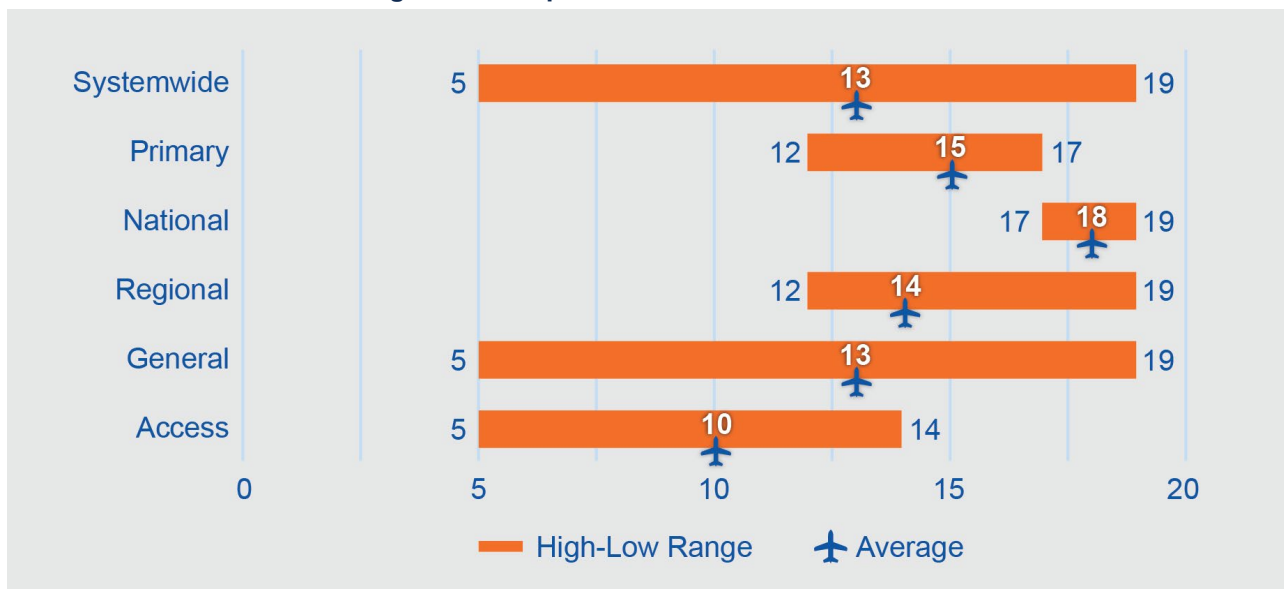
Source: Kimley-Horn 2021

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



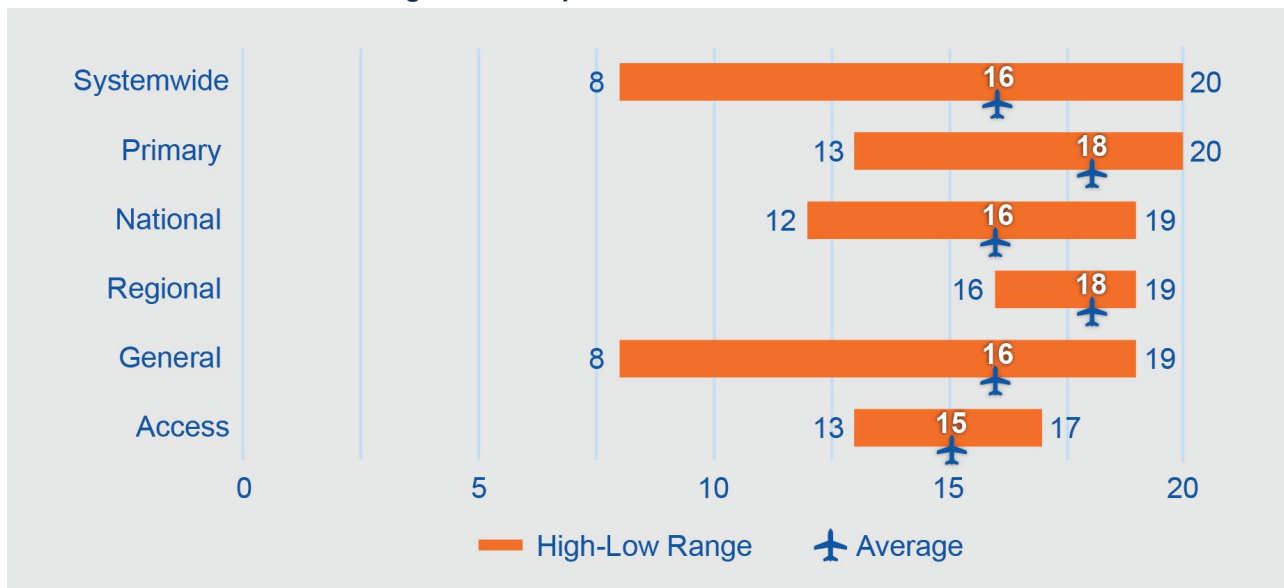
Source: Kimley-Horn 2021

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



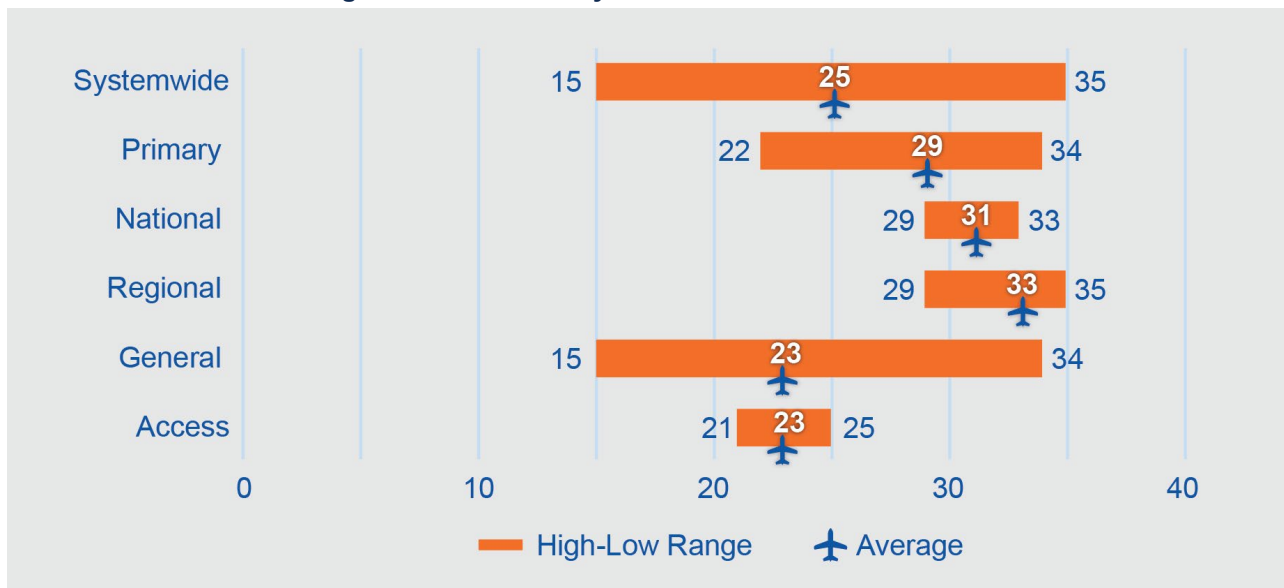
Source: Kimley-Horn 2021

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

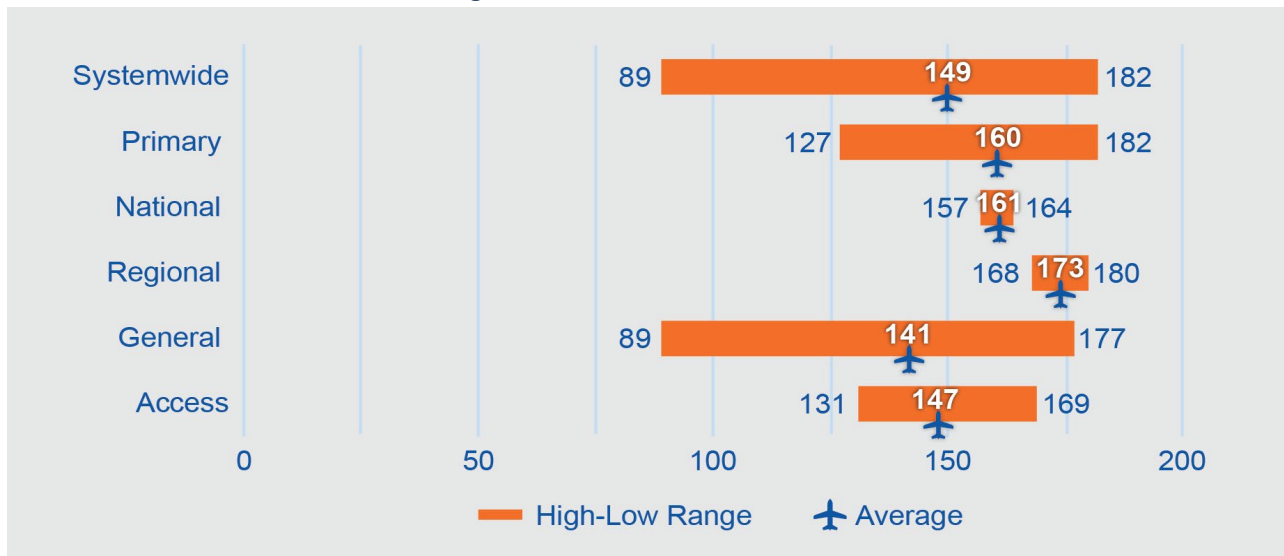


Source: Kimley-Horn 2021

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

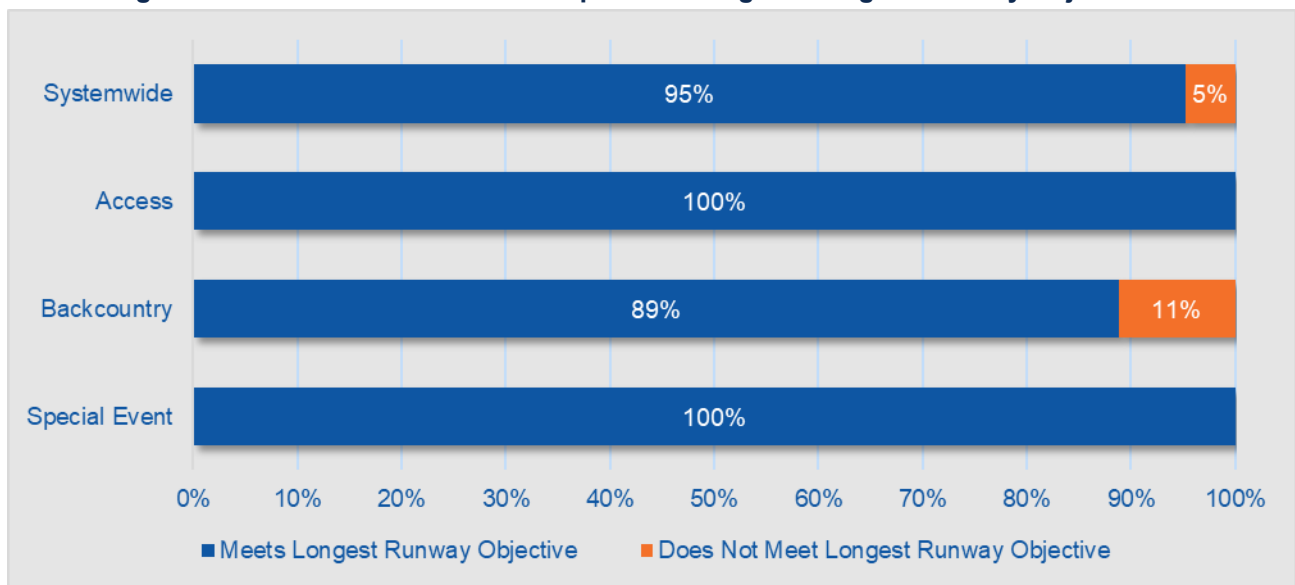
Variable	Airport Objective		
	Access	Backcountry	Special Event
Longest Runway	Maintain Existing	>3,000 Feet	>3,000 Feet or As Appropriate
T-Hangar Ratio (THR)	> 0.25	> 0.25	None
Fuel Availability	Jet A or 100LL, Self Service with Credit Card Reader	None	As Appropriate
FAA Design Standards	Meet FAA Design 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 Arouds	Turn Arouds 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



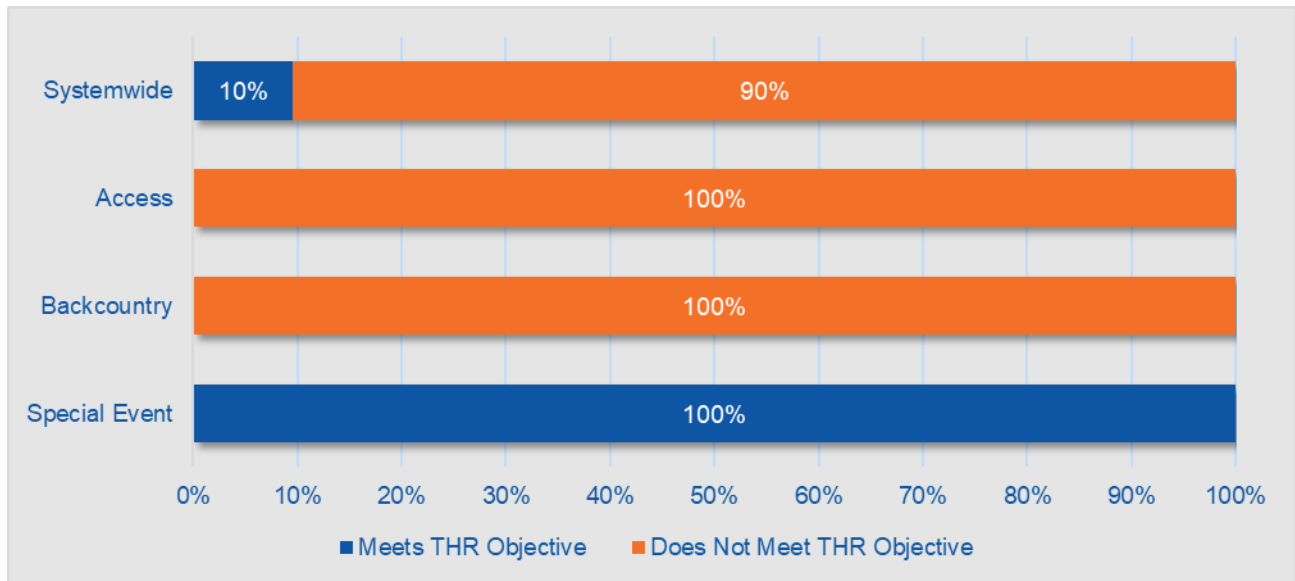
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

7.3.2. T-Hangar Ratio (THR) FSO

Non-NPIAS airports are evaluated to determine if there 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



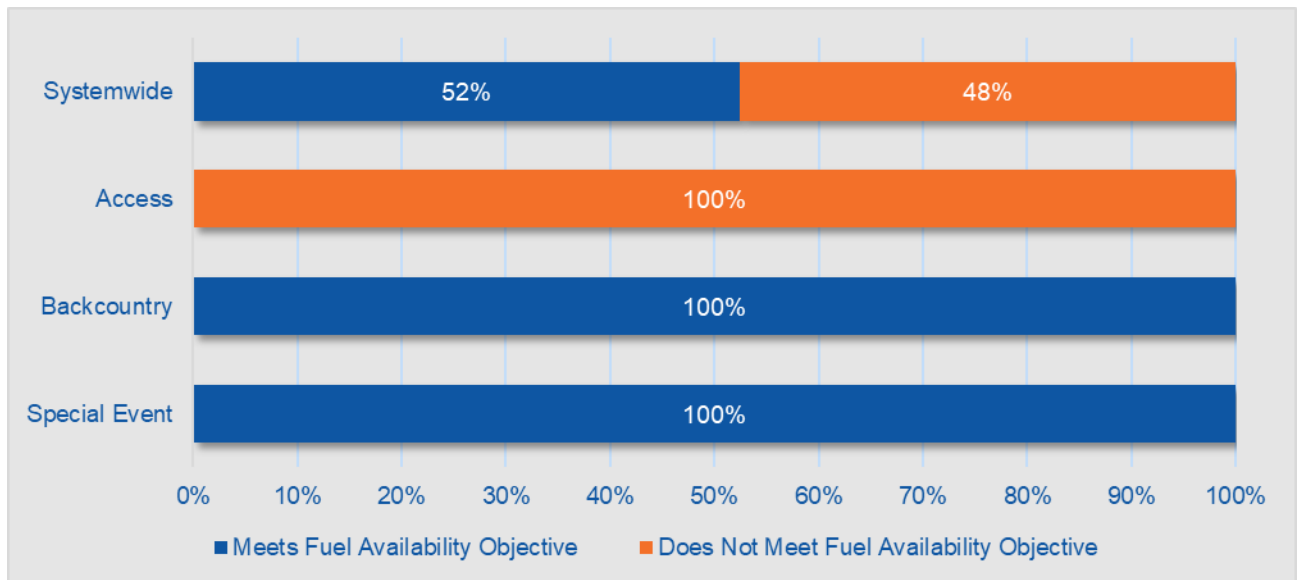
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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



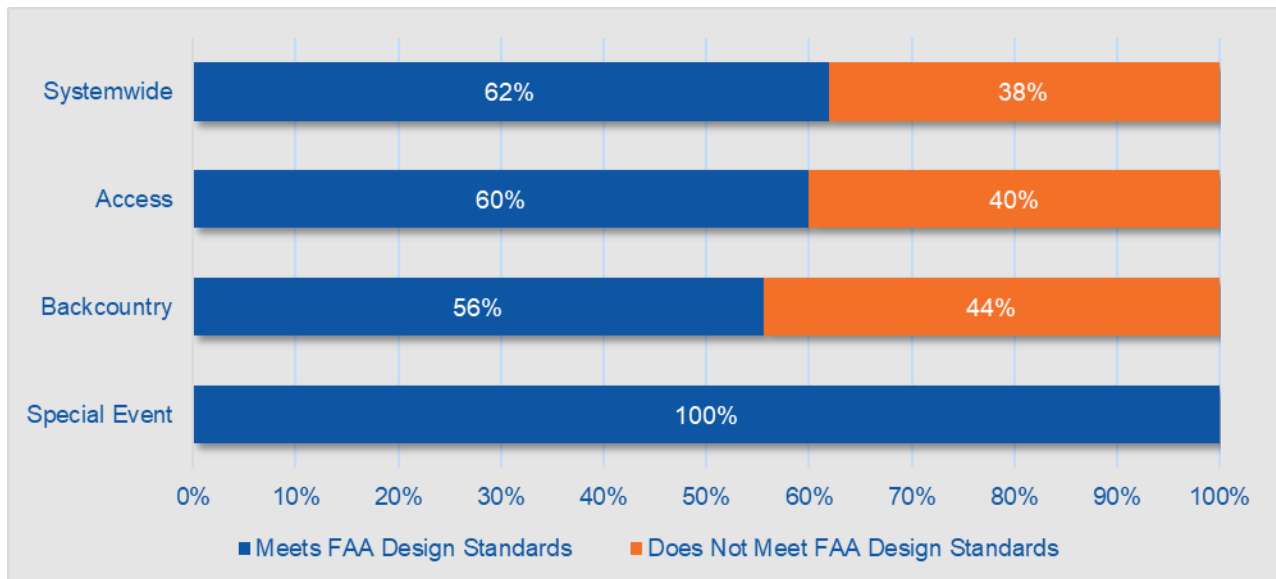
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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



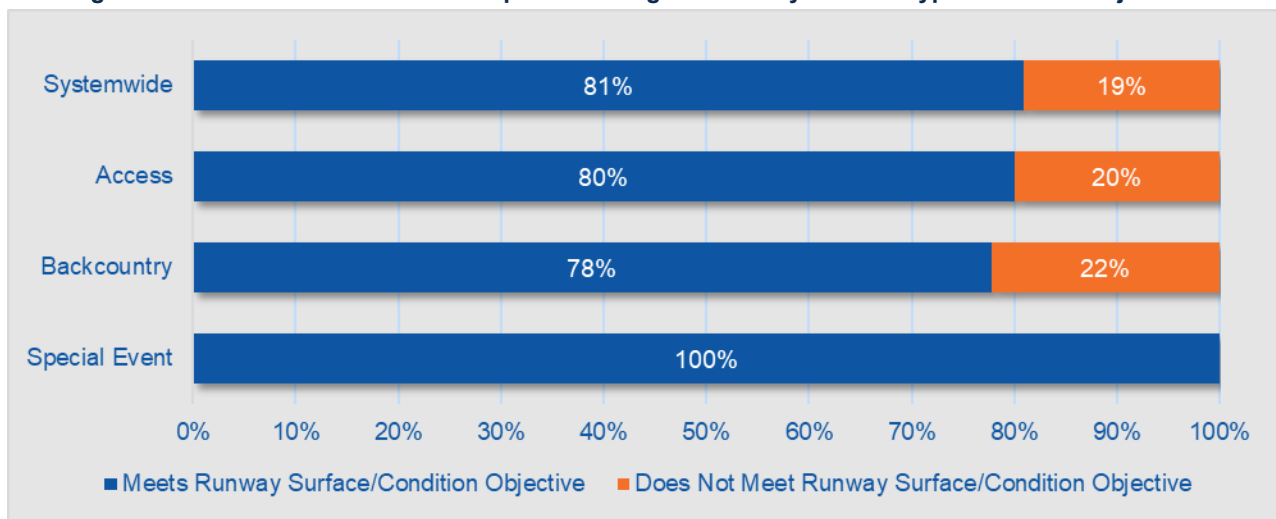
Sources: FAA AC 150/5300-13A, Google Earth, Kimley-Horn 2021

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



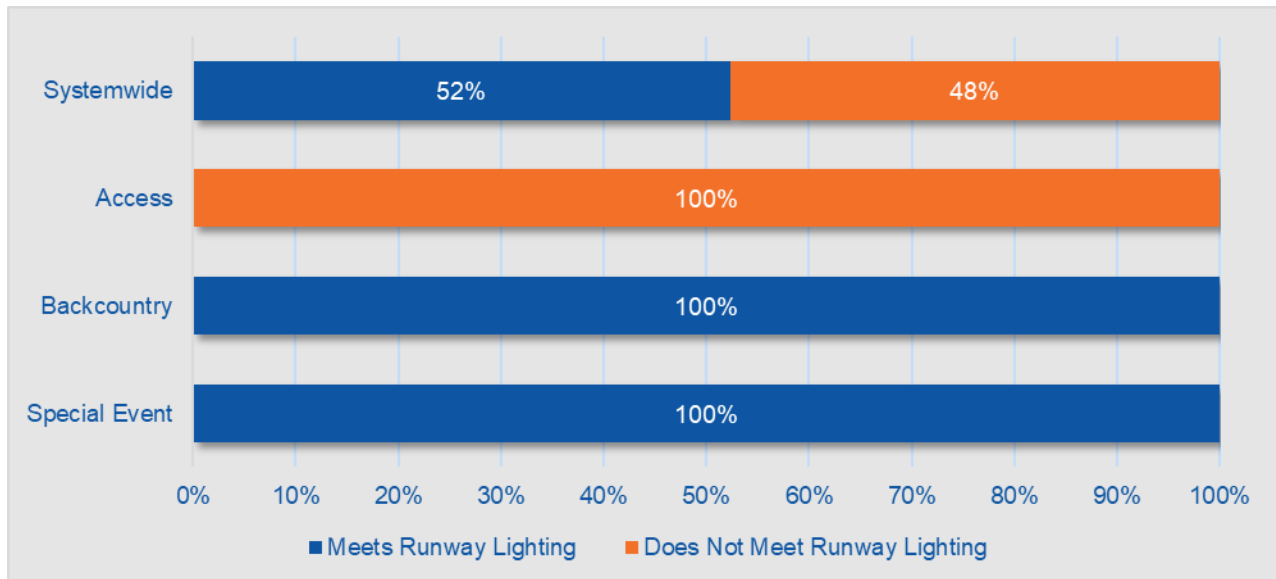
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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



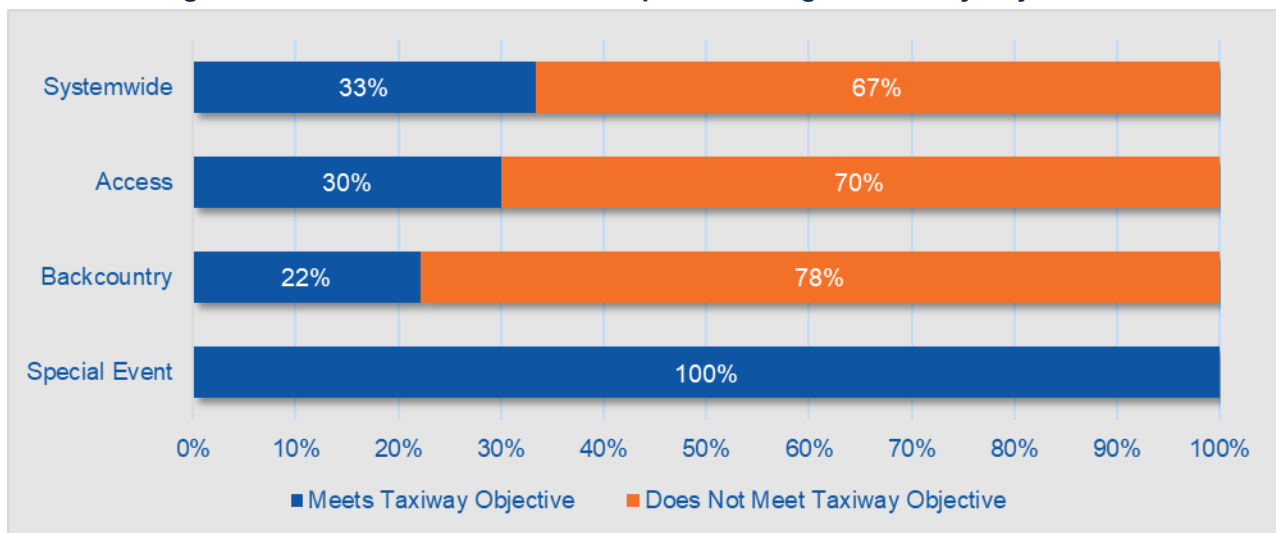
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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

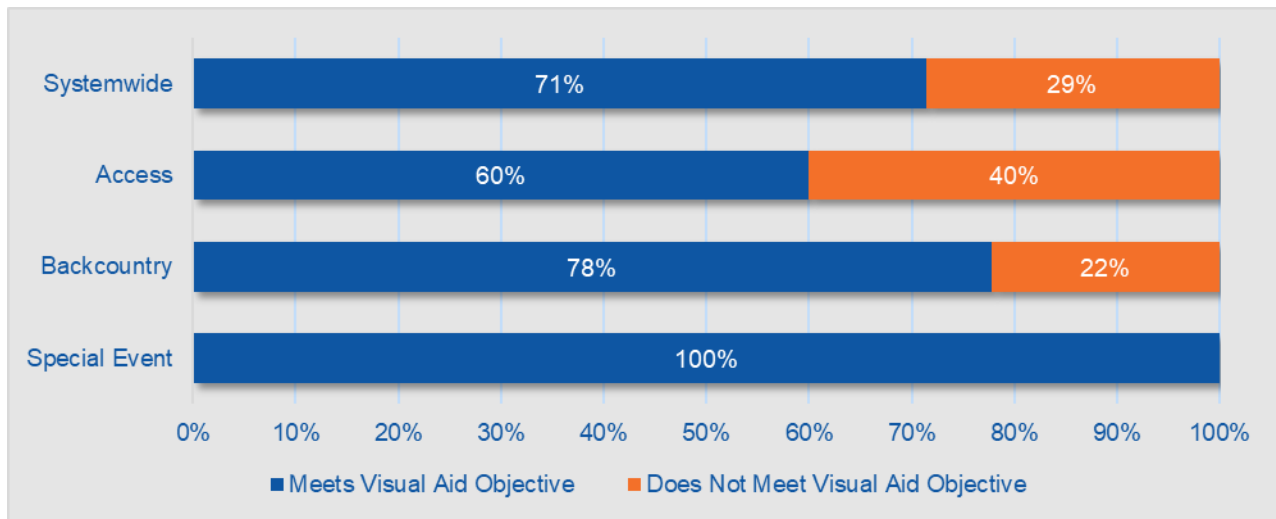


Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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

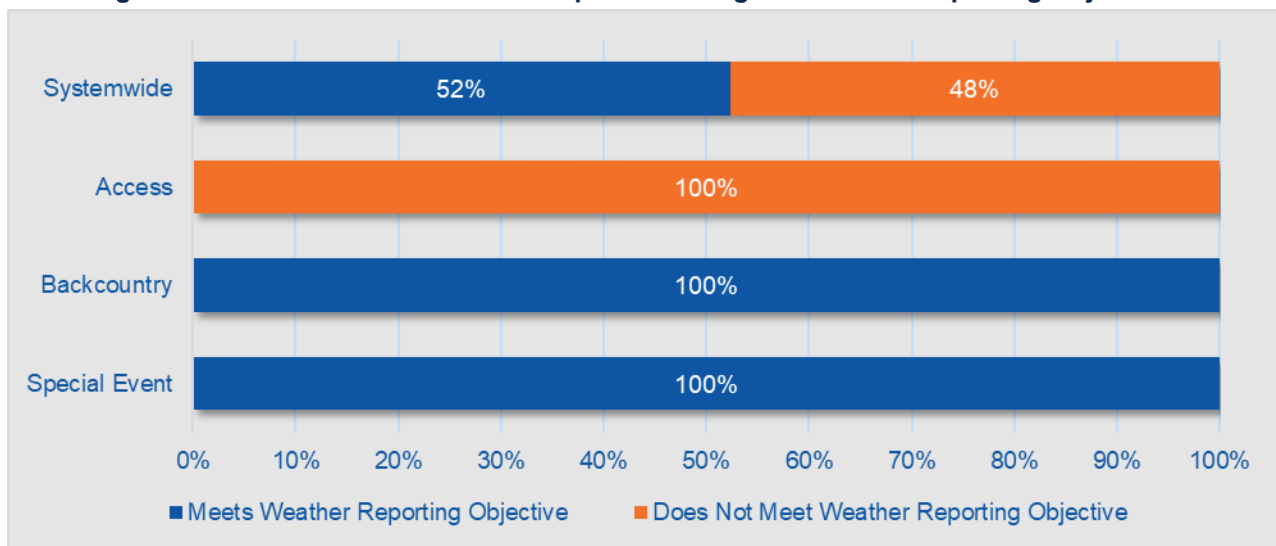


Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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



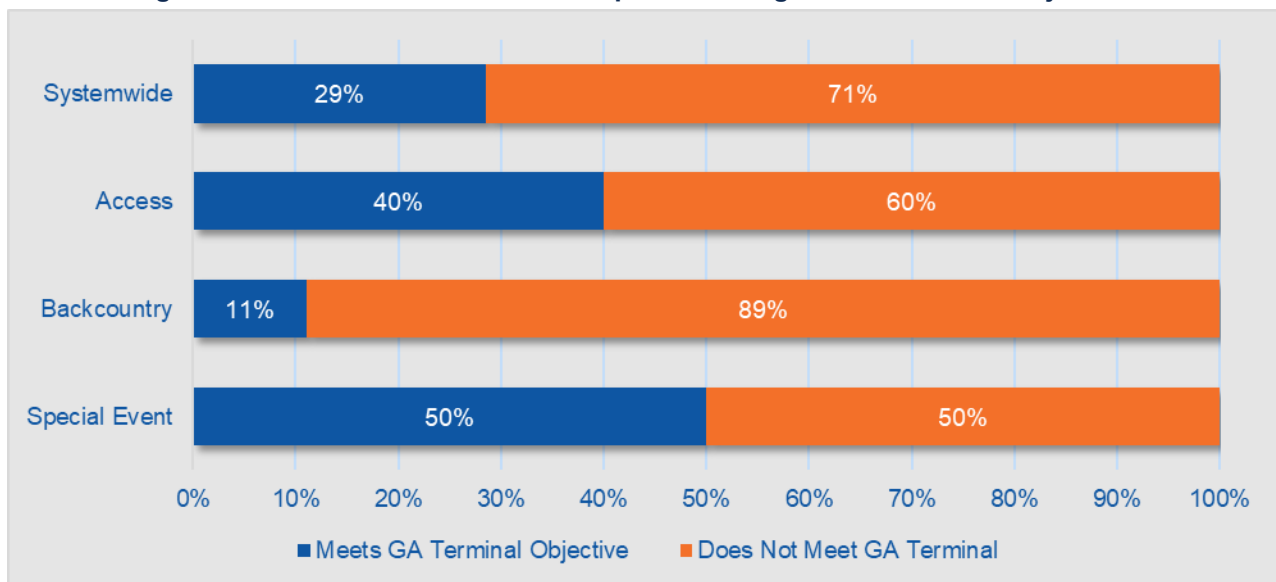
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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



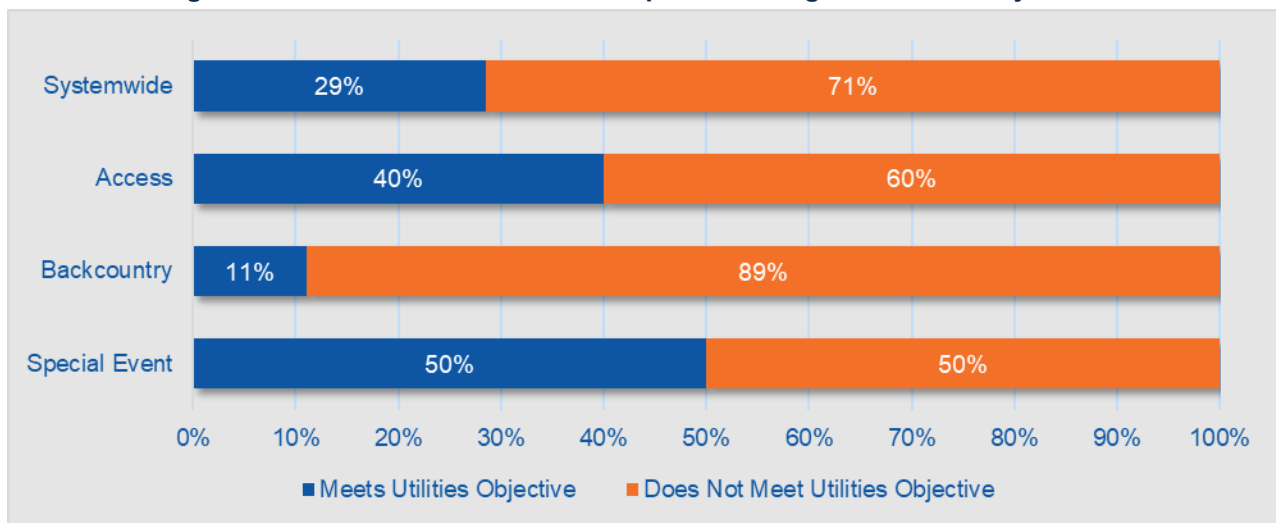
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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



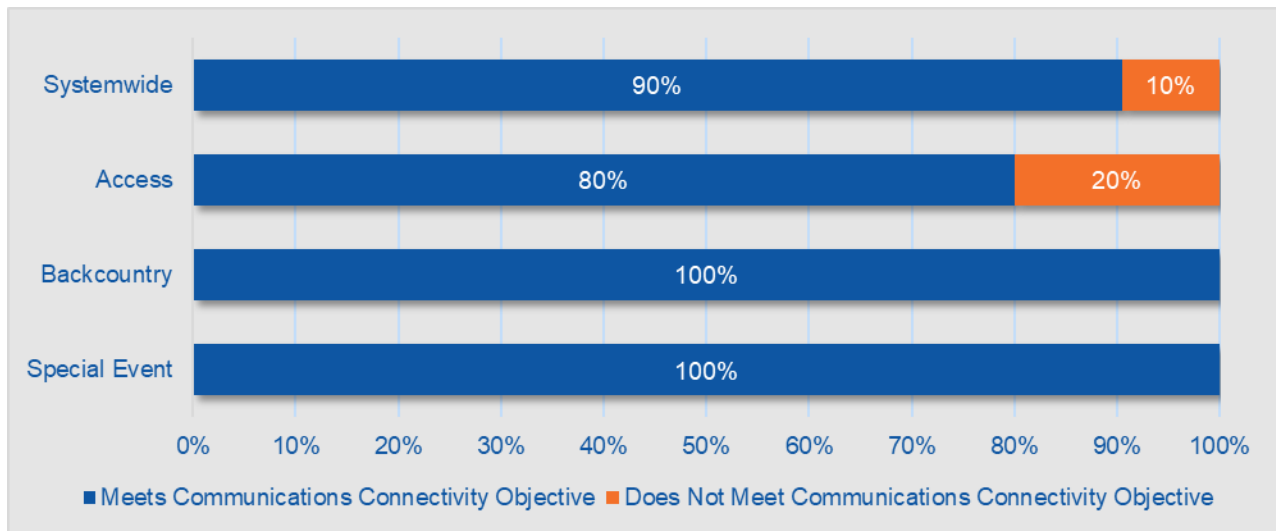
Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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

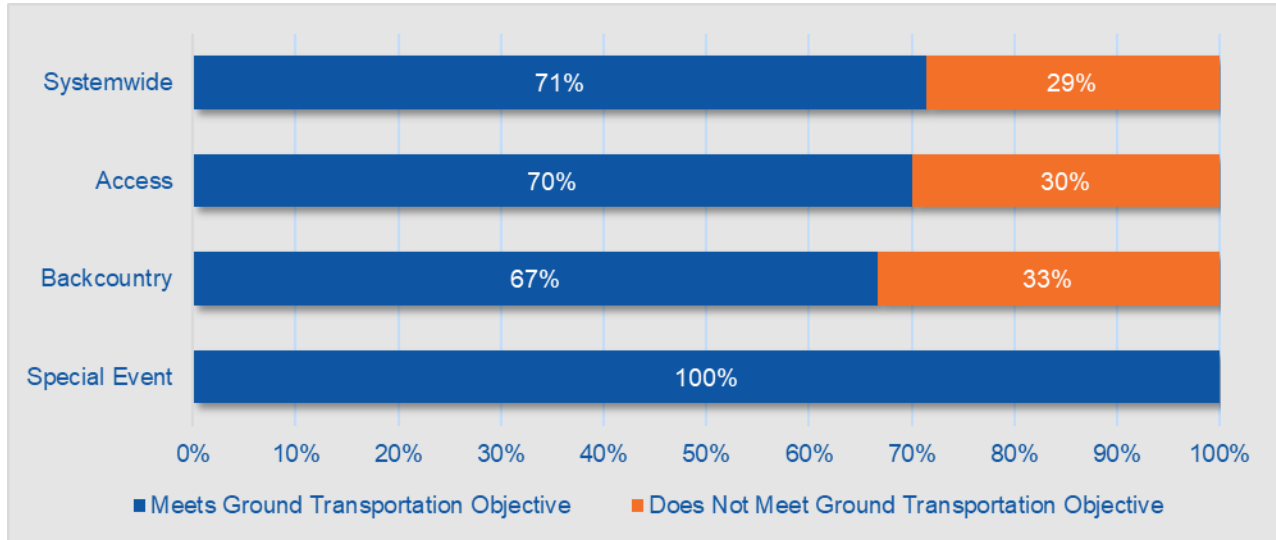


Sources: Airport Inventory Data Collection Survey 2021; Kimley-Horn 2021

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

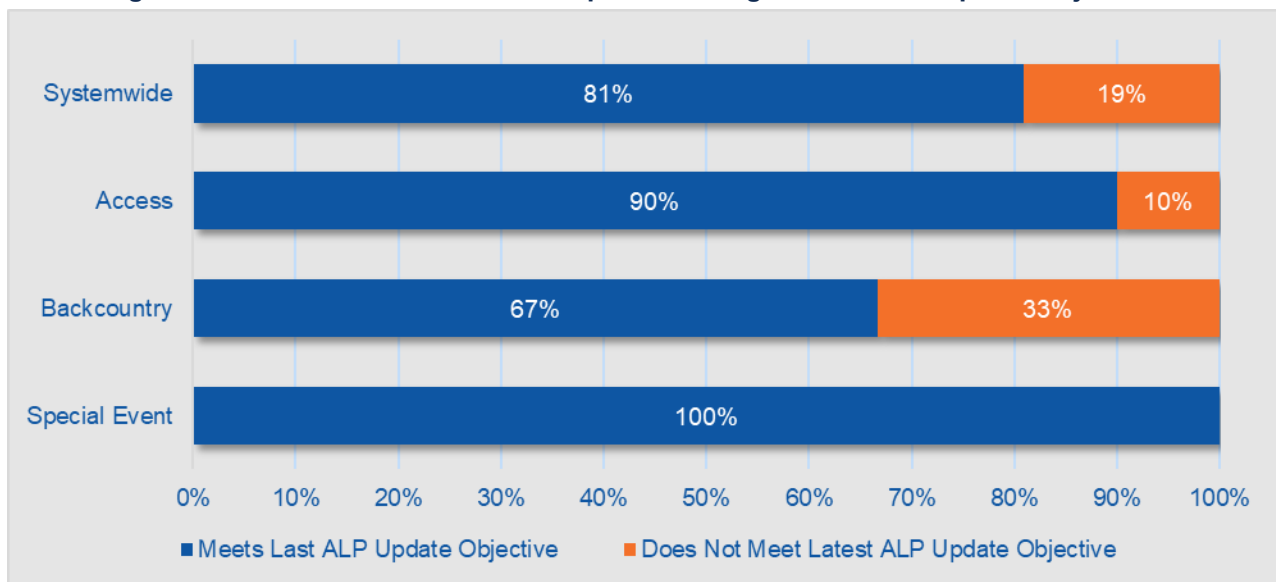
The Ground Transportation Services objective indicates that rental car or taxi/ride share opportunities or having a courtesy car available for airports users is adequate for Access and Backcountry airports. The Access and Backcountry airports meeting this objective all have a courtesy car available for 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

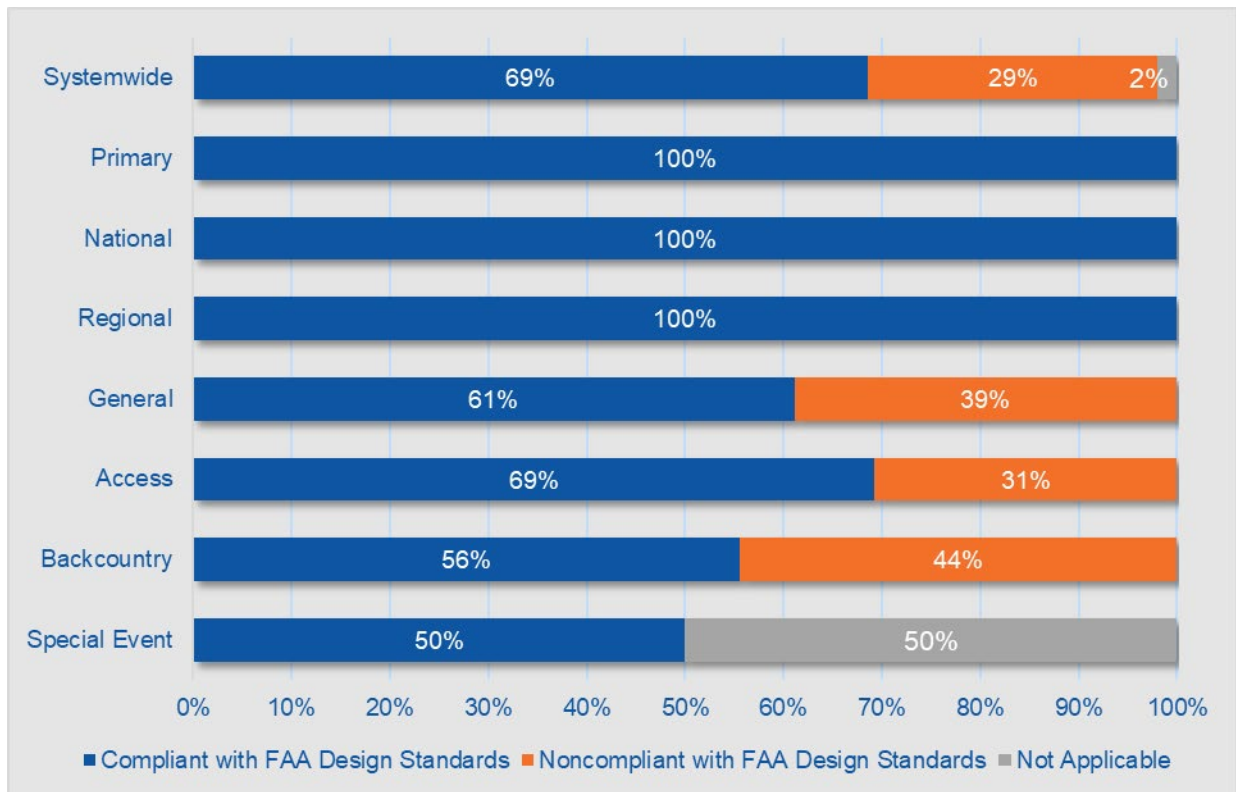
7.4.1.1. Percent of Airports Meeting Applicable FAA Design Standards

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.

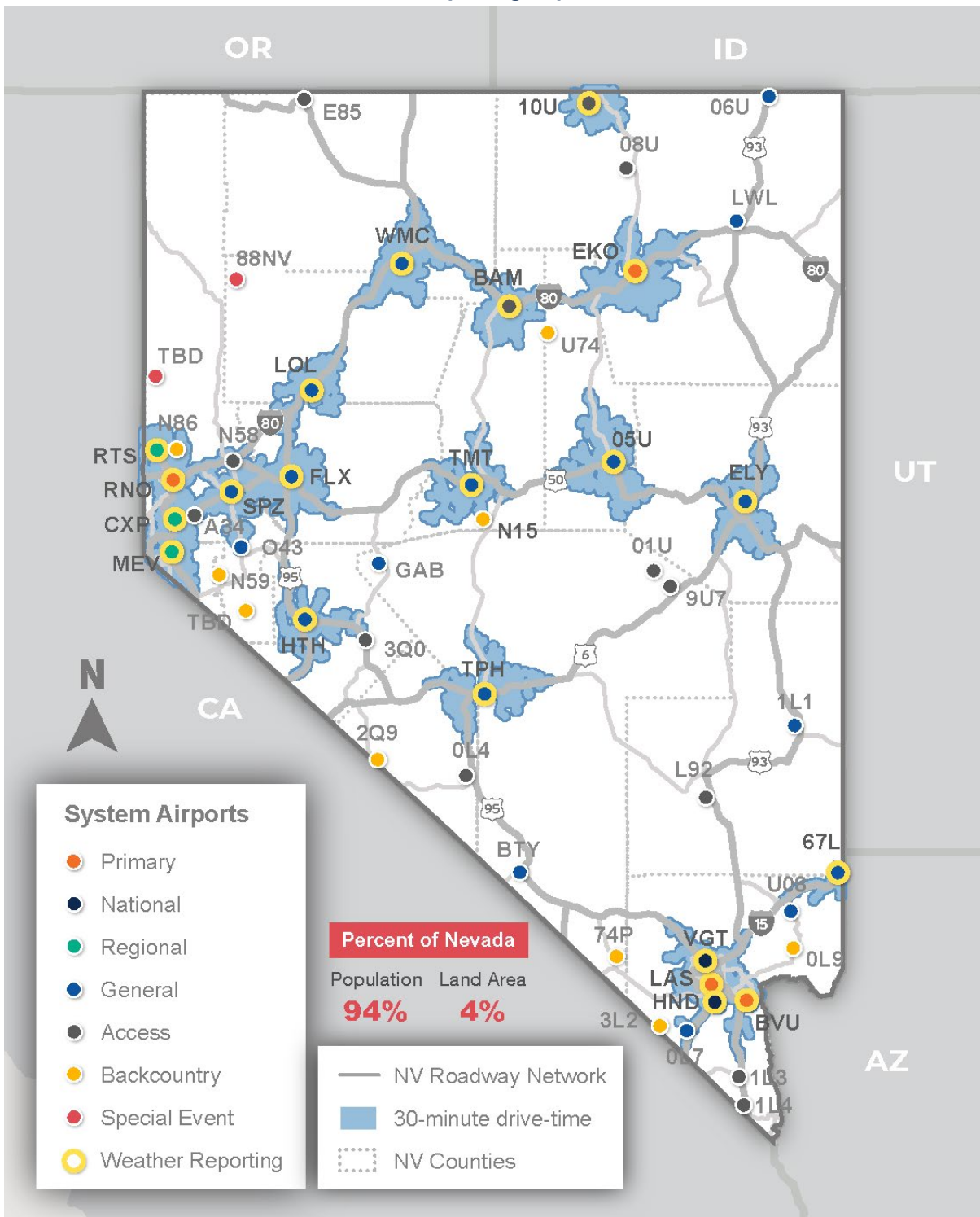
Table 7-4: Future Performance Targets for Weather Reporting at System Airports

NAHSP Classification	Existing Performance	Future Performance	Number of Airports Needing Improvement	Future Population and Land Coverage Target
Systemwide (51)	41%	76%	19	Population: 95%
Primary (4)	100%	100%	0	Land Coverage: 7%
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:

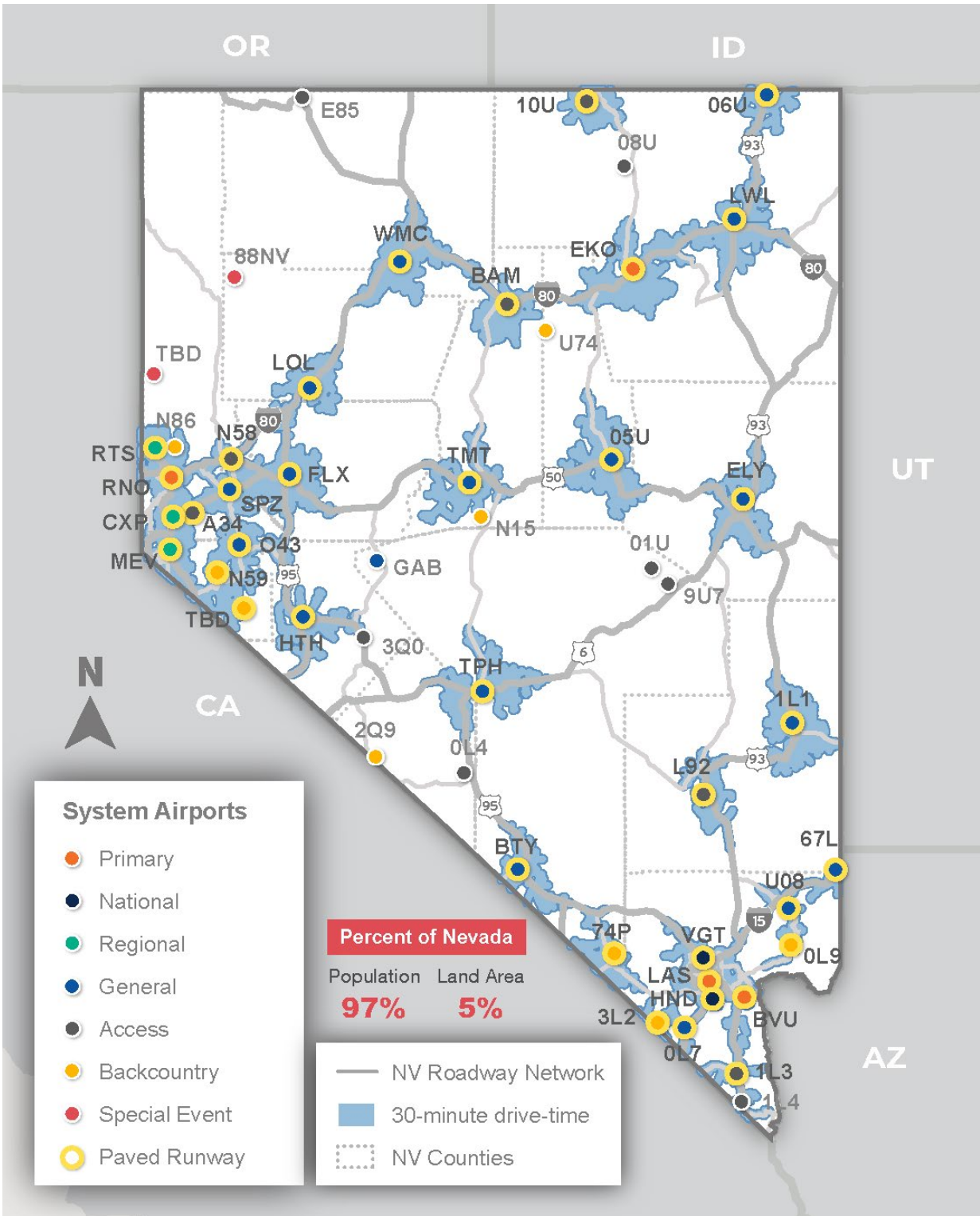
According to the VRV and FSO related to paved runways, it is recommended that all Primary, National, Regional, and General airports have a paved runway. Currently, all but one of these airports is equipped with a paved runway. As shown in **Table 7-5**, the future performance target includes developing 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

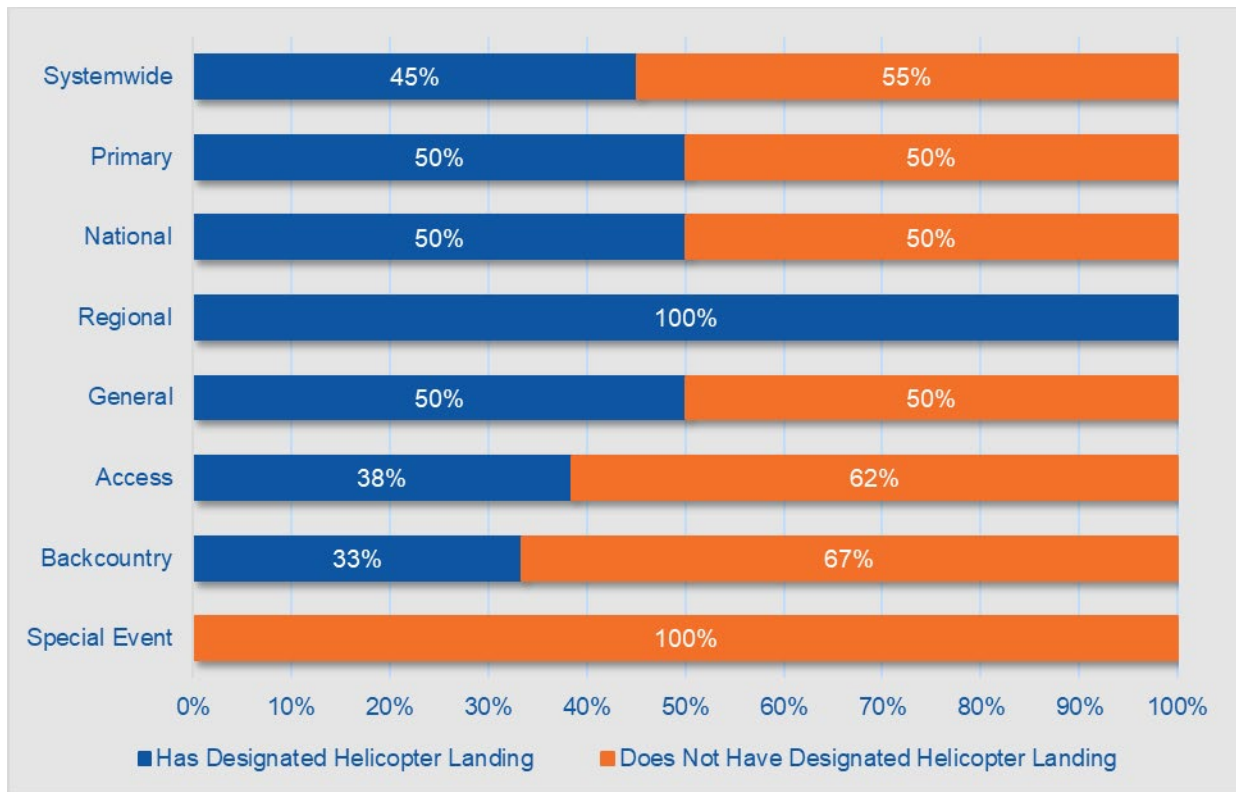
7.4.1.4. Percent of Airports That Have a Designated Helicopter Landing Location

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

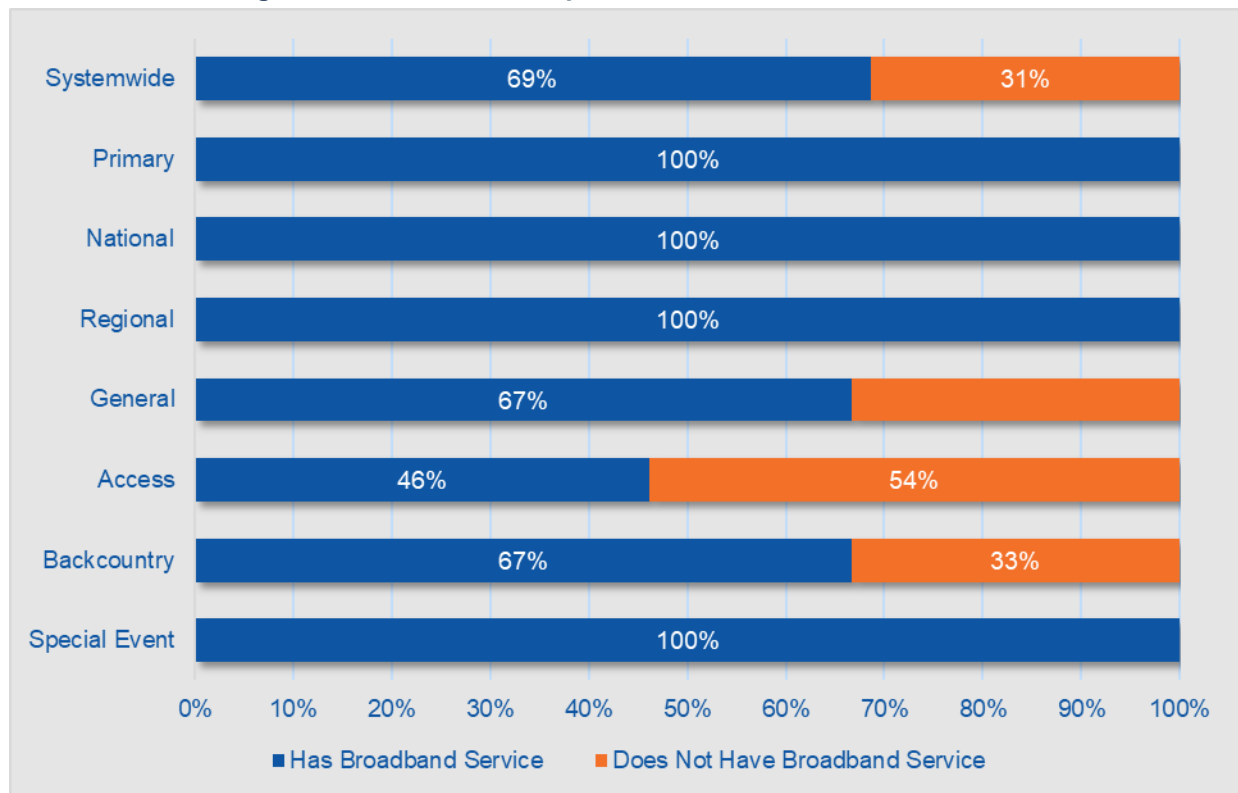
7.4.1.5. Percent of Airports That Have Broadband Service

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.

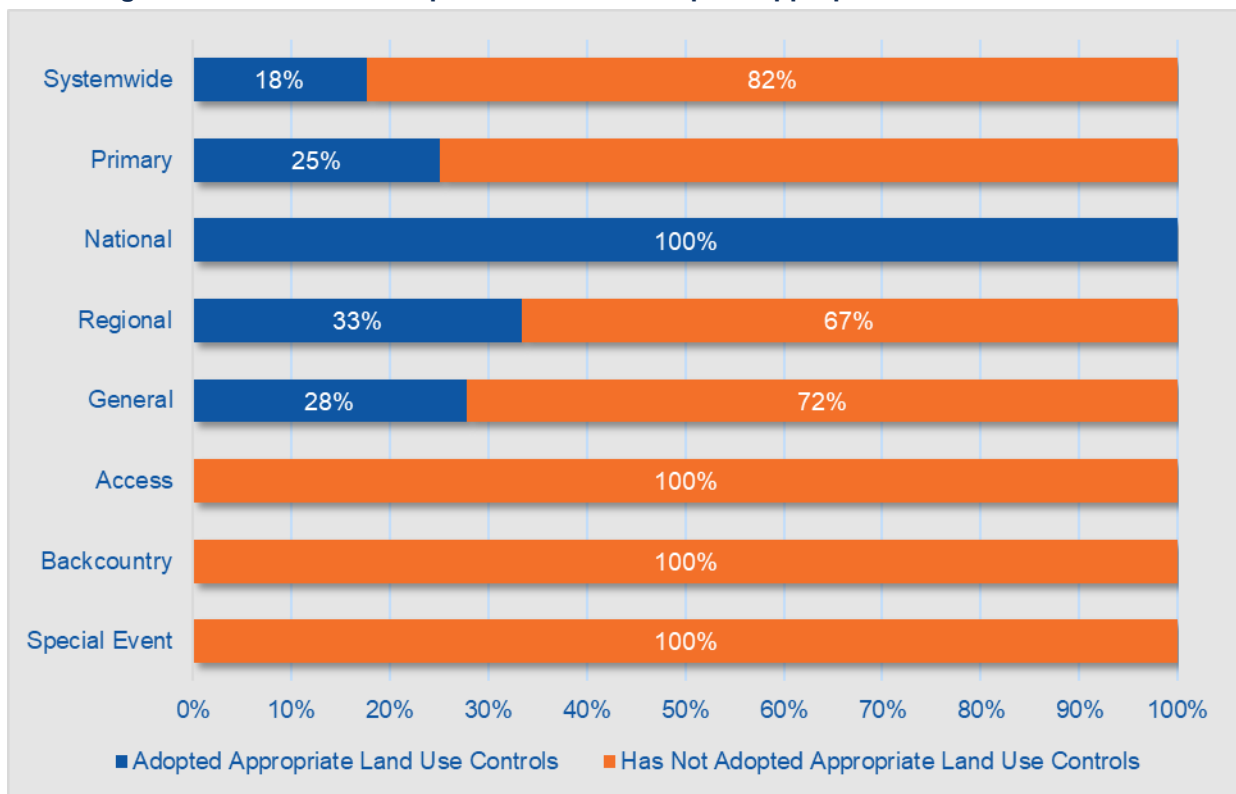
Airports were asked to report the type of land use controls that have been adopted for their airport. Airports that indicated their local jurisdiction(s) have adopted land use, height hazard, and Part 77 controls are considered as meeting this PM.

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.

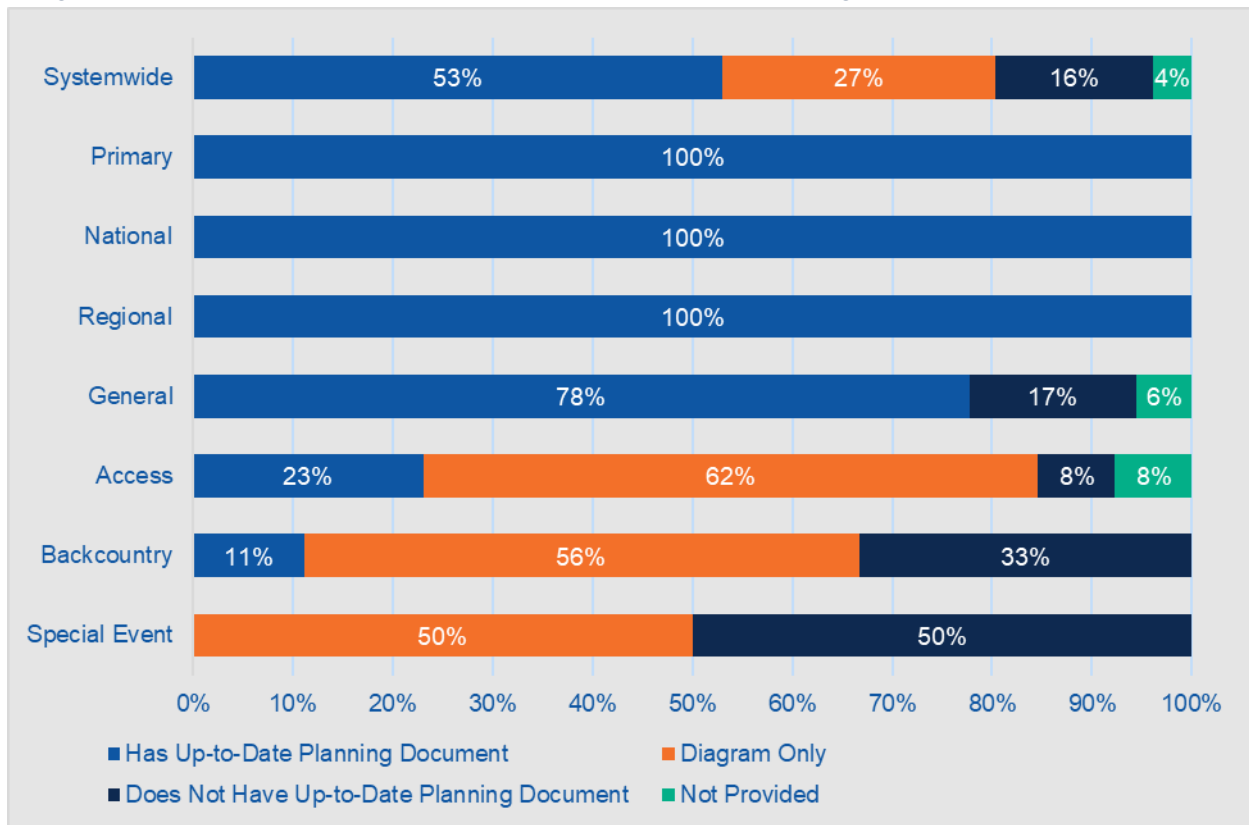
7.4.2.2. Percent of Airports That Have an Approved Airport Planning Document Completed After 2013

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

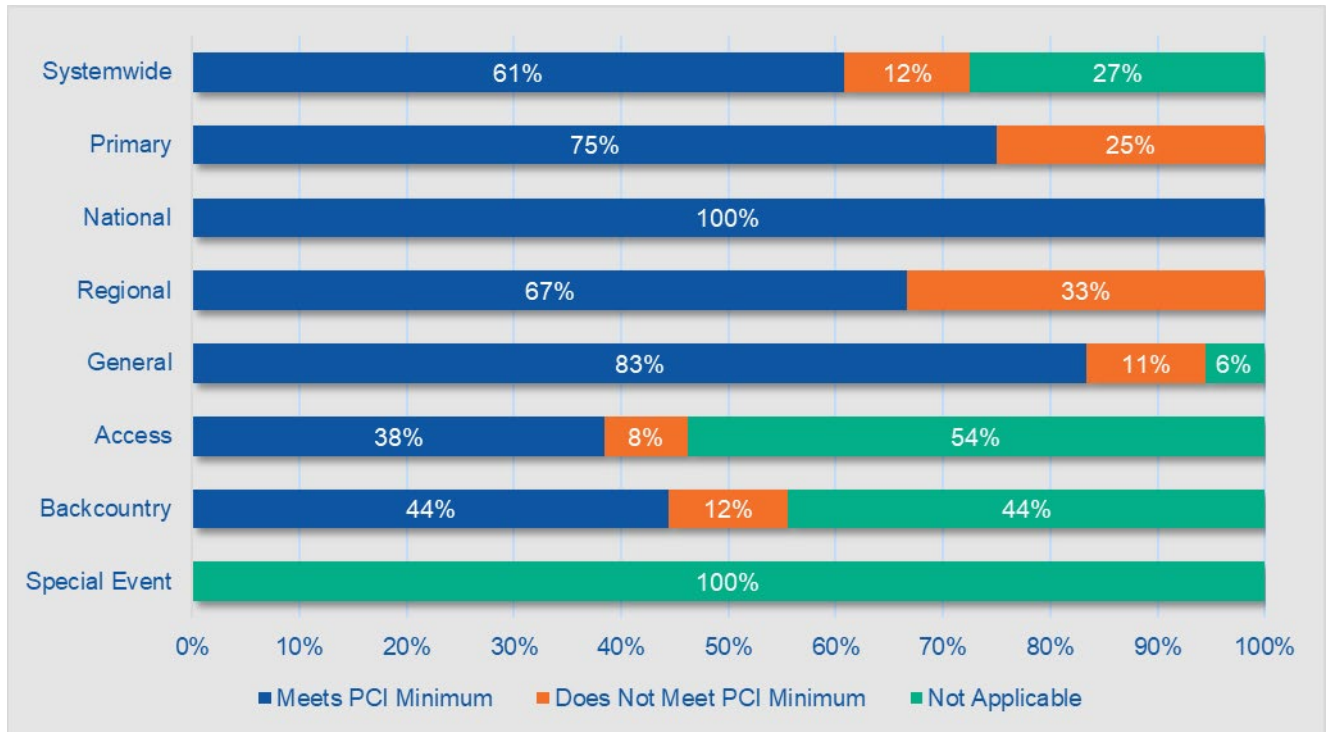
Maintaining airport pavement in good condition is critical for airport safety and usability as poor runway conditions can impact an airport's operational capability. It is important to monitor pavement condition because it is less expensive over time to conduct routine pavement maintenance and rehabilitation 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

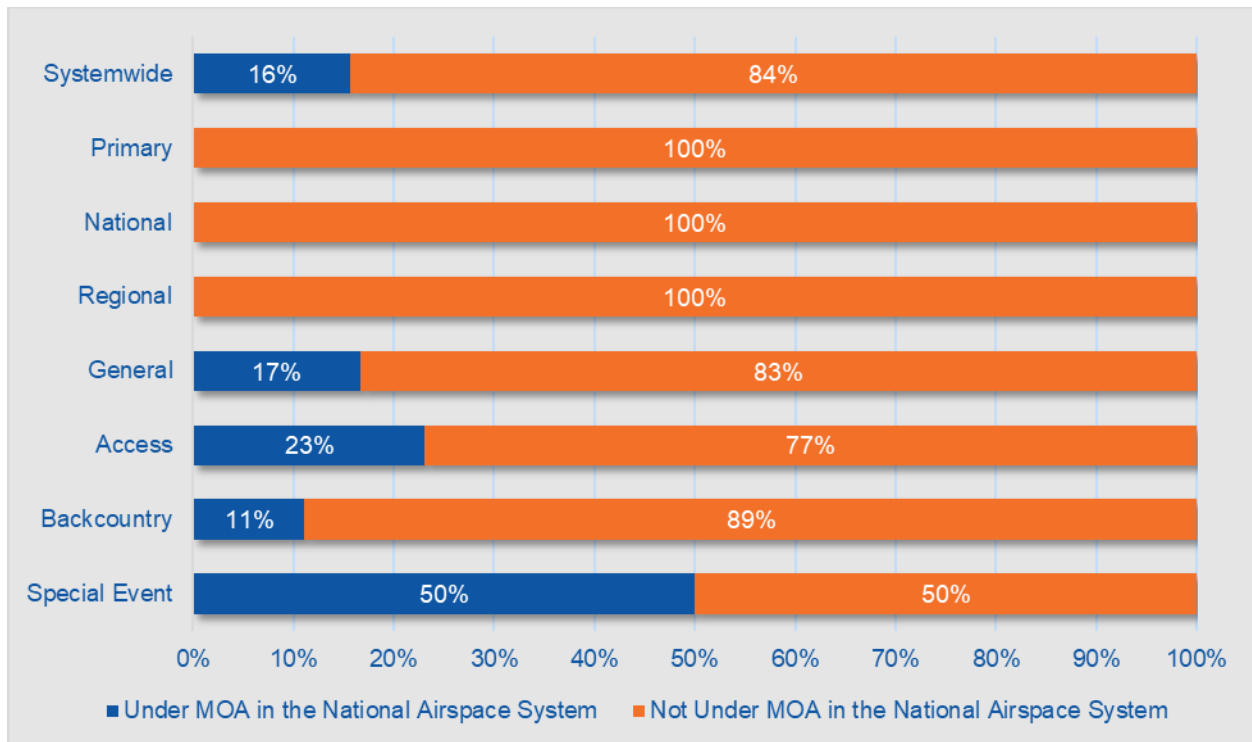
7.4.2.4. Percent of Airports That Are Under a Military Operating Area (MOA) in the National Airspace System

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 relative 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 business aircraft activities
- Percent of airports with tour operators, specifically utilizing helicopters

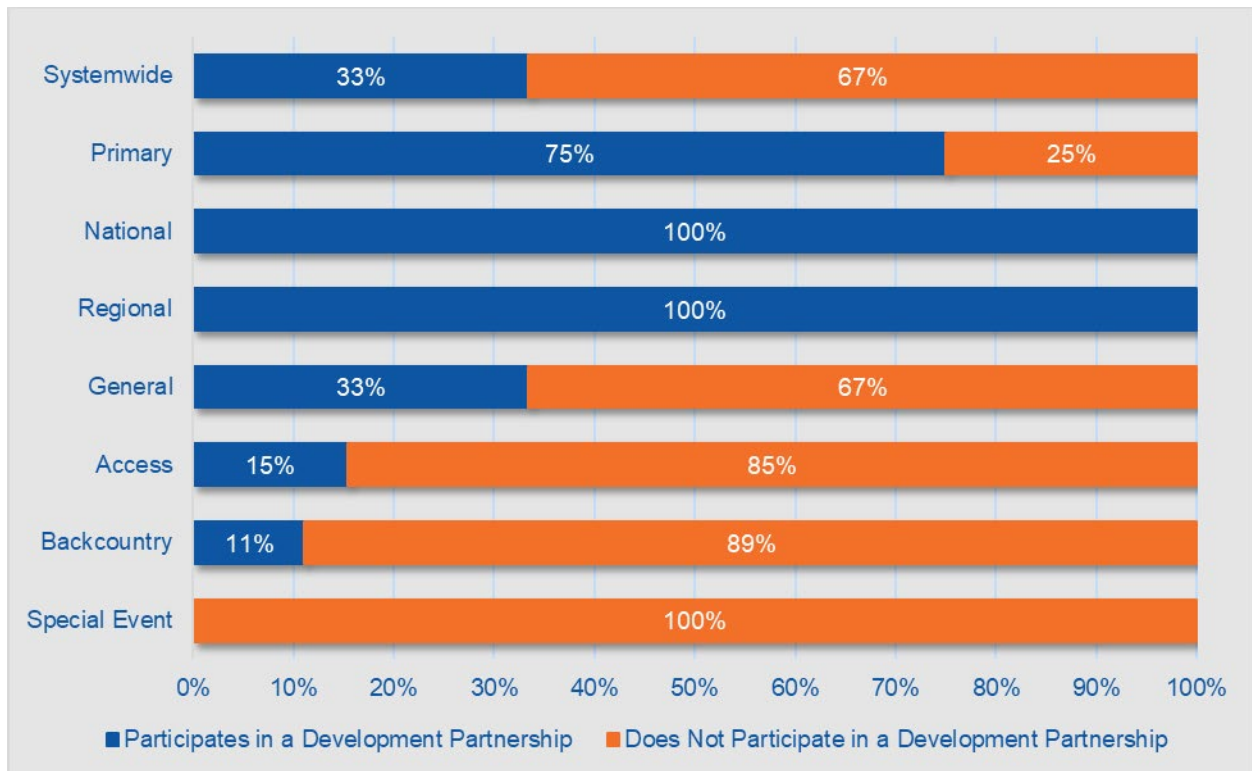
7.4.3.1. Percent of Airports with Active Development Partnerships

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**.

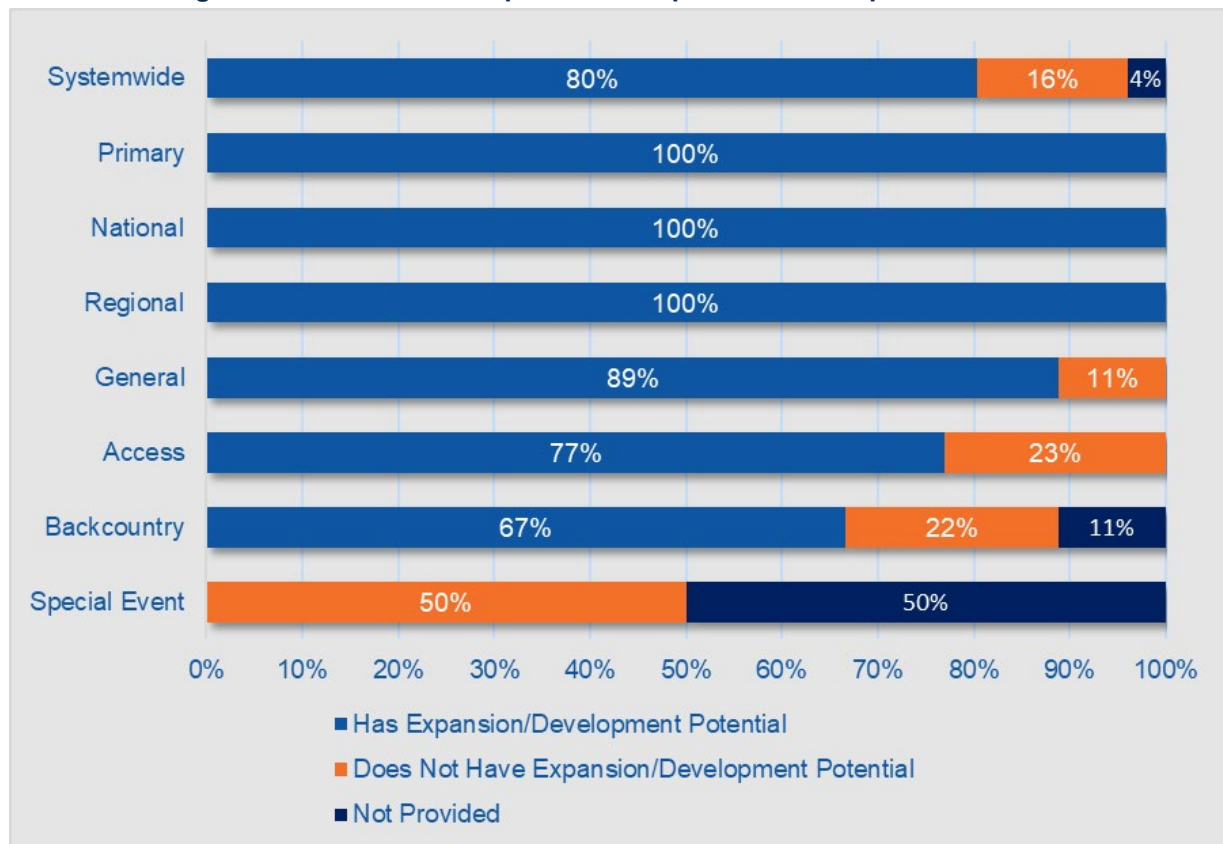
7.4.3.2. Percent of Airports with Expansion/Development Potential

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:

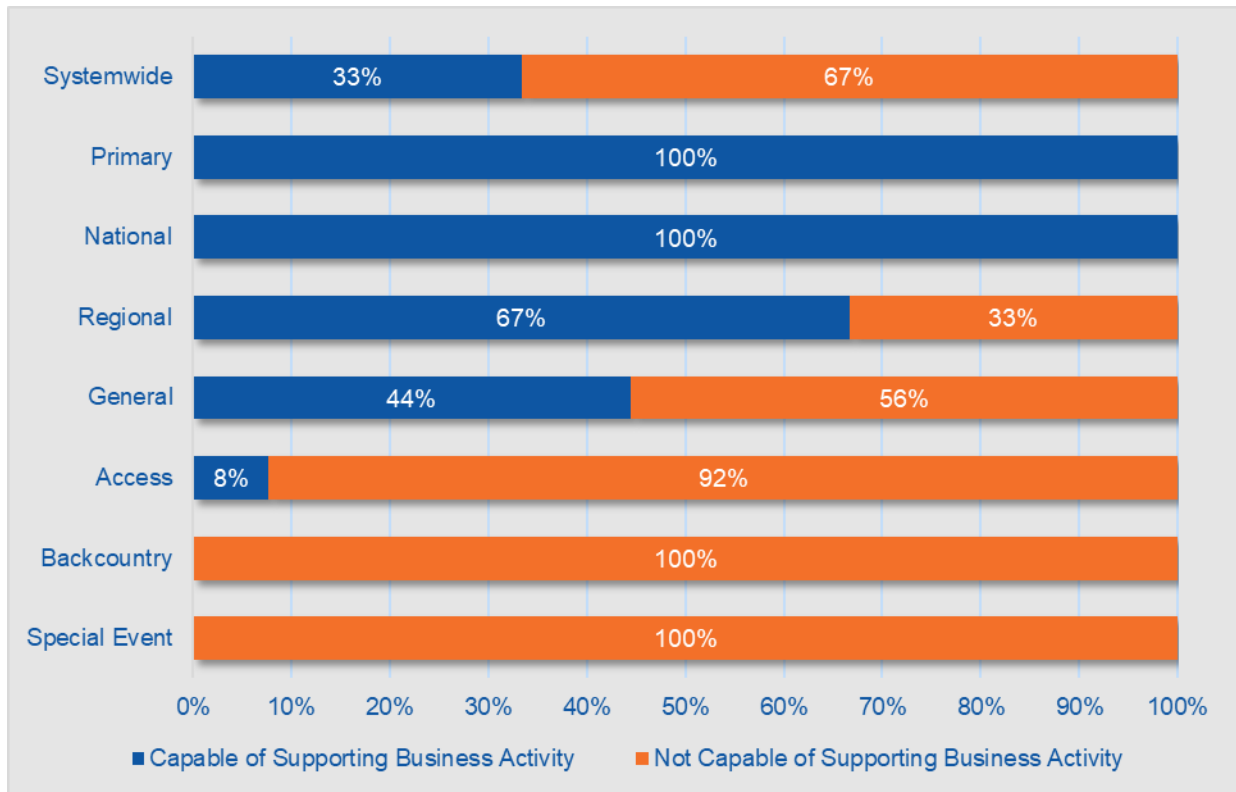
No future performance target is established for this PM because NDOT Aviation Program is not able to impact if an airport has or does not have land available for non-aeronautical development; however, NPIAS airports are assessed in terms of their ability to expand and develop both aeronautical and non-aeronautical 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

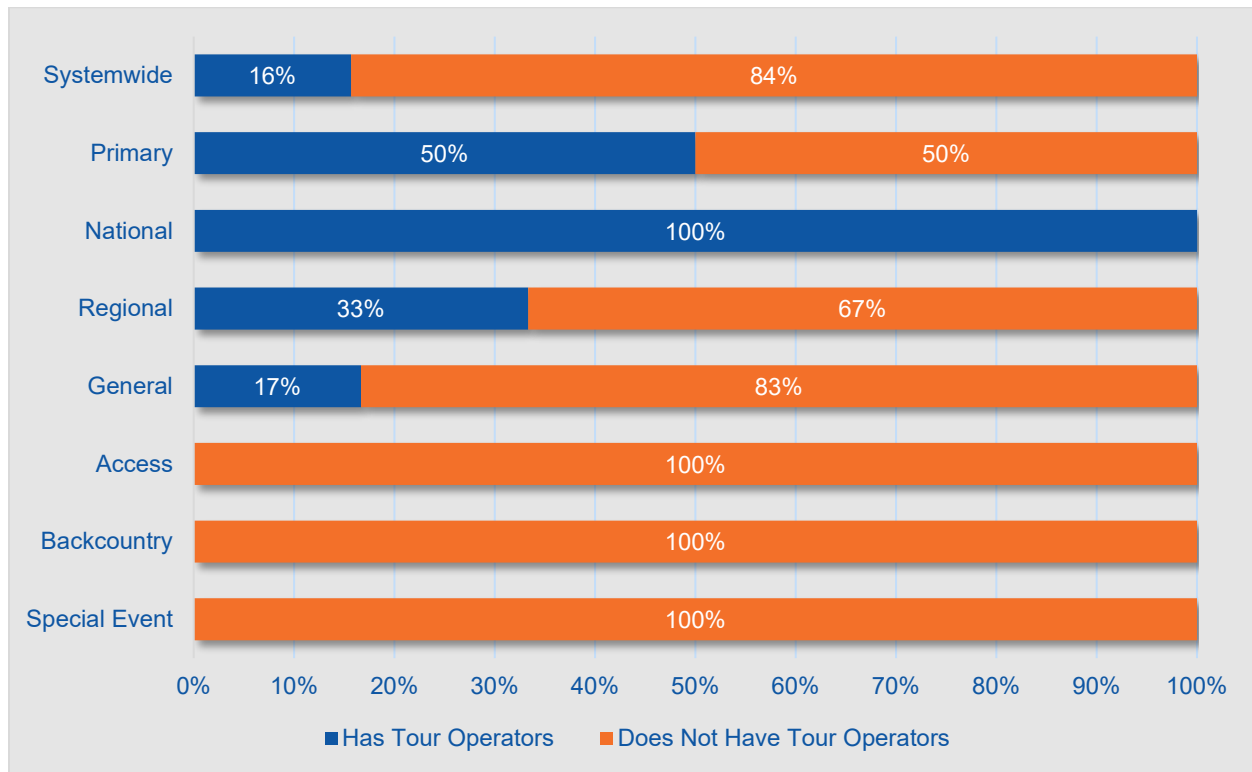
7.4.3.4. Percent of Airports with Tour Operators, Specifically Utilizing Helicopters

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

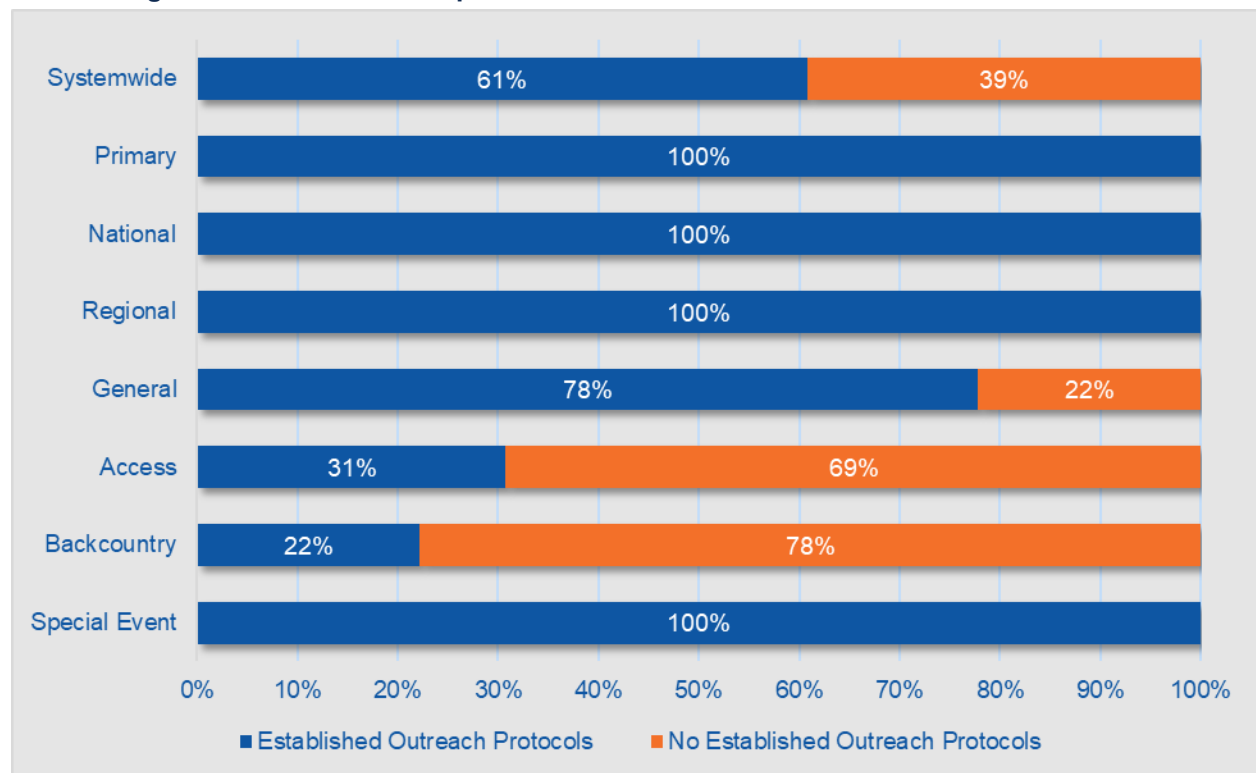
Establishing public outreach protocols contributes to a sustainable aviation system because it promotes social equity as it provides opportunities for the public to participate in the planning and development of their local airport. Public outreach protocols give residents the opportunity to share what 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.

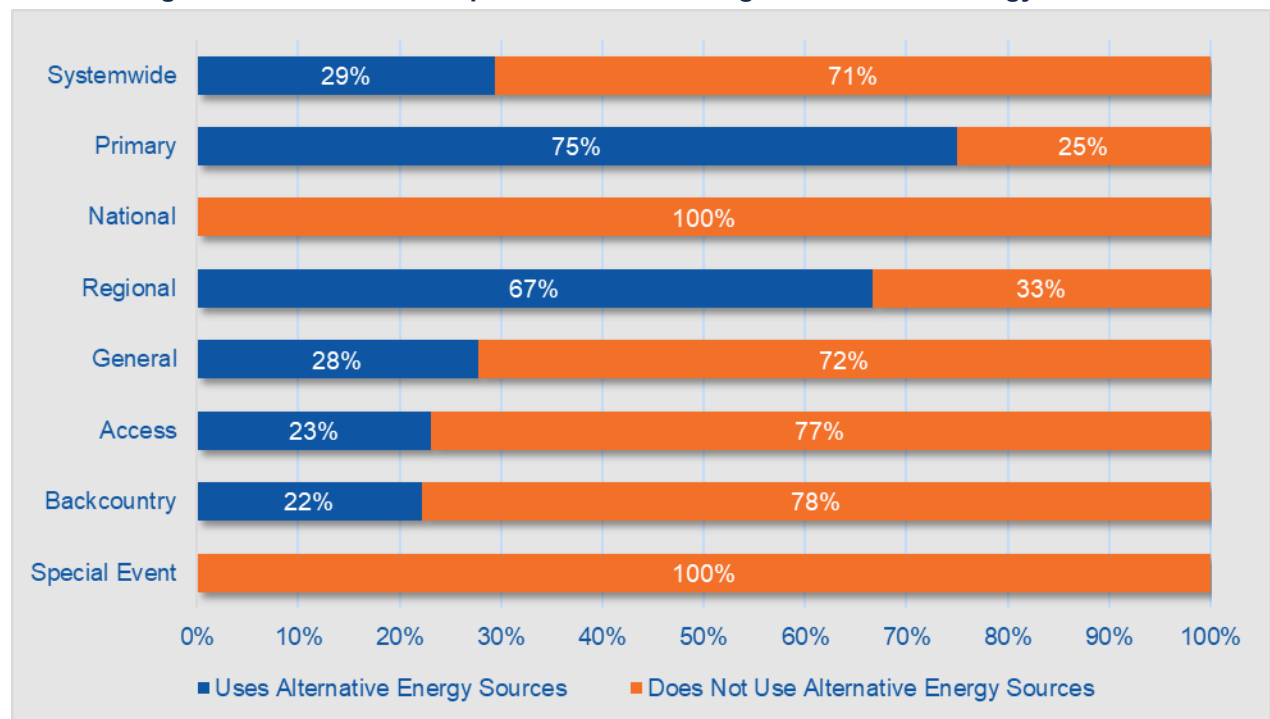
7.4.4.2. Percent of Airports with or Pursuing an Alternative Energy Source

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

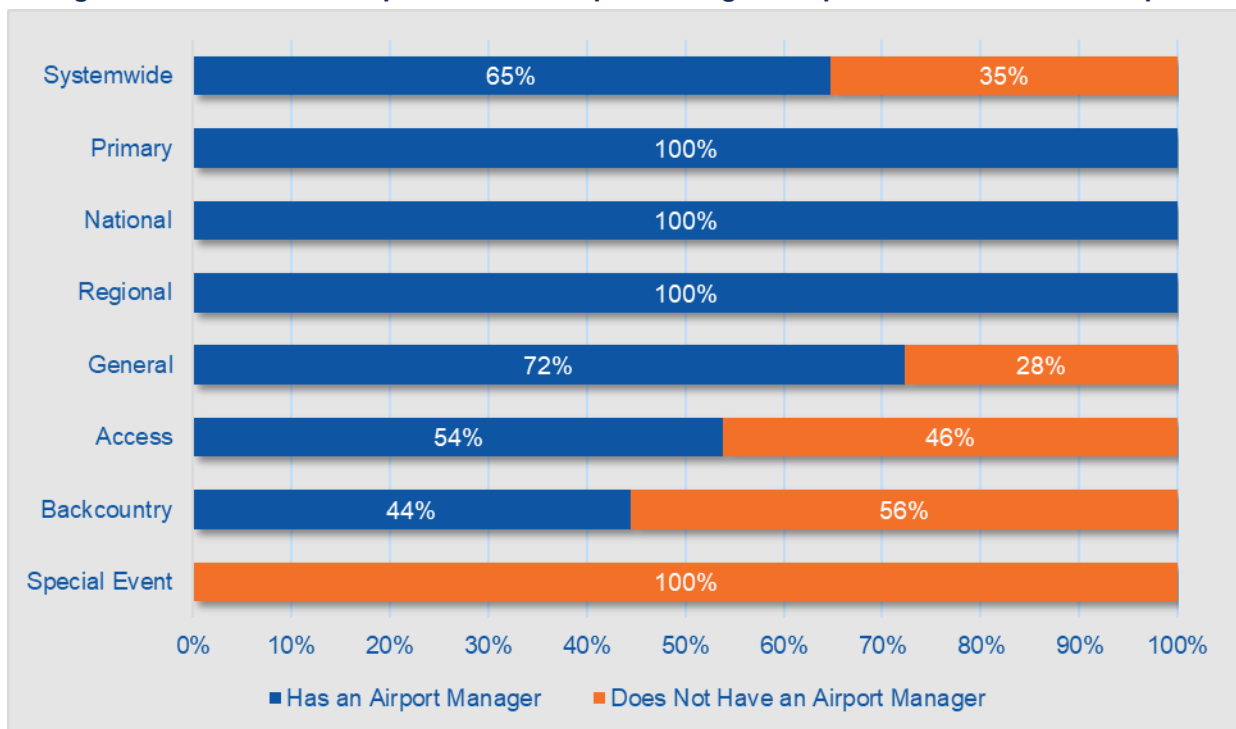
7.4.4.3. Percent of Airports with an Airport Manager to Operate and Maintain the Airport

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:

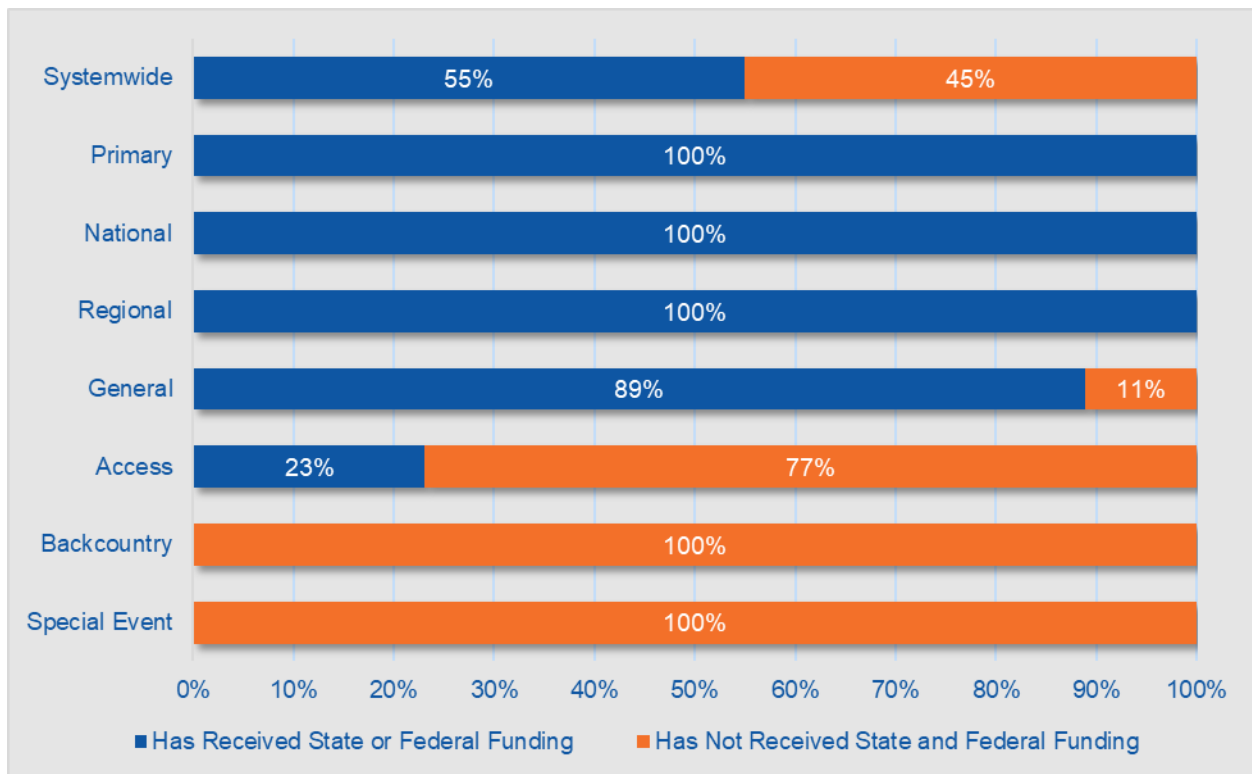
No future performance target is established for this PM because NDOT Aviation Program is not able to fund airport management positions at airports that currently do not have part- or full-time airport management; however, NPIAS airports are assessed in terms of their airport management status as a part 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:

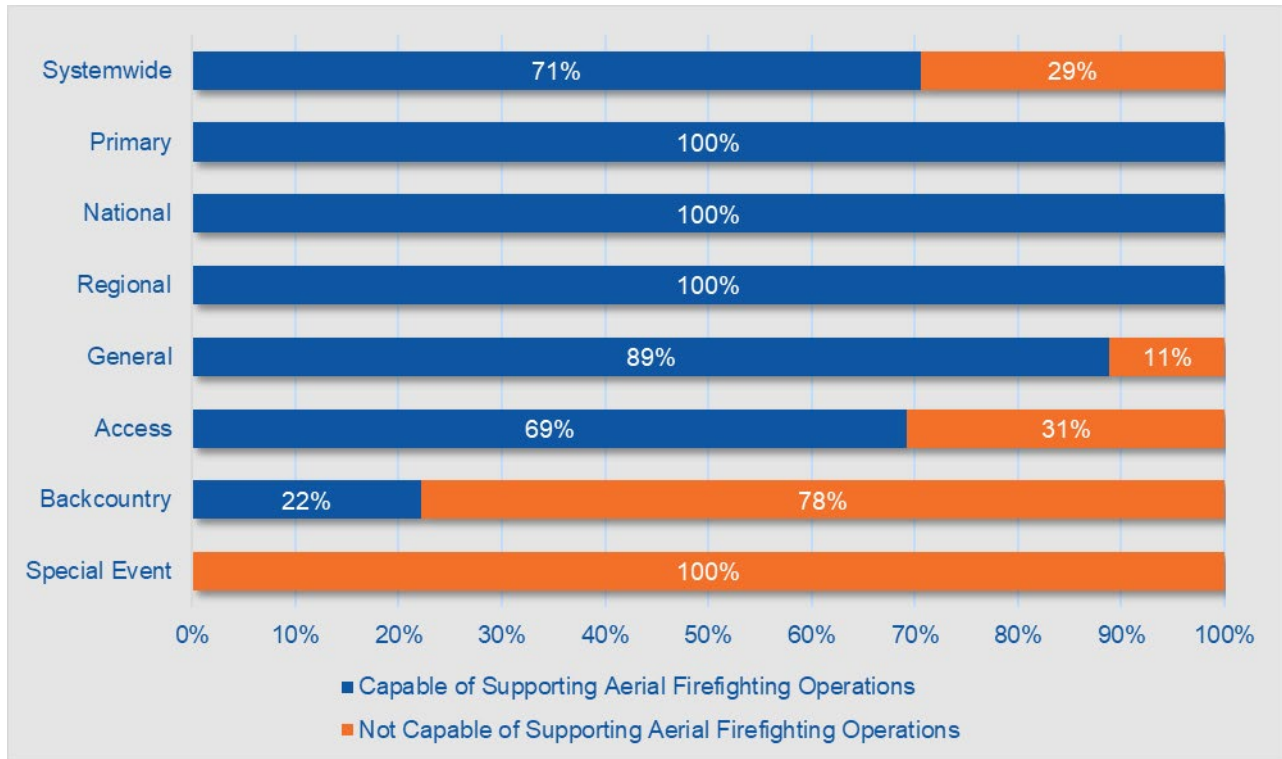
- 5,000' runway
- Jet A fuel
- Weather reporting
- Water utilities

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

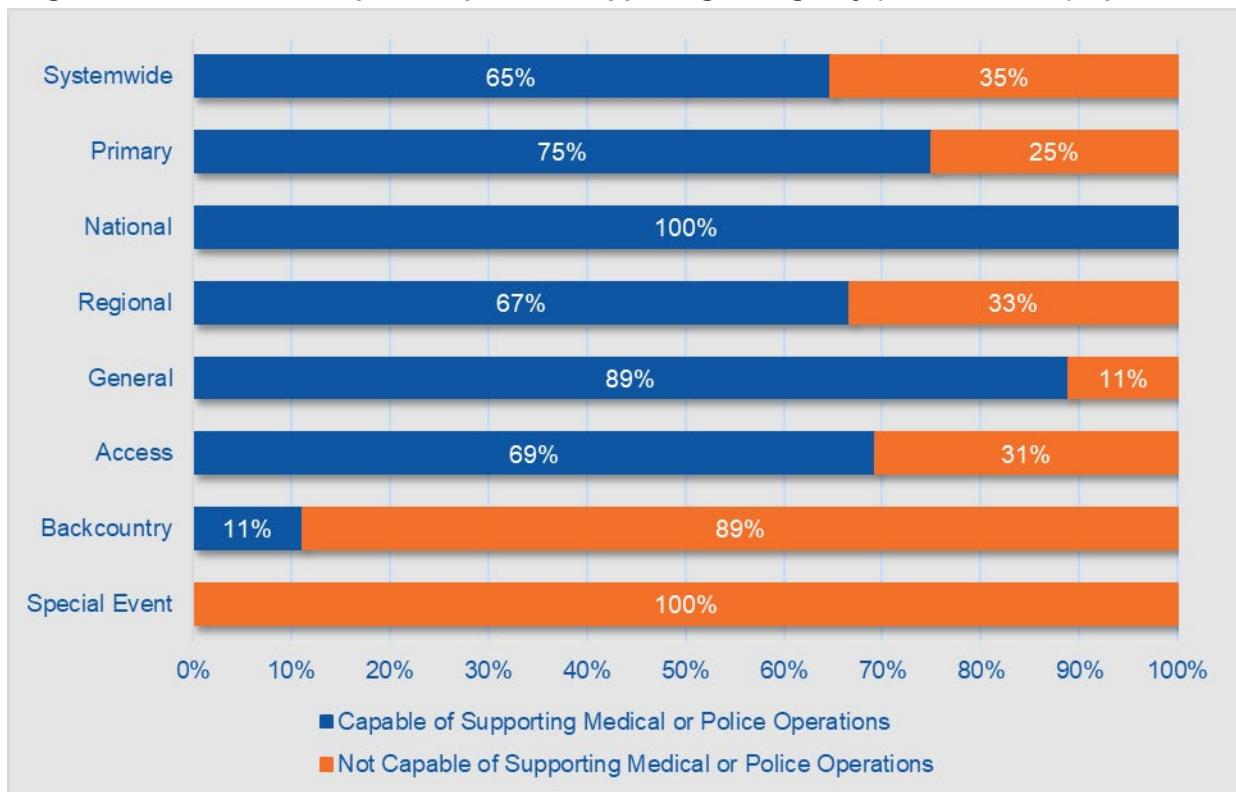
Similar to the critical role of airports in supporting wildfire suppression, airports also play a critical role in supporting emergency response related to medical or police emergency operations. Air medical operations include transporting a patient, medical staff, or medical equipment, and more. Police 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.

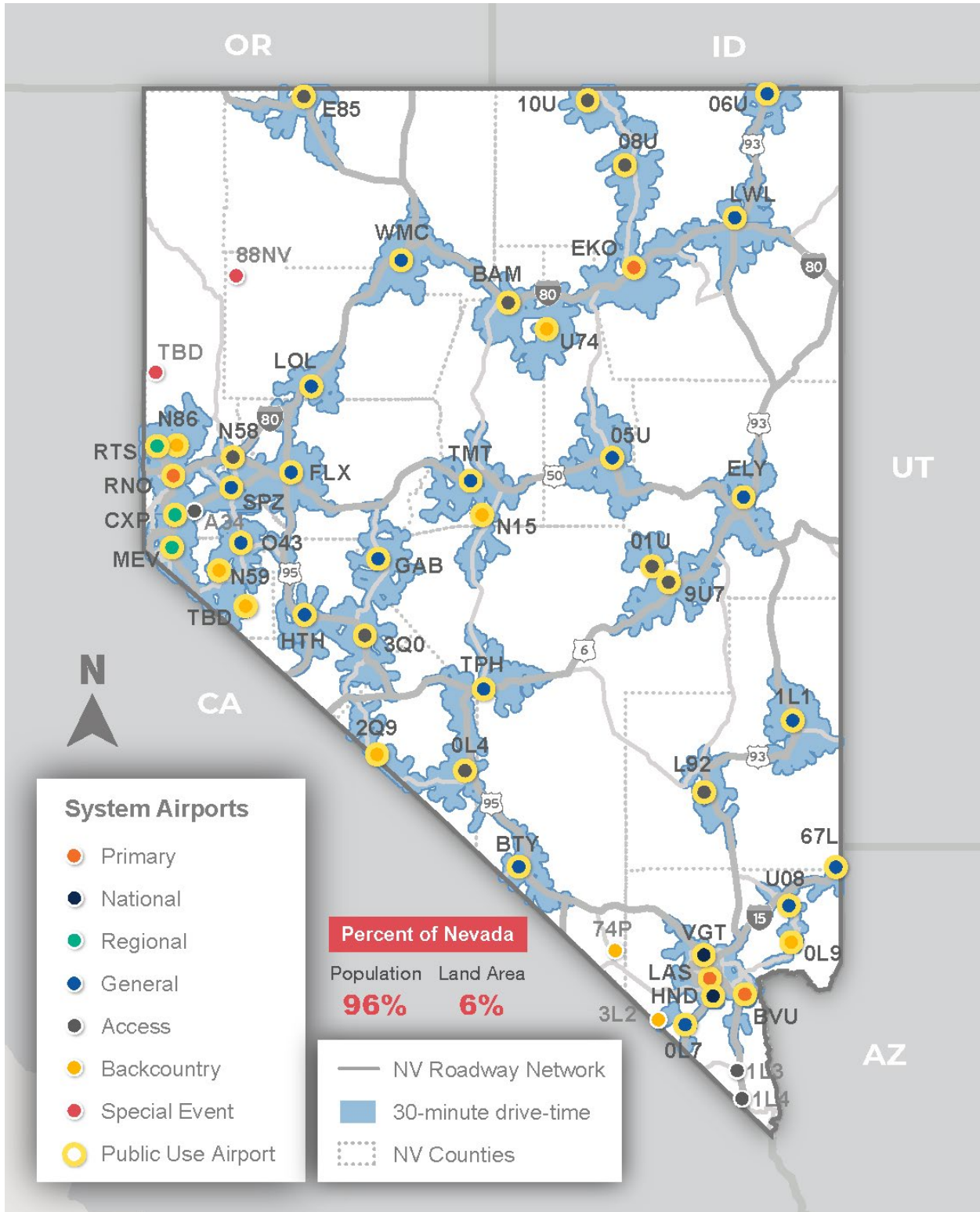
Existing System Performance:

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 areas⁵ 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:

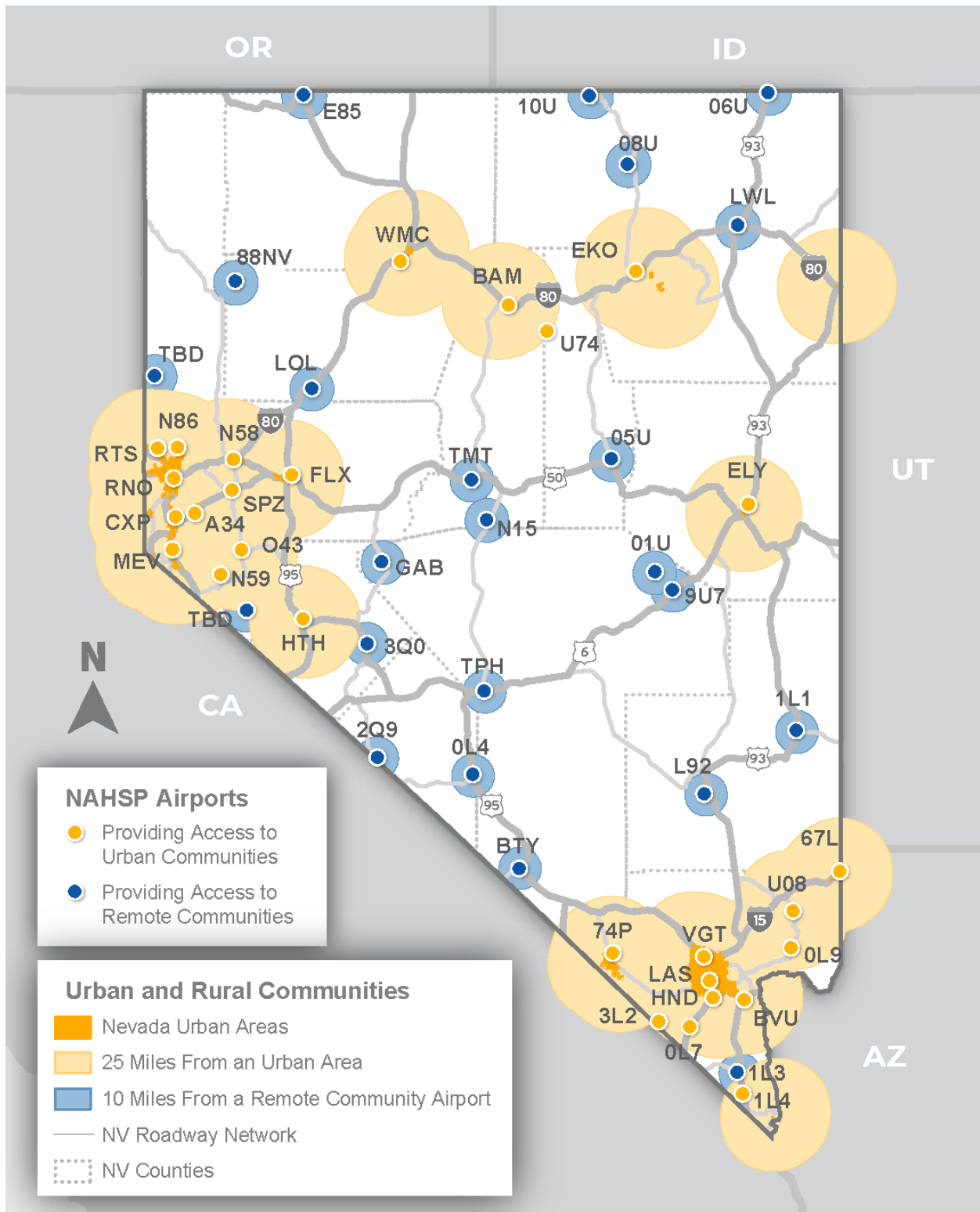
The results of this analysis are visually represented in **Figure 7-42**, which depicts the urban areas and the airports within those areas, and the airports outside of those urban areas that are considered as providing access to remote communities. A 10-mile buffer is developed around the airports that 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

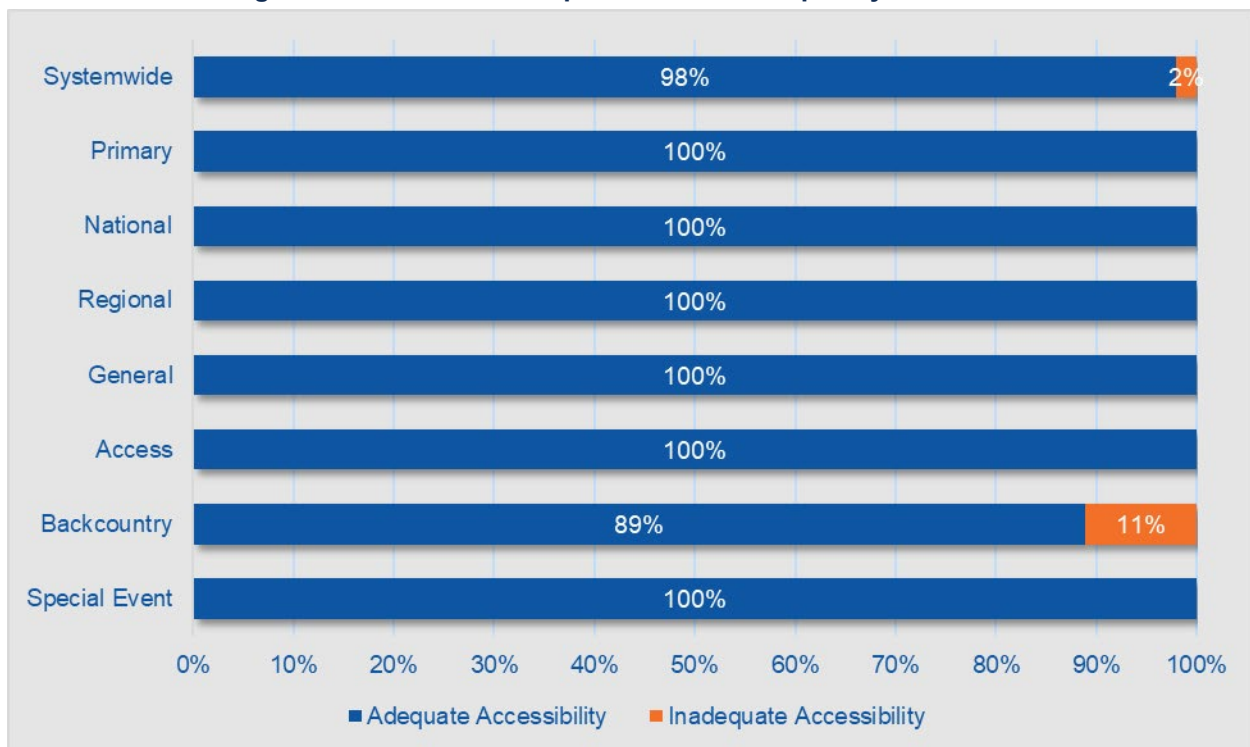
7.4.6.1. Percent of Airports That Are Adequately Accessible

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

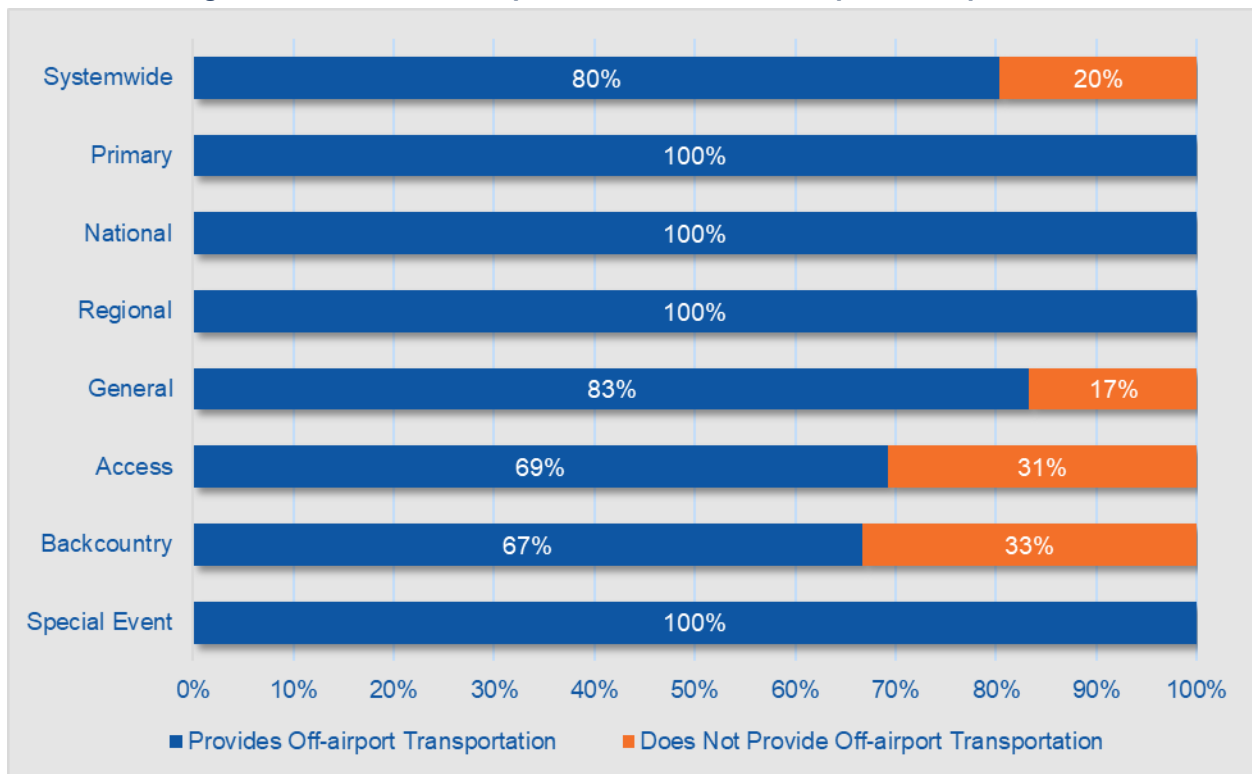
7.4.6.2. Percent of Airports That Provide Off-airport Transportation

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

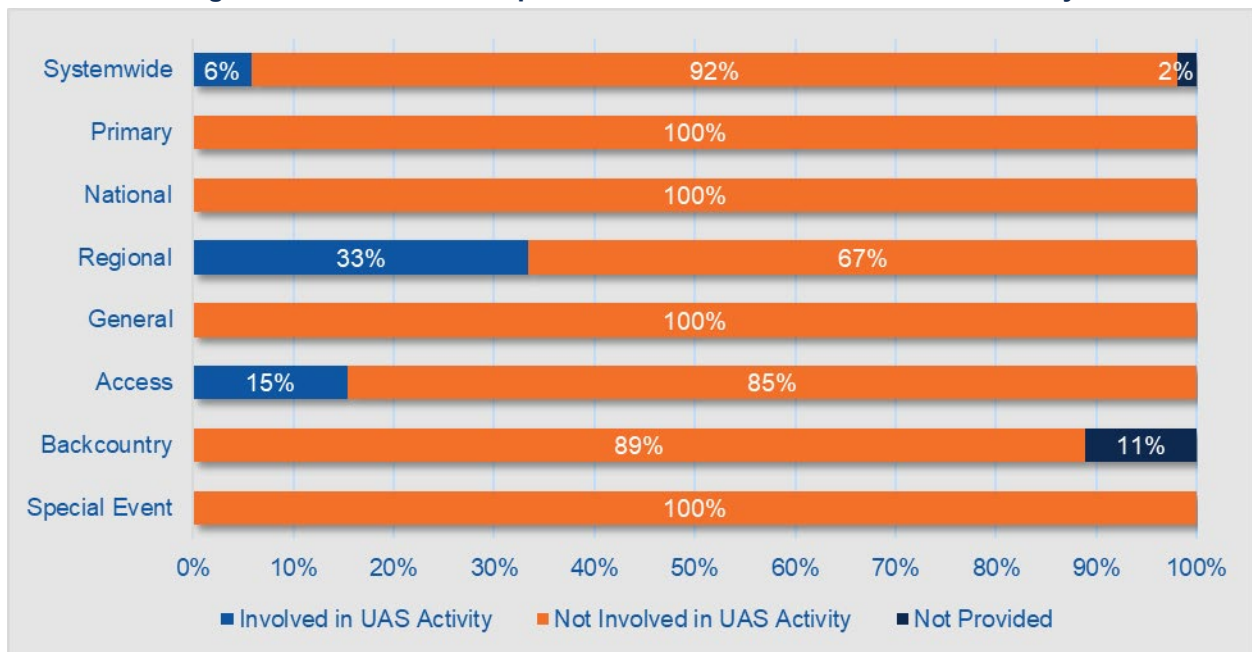
The use and applicability of unmanned aircraft systems (UAS) and unmanned aircraft vehicles (UAV) technologies continue to grow as the technologies become more advanced and readily available. UAS technology is used for a variety of commercial purposes, from public safety operations, to agricultural production, 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 Value**. For more information regarding how specific airports performed in the VRV and FSO analysis, see **Appendix A. Individual Airport Reports**.