

INTRODUCTION AND SUMMARY



Sustainable Airport Master Plan



INTRODUCTION AND SUMMARY



The Albuquerque International Sunport (ABQ) is a thriving medium hub, commercial service airport serving the aviation demand of the greater Albuquerque region and much of the State of New Mexico. This sustainable airport master plan update has been undertaken to evaluate the airport's capabilities and role, to review forecasts of future aviation demand, and to plan for the timely improvement of facilities that may best meet that demand and maintain compatibility with the environs. The airport master plan will provide systematic guidelines for the airport's overall development, maintenance, and operation for the next 20 years.

The master plan is intended to be a proactive document which identifies and then plans for future facility needs well in advance of the actual need for the improvements. This is done to ensure that the City of Albuquerque and its Aviation Department can coordinate environmental reviews, project approvals, design, financing, and construction to maintain and operate safe, adequate, and efficient facilities.

This study will follow a systematic approach outlined by the Federal Aviation Administration (FAA) to identify existing and future airport needs. The intended result is a recommended development concept which outlines the proposed uses for all areas of airport property. This master plan update will differ from those before in that the analysis will include airport sustainability measures. The sustainability analysis will include a baseline assessment outlining historical and current sustainability achievements, as well as integration of proposed sustainability goals and objectives into future airport plans.





The City of Albuquerque recognizes the importance of air transportation to its community and the surrounding region, as well as the associated challenges inherent in providing for its unique operating and improvement needs. The cost of maintaining an airport is an investment which yields impressive benefits, which time and again have proven to be greater than the costs. A sound and realistic master plan will position the airport to maintain its role as an important link to the national air transportation system for regional users, as well as maintain the existing public and private investments in its facilities.

MASTER PLAN GOALS AND OBJECTIVES

The primary objective of the sustainable airport master plan (SAMP) is to provide the community, City of Albuquerque, and its airport administration with proper guidance for future improvements and processes that incorporate sustainability principles in addressing aviation demand and airport operations in a manner that is wholly compatible with the environment. Making sustainability a part of the core objective of the planning process will promote design, project implementation, and financial decisions that will help the airport identify ways to reduce energy consumption, environmental impacts, and carbon footprint. As a result of incorporating sustainability issues into the master planning process, the airport can become a more environmentally friendly economic center and neighbor. The plan will benefit all residents of the area by providing a single comprehensive plan which supports and balances aviation activities and the environmental preservation of the surrounding environs.

Accomplishing this objective requires an evaluation of the existing airport to determine what actions should be taken to maintain an adequate, safe, and reliable airport facility. The sustainable airport master plan will produce a development plan which will provide airport officials with a program for future capital needs to aid in planning, scheduling, and budgeting.

An airport master plan must be developed in accordance with FAA requirements; however, the plan can also be prepared in a manner which makes it useful in strategic planning for the airport. The FAA requires specific components within a master plan. The components, to be detailed in the following section, are guidelines which allow for a systematic and technical approach to reach the final recommended plan.

This sustainable master plan provides a vision for the airport covering the next 20 years and, in some cases, beyond. With this vision, the City of Albuquerque will have advance notice of potential future airport funding needs so that appropriate steps can be taken to ensure that adequate funds are budgeted and planned.

The specific objectives considered in the sustainable airport master plan included:

- To review the Aviation Department's sustainability policy mission statement;
- To define sustainability categories at the airport and conduct a baseline inventory and assessment;
- To research and evaluate transportation industry and socioeconomic factors likely to affect the air transportation demand in the region;
- To determine the projected needs of airport users through the year 2035;



- To establish measurable goals to minimize the impact on consumption, and to identify specific sustainability initiatives to help in achieving each goal;
- To recommend improvements that will enhance the airport's safety, efficiency, and capability to serve the community's aviation needs;
- To establish a schedule of priorities and a financial plan for the improvements proposed by this master planning effort;
- To determine the required level of environmental documentation to move forward with each recommendation of the master plan;
- To prepare an updated Airport Layout Plan in accordance with FAA guidelines and incorporate GIS databases; and
- To incorporate an active and productive public involvement and community outreach program throughout the sustainable master planning process.

AIRPORT GUIDING PRINCIPLES

The Albuquerque International Sunport has established the following guiding principles:

Mission Statement

Plan and deliver premier aviation services that contribute positively to Albuquerque and New Mexico by assuring a safe, pleasurable airport experience for passengers and quality services for our customers.

Vision Statement

The Albuquerque International Sunport is a leading center for worldwide transportation that advances local, regional, and international commerce and creates an authentic southwestern travel experience.

The Albuquerque International Sunport is a leading center for world-wide transportation that advances local, regional, and international commerce and creates an authentic southwestern travel experience.

Values and Beliefs

- Overall Excellence – we are proud of our leadership team for excellence in aviation and public services.
- Financial Responsibility – our accurate, timely reporting and management of finances assures and maximizes value for airport stakeholders.
- Customer – our outstanding services are courteous, professional, and responsive to customer needs.
- Community Relationships – as a good neighbor, we build community relationships based on mutual trust and open communication.
- Employee Well-Being – we appreciate, respect, and value all employees at all job levels.
- Operational Effectiveness – we complete quality work on time and in a cost-effective manner.
- Risk, Safety, and Environment – we continuously improve safety and minimize risk for our employees, contract partners, and the traveling public.



Sustainability Policy Statement

The City of Albuquerque Aviation Department will be increasingly sustainable with regard to natural resource conservation, economic strength, and community contributions.

INTRODUCTION TO SUSTAINABILITY

Sustainability is an ingrained concept to the City of Albuquerque. With its AlbuquerqueGreen program, the City is continuously working to provide a place where the “well-being of current and future citizens is supported by a vibrant economy and a self-renewing, healthy environment.” The first step in this process is to understand that sustainability, in practice, means day-to-day recognition that economy, society, and environment are interconnected. The City has already achieved success receiving recognition from the U.S. Chamber of Commerce and Siemens with a Sustainable Community Award for its vision and tools for energy conservation, clean energy production and use, and conservation technologies. The City has also received a World Leadership Award for its efforts to secure a sustainable water supply.

The City of Albuquerque Aviation Department will be increasingly sustainable with regard to natural resource conservation, economic strength, and community contributions.

The commissioning of this Sustainability Airport Master Plan is evidence that the City of Albuquerque Aviation Department is furthering the efforts of the City to demonstrate leadership by making wise and innovative choices to ensure Albuquerque is a sustainable community. This Sustainable Airport Master Plan integrates sustainability and commits the Sunport to a long-term, comprehensive, and integrated approach that is guided by the Aviation Department’s Sustainability Policy Statement, which is to be “increasingly sustainable with regard to natural resource conservation, economic strength and community contributions.” Ultimately, the City’s Aviation Department intends to implement sustainability programs with the goal of operating the “greenest” airport system in the country.

The Aviation Department’s priorities as outlined in its *Sustainability Policy Statement* include:

- “The Department will achieve its transportation and economic mission in a manner that demonstrates responsible stewardship with a focus on water conservation, minimizing greenhouse gas emissions and innovation.
- As it implements proactive sustainable management and practices that continually improve the environment, the Department will contribute to the economic, social, and environmental well-being of the City of Albuquerque and the region.
- The Department will fully comply with all applicable environmental laws, regulations, and other requirements, and will exceed legal and regulatory standards where appropriate.
- The Department will influence tenants to encourage active participation in the sustainability efforts.”

The Aviation Department's management approach to sustainability includes the following guiding principles:

- **“Establishing Environmental Goals and Targets** – Using innovative technologies and best management practices, the Department will develop, monitor, and regularly review specific activities and programs that improve environmental performance.
- **Achieving Continual Environmental Improvement** – The Department will strive to continually reduce the impacts of operations so that it preserves and protects surrounding natural resources through cost-effective energy use, recycling, water conservation, waste reduction, pollution prevention activities, and procurement of green materials.
- **Using Sustainability in Business Decisions** – The Department will seek to enhance the sustainability of its airports by incorporating sustainability into daily business decisions.”

WHAT IS SUSTAINABILITY?

In its broadest sense, sustainability has been defined by The Brundtland Commission (the World Commission on Environment and Development) as, “development that meets the needs of current generations without compromising the ability of future generations to meet their own needs.” However, the most applicable definition of sustainability for the Albuquerque International Sunport has been established by the Airports Council International-North America (ACI-NA), which defines sustainability as: “A holistic approach to managing an airport so as to ensure the integrity of the **Economic** viability, **Operational** efficiency, **Natural** resource conservation, and **Social** responsibility [EONS] of the airport” (see Figure A).

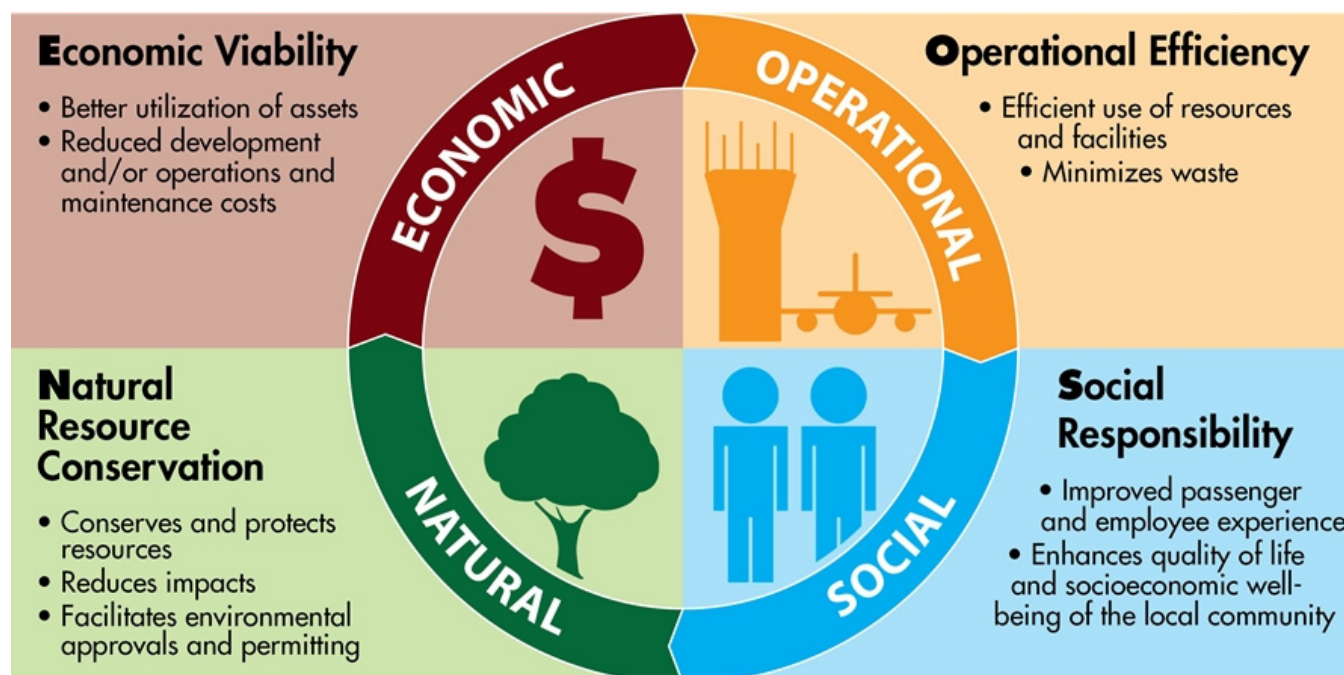


Figure A: ACI-NA's EONS Approach to Sustainability



ACI-NA's definition is more applicable because of its focus on airports and its inclusion of the operational aspects of an airport. Operational efficiency as it relates to sustainability can be described as:

- **Operational Efficiency** – an airport's management structure and ability to leverage operations and maintenance monies to promote efficient use of resources and minimize waste.

The Sunport's *Sustainability Management System Reference Document*, which was prepared in November 2008, defines the remaining three sustainability categories as:

- **Economic Viability** - "refers to the continued business viability of an airport enterprise, the tangible assets created by capital investments at the airport, and the direct and indirect economic impact on the region. This impact includes the value added to public and private sectors through investments in partnerships, tax payments, and other contributions."
- **Natural Resource Conservation** - "refers to the natural resources that are used or affected as a result of airport operations and the ecosystem in which these resources are located."
- **Social Responsibility** – "refers to contributions to the surrounding community via practices that promote social interaction and the cultural enrichment of the region."

Sustainability, as part of an organizational strategy, has demonstrated measurable benefits at airports across the world including:

- Improved passenger experience;
- Better use of assets;
- Reduced development and/or operations and maintenance costs;
- Reduced environmental/ecological footprint;
- Facilitation of environmental approvals/permitting;
- Improved relationships within communities;
- Enhancement of regional economies;
- Creation of an engaged and enriched place to work; and
- Creation and utilization of new technologies through increased demand and investment in technologies that facilitate sustainable solutions.

SUSTAINABILITY AND THE FEDERAL AVIATION ADMINISTRATION

In recognition of the Sunport's commitment to sustainability, the airport received a grant through the Federal Aviation Administration's (FAA's) Airport Improvement Program to prepare a Sustainable Airport Master Plan. The FAA's program provides funding for the preparation of sustainable master plans or sustainable management plans which integrate sustainability principles into the airport planning process. These plans make sustainability a central focus in the planning process, generating strategies for achieving economic benefits, enhancing operational efficiency, increasing community awareness and involvement, and reducing negative environmental impacts. Further information on the FAA's approach to sustainable master planning can be accessed at:

<http://www.faa.gov/airports/environmental/sustainability/>.

THE MASTER PLAN AND THE SUSTAINABILITY PLANNING PROCESS

The sustainability airport master planning process integrates sustainability planning elements into the traditional airport master plan process (see **Figure B**). When combined, the sustainability and master planning processes provide the flexibility necessary to consider the Sunport's operational and financial constraints. They also provide a powerful planning tool that will create a long-term development vision for the Sunport that considers sustainability performance measures. The purpose of the unified approach is to:

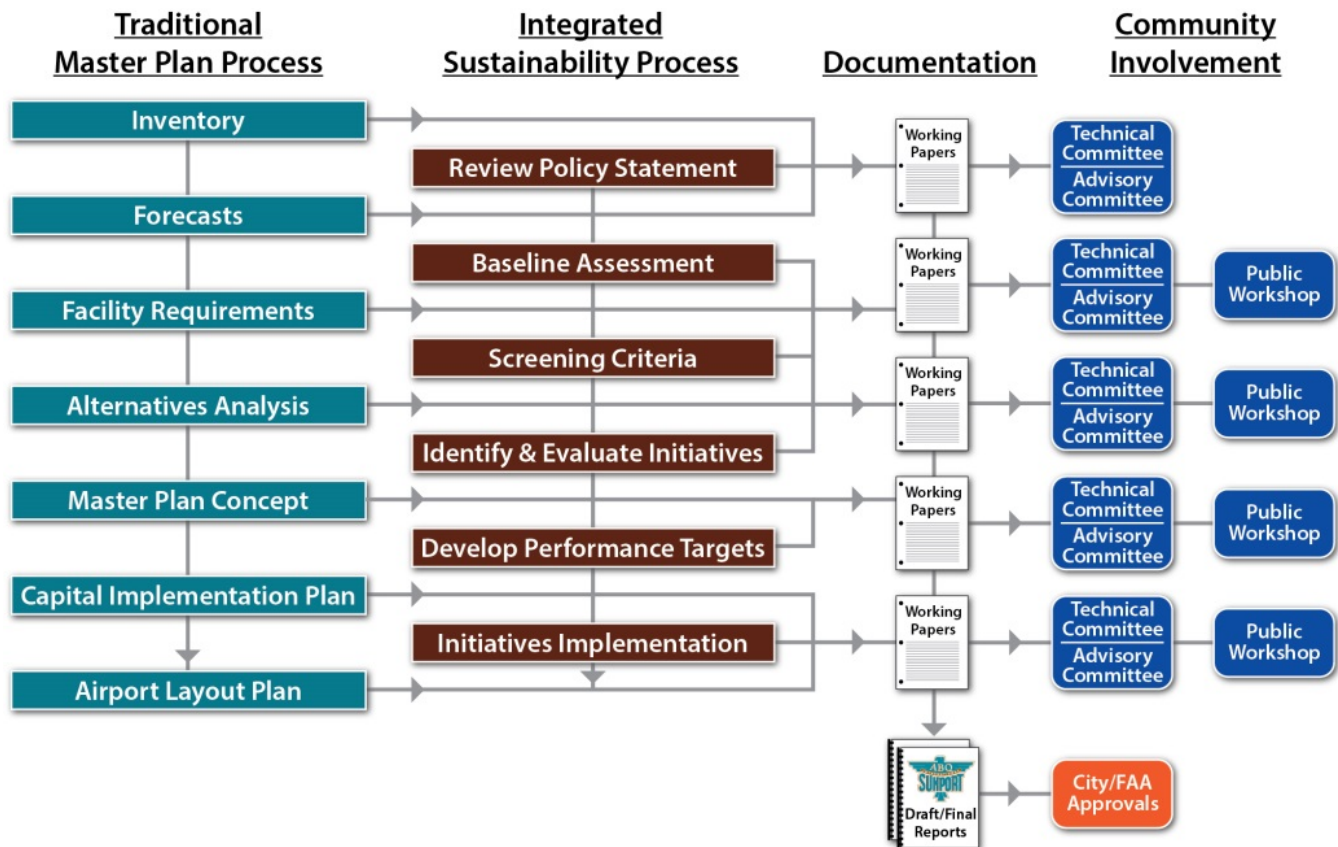


Figure B: Integration of sustainability into the master planning process

- Ensure goals and initiatives developed as part of the sustainability planning process are used to drive the recommendations of the master plan; and
- Ensure standalone sustainability strategies are not at odds with the recommendations of the master planning process.

The sustainability planning process incorporates input from three main stakeholder groups: 1) City and Sunport leadership; 2) the study's Technical Committee (TC) and Advisory Committee (AC); and 3) Sunport tenants, such as airlines, concessionaires, and fixed base operators (FBOs). Each committee is composed of no more than 20 members, to include representatives from local municipalities, tenants and pilot organizations, and regional tourism organizations, among others.



PUBLIC PARTICIPATION

The Albuquerque International Sunport Sustainable Airport Master Plan is of interest to many within the region. This includes local citizens, community organizations, airport users, airport tenants, area-wide planning agencies, and aviation organizations. As the Airport is a strategic component of the regional, state, and national aviation systems, the Sunport Master Plan is of importance to both state and federal agencies responsible for overseeing air transportation.

The City identified a group of community members and aviation interest groups to act in an advisory role in the development of the Albuquerque Sustainable Airport Master Plan. To assist in the review process, draft working papers were prepared at various milestones in the planning process. The working paper process allowed for timely input and review during each step of the planning process to ensure that all planning issues could be fully addressed as the recommended program developed. Members of the advisory committee reviewed draft working papers and provided comments throughout the process to help ensure that a realistic, viable plan evolved.

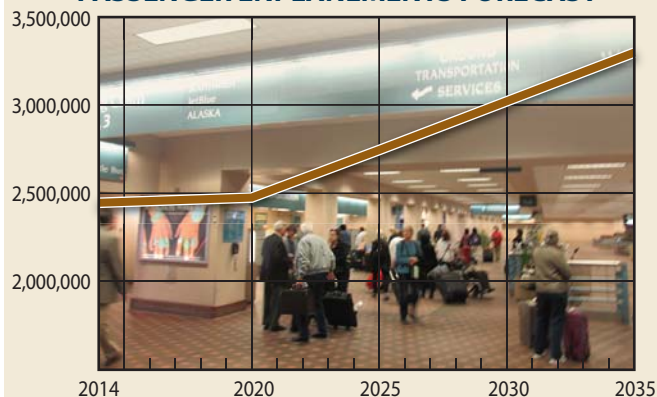
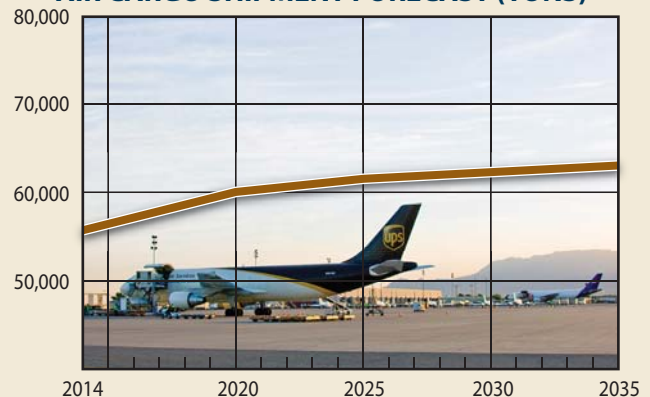
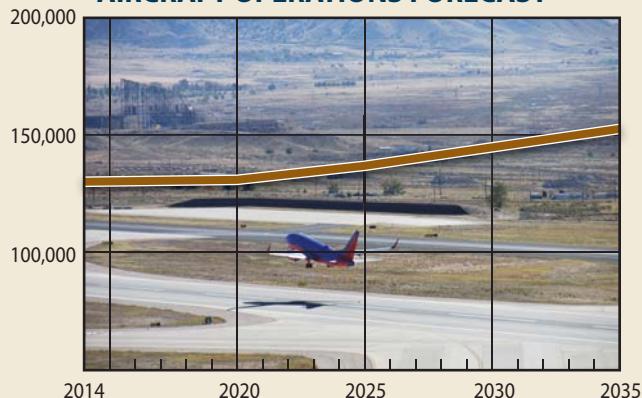
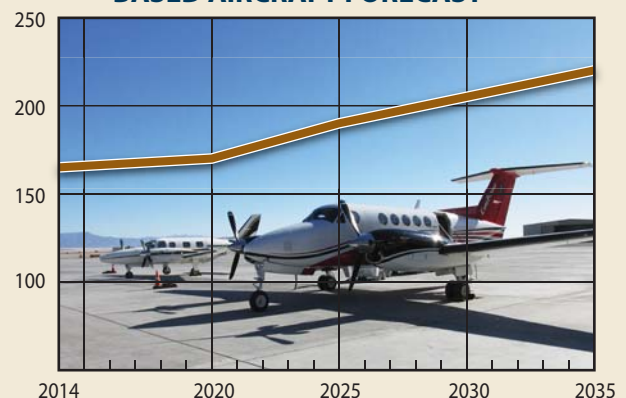
A series of public information workshops were also held as part of the coordination effort. The public information workshops were designed to allow any and all interested persons to become informed and provide input concerning the Albuquerque Sustainable Airport Master Plan process. Notices of meeting times and locations were advertised through local media, as well as social media outlets. The same draft working papers provided to the advisory committee were made available to the public at www.theSunport.airportstudy.com.

SUMMARY AND RECOMMENDATIONS

Defining demand that might reasonably be expected over the useful life of an airport's key components (e.g., runways, taxiways, terminal buildings, etc.) is an important factor in facility planning. In airport master planning, this typically involves projecting potential aviation activity for a 20-year timeframe. Aviation demand forecasting for Albuquerque International Sunport must consider commercial passenger service, air cargo, based aircraft, and aircraft operational activity forecasts, including military operations associated with Kirtland Air Force Base (AFB).

The cyclical nature of the economy makes it virtually impossible to predict with certainty year-to-year fluctuations in activity when looking 5, 10, and 20 years into the future. Cost-effective, efficient, and orderly development of an airport should rely more upon its actual demand than on a time-based forecast figure. To develop a master plan that is demand-based rather than time-based, a series of planning horizon milestones were established that take into consideration the reasonable range of aviation demand projections. The planning horizons will be segmented as the Short-Term (approximately years 0-5), the Intermediate-Term (approximately years 6-10), and the Long-Term (years 11-20 and possibly beyond). **Exhibit iA** presents a summary of the planning horizons developed for this plan.

	Base Year	Short-Term	Intermediate-Term	Long-Term
TOTAL ENPLANEMENTS				
ANNUAL ENPLANEMENTS	2,446,388	2,490,000	2,750,000	3,330,000
TOTAL AIR				
AIR CARGO (tons)	55,702	60,043	61,534	63,043
ANNUAL OPERATIONS				
ITINERANT OPERATIONS				
Air Carrier	57,172	56,600	61,000	70,000
Air Cargo	10,202	10,500	10,900	11,600
Other Air Taxi	12,304	13,200	13,900	15,800
General Aviation	28,548	29,300	31,600	36,200
Military	16,683	16,100	16,100	16,100
TOTAL ITINERANT OPERATIONS	124,909	125,700	133,500	149,700
LOCAL OPERATIONS				
General Aviation	2,930	3,100	3,200	3,500
Military	2,230	2,800	2,800	2,800
Total Local Operations	5,160	5,900	6,000	6,300
TOTAL OPERATIONS	130,069	131,600	139,500	156,000
BASED AIRCRAFT	165	170	190	220

PASSENGER ENPLANEMENTS FORECAST

AIR CARGO SHIPMENT FORECAST (TONS)

AIRCRAFT OPERATIONS FORECAST

BASED AIRCRAFT FORECAST




SUSTAINABILITY GOALS

In 2008, the Aviation Department commissioned a sustainability management system intended to incorporate sustainability into their daily business decisions. The stated goal of the Aviation Department is to operate the “greenest” airport system (including both the Sunport and Double Eagle II Airport) in the country. The plan was prepared a full two years prior to the FAA’s memorandum announcing its Airport Sustainable Master Plan Pilot Program, demonstrating the progressive attitude of the Department in being at the forefront of the airport sustainability movement.

The stated goal of the Aviation Department is to operate the “greenest” airport system (including both the Sunport and Double Eagle II Airport) in the country.

Chapter Three - Baseline Assessment provides a look into the Sunport’s current sustainability performance as determined by its related activities, policies, and procedures. This evaluation was an important first step in the development of the Sunport’s long-term sustainability strategy to enable the Aviation Department to focus its future sustainability work on areas that are of importance and interest to the Sunport and the City, thereby ensuring the efficient use of limited resources. It will also enable the Aviation Department to measure, through existing and new metrics, its overall sustainability performance over time as well as the impact of individual initiatives.

At the onset of the SAMP, it was determined that the sustainability baseline assessment would focus on six categories. In accordance with FAA guidelines, three categories were predetermined during the project scoping process to involve detailed studies including:

- Waste management and recycling
- Energy
- Air quality and greenhouse gas (GHG) emissions

Three additional categories were selected based upon discussions with Aviation Department staff and surveys of airport tenants. The selected additional categories include:

- Water conservation and water quality
- Surface transportation
- Natural resource management

A baseline assessment was conducted for each priority category to benchmark its sustainability performance, as determined by past and current activities, policies, and procedures. Through this process, along with feedback obtained from stakeholders, sustainability goals and objectives were established to reflect the unique operating conditions of the Sunport and align with the environmental priorities of the City of Albuquerque, State of New Mexico, and larger airport industry. The following highlights the Sunport’s goals for each priority sustainability category:



Waste Management and Recycling – Expand the Sunport’s existing waste management program to divert waste from landfills through increased recycling, composting, and procurement policies.

Energy – Expand energy efficiency measures and renewable energy opportunities.

Air Quality and Greenhouse Gas (GHG) Emissions – Commit to the betterment of regional air quality by supporting efforts to reduce greenhouse gas emissions from Sunport users and enacting policies to reduce emissions from Aviation Department-controlled sources.

Water Conservation and Water Quality – Reduce potable water consumption throughout the Sunport with expanded efficiency measures and reclaimed/grey water use.

Surface Transportation – Promote the utilization and expansion of alternative transportation modes to and from the Sunport.

Natural Resource Management – Incorporate procurement and construction policies to prioritize the use of more sustainable resources.

PROPOSED MASTER PLAN CONCEPT

The updated concept master plan ensures that the Sunport can maintain its vision *“as a leading center for worldwide transportation that advances local, regional, and international commerce and creates an authentic southwestern travel experience”* and is driven by its mission statement: *“Plan and deliver premier aviation services that contribute positively to Albuquerque and New Mexico by assuring a safe, pleasurable airport experience for passengers and quality services for our customers.”*

Chapter Four – Facility Requirements outlines the basic needs of the airport through the planning period. Primary airfield needs include addressing design standard deficiencies; mitigating “hot spots” and taxiway geometry issues; and identifying excess pavements. The primary passenger terminal complex considerations included reserving space for long-term terminal expansion, plan for changing needs in ticketing and bag screening, and identifying locations for concessions expansion. Other important elements included air cargo expansion, locations in the general aviation area for adding conventional hangars and apron to accommodate heavier aircraft, location for a future ARFF facility, and options for highest and best use of specific parcels for revenue support.

The recommended master plan concept, as shown on **Exhibit iB**, presents a long-term configuration for the airport which preserves and enhances the role of the airport while meeting FAA design standards. The major features include the following:

Runway 8 and Runway 12 threshold reconfiguration – The reconfiguration of these two thresholds will resolve issues related to safety standards. The Runway Safety Action Team (RSAT) previously identified the convergence of the two runways as a hot spot with high potential for runway incursions. The initial solution is to relocate the Runway 12 threshold with marking, lighting, and signage changes. In addition,



aircraft holding to depart on Runway 8 for departure penetrate the approach surface to the runway's displaced landing threshold. To avoid losing the primary instrument approach to the Sunport, the hold line will need to be relocated out of this approach surface as soon as possible. This will increase delays in taxiing to the end of the runway for departure as well as create congestion and inefficiencies along Taxiway A and the terminal apron.

The permanent solution will relocate the Runway 8 landing threshold 600 feet west. This will reduce the taxi to the departure threshold and minimize the other circulation inefficiencies. In addition, the refueling station will be removed from the runway protection zone. This will be combined with relocating the Runway 12 threshold 600 feet southeast, which removes all holding aircraft from approach surfaces and critical areas of both runways.

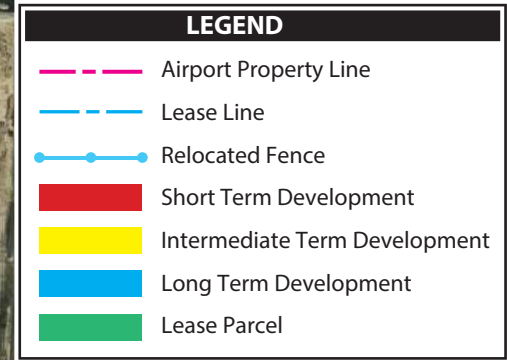
Taxiway geometry improvements – Several taxiway geometry improvements are recommended to remove other hot spots as well improve efficiency. Taxiway G1 is identified as a hot spot as it provides direct access from a general aviation apron to Runway 12-30. Relocation of the taxiway slightly northwest as a right-angle taxiway will eliminate this hot spot. A wide expanse of pavement at the convergence of Taxiways C, G, F, and Runway 12-30 created another hot spot that can be confusing to both pilots and ground vehicle operators. This can be mitigated by reducing the pavement to a standard taxiway size.

Other taxiways providing direct access to a runway from aprons include Taxiway A3 from the terminal apron and Taxiway F3 from the air cargo apron. Taxiway A3 will be marked as closed until the west terminal taxilane is relocated slightly west to eliminate the direct access. Taxiway F3 from the air cargo apron to Taxiway F will be closed permanently. An additional taxiway exit from Runway 3-21 is also planned to reduce delays and taxi distance, particularly for aircraft landing on Runway 21.

Airfield pavements that may be removed from service – To reduce future maintenance and rehabilitation costs, pavements were identified that could be removed without significantly impacting safety, efficiency, or capacity. These include Taxiways A4, E4, E7, E9, and E11. In addition, high speed exits A6 and A7 are recommended to be replaced by a single right-angled exit.

Passenger terminal improvements - Some functional elements of the terminal building should be improved to serve forecast demand. Concourse B is planned to be extended to the east for two additional aircraft gates. Additional concessions space is also planned as well as improved Federal Inspections Services (FIS). In concert with the concourse extension, the west terminal taxilane will be moved farther west, requiring removal of the belly freight building. A new airline services building is planned for the west support area along with an office building. Additional apron is planned on the east side of the terminal to serve diversions and overnight aircraft.

Air cargo development - The air cargo facilities located at the southwest end of the Sunport are adequate through the short-term planning horizon. By the long-term planning period, there may be a need to expand the air cargo sort facility. Plans are included for accommodating additional building, apron, and truck parking.



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General aviation development - Even with the availability of Double Eagle II Airport, there will be a continued presence of general aviation activity at the Sunport. There are two nationally known fixed base operators (FBO) located at the Sunport that cater to private business jets, private commercial type jets, and some transient military. In addition, there are two businesses that manufacture aircraft.

Both FBOs have experienced increasing activity by operators of larger aircraft with limited pavement with strength sufficient to support them. Areas have been identified for constructing higher-strength apron. Areas have also been identified for additional hangar development. Door heights suitable to accommodate the higher tail heights of many jets now used in general aviation are also recommended for some of the new hangars.

Non-Aviation/Commercial Support – The Aviation Department operates both airports without taxpayer support. To maintain competitive rates and charges for the airlines serving the airport as well as other aviation tenants, maximizing revenues derived from other uses compatible to the airport is important. The plan identifies several areas for non-aviation development which are depicted on **Exhibit iC** and discussed below:

- *Aviation Center of Excellence (ACE)* – With the closure of Runway 17-35, approximately 75 acres of land just northeast of the terminal complex became available for redevelopment. The ACE project is being developed to accommodate strategic aerospace and aviation innovations and partnerships. It will also host a convenience retail and restaurant development at the north end adjacent to Gibson Boulevard.
- *Puerto del Sol Golf Course* – This 72-acre site is located across Gibson Boulevard from the ACE development. Currently leased to the City Parks and Recreation Department for use as a municipal golf course, it is recommended to remain as a public golf course producing revenue for the airport fund.
- *Sunport Business and Technology Center* - This 65-acre site is located to the east of University Boulevard, west of Spirit Drive, and south of Clark Carr Road. It is designated as a Foreign Trade Zone (FTZ), but currently has only 6.5 acres leased. Analysis as part of this master plan recommends a different realignment of a proposed north-south internal road to provide more depth to the topographically-challenged lease areas. Land use recommendations include commercial retail, light industrial, and educational
- *Property West of ACE* - This 12-acre site is located to the south of Miles Road and west of Girard Boulevard. It is to the west of the ACE project and is envisioned as an extension of that project. The plan considered shows one parcel each for office and light industrial uses and maintains the two-acre green space which currently contains a multi-use trail running north-south along the east edge of the property.
- *Property at the Northeast Corner of Sunport and University Boulevards* - This 25-acre parcel is part of former Yale Landfill (1948-1965) and is located within a designated landfill buffer zone. Future uses on this site that require the least remediation include a solar farm and parking lot. Solar farm projects will require a Glint and Glare Study to assess the feasibility of this use. These uses will still need to address the issue of continuous settling.



- *Property at the Southeast Corner of Sunport and University Boulevards* - This 80-acre parcel is also part of former Yale Landfill (1948-1965) and is located within a designated landfill buffer zone. As with the previous site, future uses are limited without significant remediation. In addition, the majority of this site is within the runway protection zone of Runway 8, which further limits its use.
- *Property West of University Boulevard* - This nine-acre parcel is located just west of the Yale Landfill and within the Landfill Buffer Zone. A detention pond on the northern triangular portion of the property is needed for stormwater purposes. At least two acres of the site will be within the future runway protection zone to Runway 8. Options for future uses on this site are greater than those available for properties east of University Boulevard; however, the site is subject to special City review due to its location within a landfill buffer zone. As a result, this property will require special consideration of any impact from the former Yale Landfill.

CAPITAL IMPROVEMENT PLAN AND COST SUMMARIES

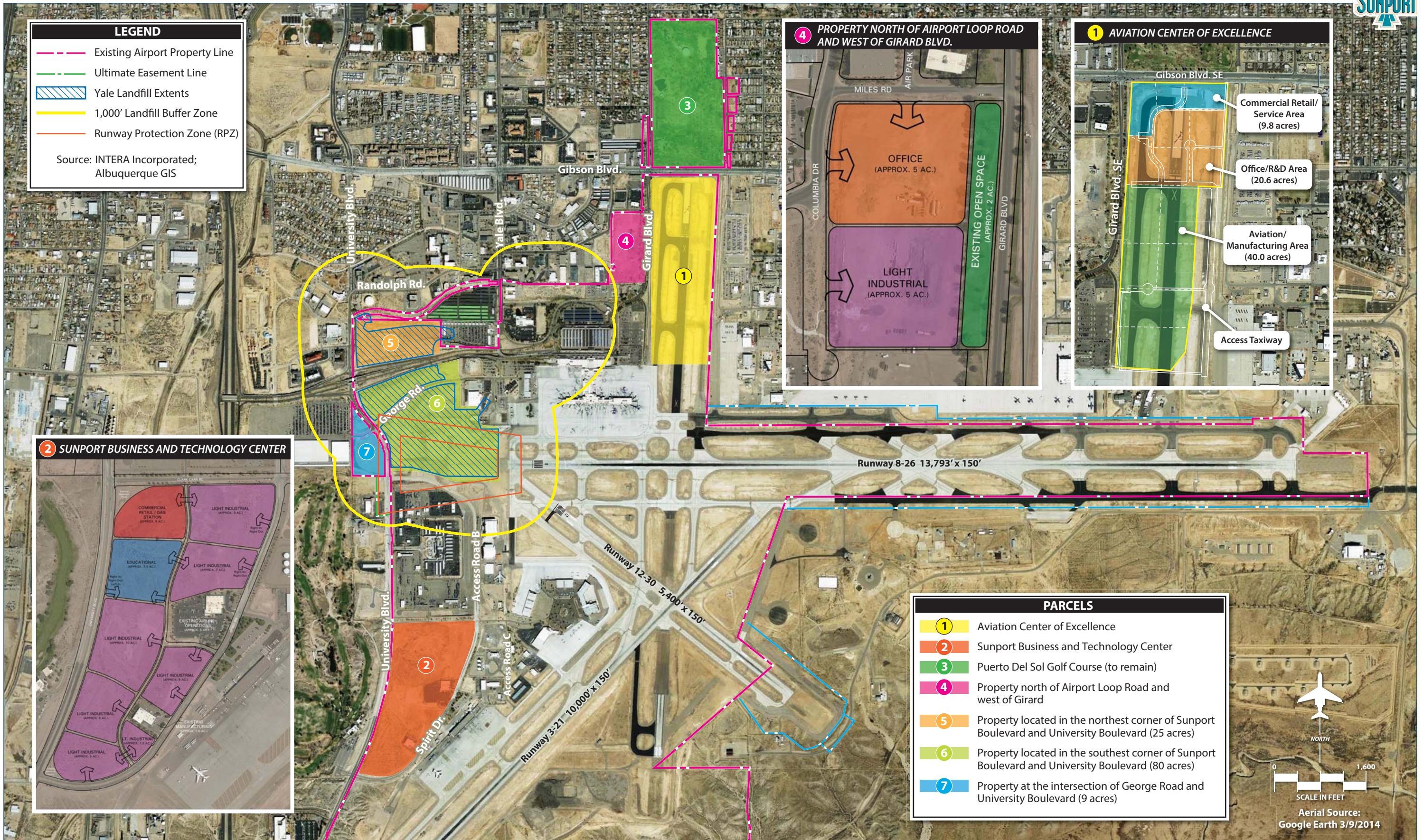
From the specific needs and improvements that have been established for the Sunport, a realistic schedule and the associated costs for implementing the plan were determined. The implementation plan considers the interrelationships among the projects in the recommended plan in order to determine a logistics sequence to minimize conflicts and establish a master schedule.

The capital improvement plan (CIP) covers the same years as the forecasts in the planning effort. The Short-Term is programmed annually through the first five years of the plan. The remaining projects are grouped into Intermediate- (years 6-10) and Long- (years 11-20) Term planning horizons. By utilizing planning horizons instead of specific years for Intermediate- and Long-Term development, the Sunport will have greater flexibility to adjust capital needs as demand dictates. **Exhibit iB** also presents the staging of the master plan projects color-coded by short-term, intermediate-term, and long-term planning horizons.

Table IA presents the recommended CIP and its corresponding cost estimates in 2018 dollars. The estimates also include contingencies, design costs, and construction management costs. As shown in the table, the CIP is estimated at approximately \$125.6 million, with 101.2 million available for federal funding through the FAA-administered Airport Improvement Program.

Table IA
Master Plan Capital Improvement Summary
Albuquerque International Sunport

	Project Cost	AIP Eligible (84.29%)	Local Share
Short-Term (0-5 Years)	\$59,127,000	\$49,838,148	\$9,288,852
Intermediate-Term (6-10 Years)	\$27,517,000	\$23,194,079	\$4,322,921
Long-Term (11-20 Years)	\$39,005,000	\$28,157,075	\$10,847,925
TOTAL	\$125,649,000	\$101,189,302	\$24,459,698



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SUSTAINABILITY PLAN

Through the sustainable airport master plan process, the Sunport's current sustainability performance was outlined and specific goals and objectives identified. For the Aviation Department to better gauge and measure its sustainability performance and to drive progress towards achieving the identified sustainability goals and objectives, it was necessary to identify quantifiable performance targets. Multiple performance targets, which are tied to the planning horizons of this Master Plan, have been identified for each resource category.

Key performance indicators (KPIs) are the specific, results-based metrics that allow the Aviation Department to gauge sustainability performance and progress toward overall goals. If KPIs are trending positively toward the overall goal, this indicates the specific initiatives that have been put into place are producing desired results; however, if KPIs trend negatively, then this is an indication that the Aviation Department needs to refocus on that specific area and identify opportunities for improvement. Sustainability performance targets and KPIs are outlined in **Table IB**. The primary intent of this effort is to set targets that are realistic and achievable, but still push the Aviation Department to make significant strides toward improving the sustainability performance of the Sunport.

The Sunport has already begun to incorporate many sustainable programs and facilities, including on-site electricity generation and low-emission fleet vehicles, among many others. These programs and projects have contributed toward the overall sustainability of the airport and the entire community.

The overall sustainability plan has been established with input from Aviation Department staff, the master plan advisory committee, and interested members of the public. The result is a sustainability plan that allows the Aviation Department to continually progress towards its sustainability goals.

This sustainability plan is not intended to be a static document but should be routinely reviewed and updated to consider new opportunities and issues as they arise. While some of the sustainability objectives are one-off capital projects, others are programs that will operate continuously once implemented. To ensure the continued success of these programs, it will take buy-in from Aviation Department staff and, in some cases, tenants of the Sunport. Close coordination with all potential stakeholders is a key to the success of the program.

Ultimately, it is the responsibility of the entire Aviation Department to ensure sustainability is incorporated into everyday operations and decision-making processes. Many processes, procedures, and responsibilities for sustainability implementation have already been put in place. Coupled with the efforts to date, this sustainability master plan should support the Aviation Department in achieving its overall goal of operating one of the greenest airport systems in the country.



TABLE IB

**Sustainability Performance Targets
Albuquerque International Sunport**

Goal 1. Expand the Sunport's existing waste management program to divert more waste from landfills through increased recycling, composting, and procurement policies.

Targets	Key Performance Indicators
<ul style="list-style-type: none"> Conduct biennial waste audits 100% participation by airlines in recycling program by 2020 100% participation by terminal food concessions in food waste composting by 2025 	<ul style="list-style-type: none"> Weight (tons) of recycled materials/solid waste/composted materials Number of airlines participating in recycling program Number of food concessions participating in food waste composting program

Goal 2. Expand energy efficiency measures and renewable energy opportunities.

Targets	Key Performance Indicators
<ul style="list-style-type: none"> Incorporate all recommended energy efficiency measures (EEMs) by 2025 Retrofit rental car photovoltaic (PV) system by 2025 Construct credit card parking lot PV system by 2030 Expand PV capacity to achieve net-zero energy use for all Aviation Department facilities (100% on-site renewables) by 2035 	<ul style="list-style-type: none"> Energy use (kWhs)/month On-site energy generation (kWhs)/month Energy costs (\$)/month

Goal 3. Commit to the betterment of regional air quality by supporting efforts to reduce greenhouse gas emissions from Sunport users and enacting policies to reduce emissions from Aviation Department controlled sources.

Targets	Key Performance Indicators
<ul style="list-style-type: none"> Prepare annual greenhouse gas (GHG) emissions reports Achieve carbon-neutral growth from 2020 emissions levels for airport-controlled sources Transition to all-electric ground support equipment (GSE) by 2025 Transition to 100% alternative fuel/low-emission fleet vehicles by 2035 	<ul style="list-style-type: none"> GHG emissions/year % of low/no emission equipment Number of alternative fuel/low-emission fleet vehicles Fuel usage by GSE and fleet vehicles/month

Goal 4. Reduce potable water consumption throughout the Sunport with expanded efficiency measures and reclaimed/grey water use.

Targets	Key Performance Indicators
<ul style="list-style-type: none"> Replace all outdated fixtures in Aviation Department-controlled facilities by 2020 Install sub-metering for all concessionaires, cooling equipment, restrooms, and irrigation on mixed-use meters by 2025 Utilize 100% reclaimed/grey water for all landscape irrigation by 2025 Reduce average indoor water use per passenger from 2014 levels by 50 percent by 2030 (1.0 gallons per passenger) 	<ul style="list-style-type: none"> Water use/month (per passenger) Reclaimed/grey water use/month Water costs/month (per passenger) Number of sub-meters installed

Goal 5. Promote the utilization and expansion of alternative transportation modes to and from the Sunport.

Targets	Key Performance Indicators
<ul style="list-style-type: none"> Conduct annual surveys of Aviation Department, Sunport tenant employees, and passengers to identify travel modes Install electric vehicle (EV) charging stations in the public parking areas by 2020 Implement priority parking spaces for carpools and alternatively fueled vehicles by 2020 Install on-site end-of-trip bicycle facilities for employees by 2025 Construct alternative refueling station by 2035 	<ul style="list-style-type: none"> Annual employee/passenger survey results Number of EV stations available Number of priority parking spaces for carpools and alternatively fueled vehicles Alternative fuel usage/month

Goal 6. Incorporate procurement and construction policies to prioritize the use of more sustainable resources.

Targets	Key Performance Indicators
<ul style="list-style-type: none"> Establish a "Green" Procurement Program by 2020 Implement a "Green" Concessions Policy by 2020 Implement construction policy by 2020 to commit to LEED or equivalent design standards for all new major construction or renovation projects when applicable 	<ul style="list-style-type: none"> Annual expenditures on purchases of sustainable and/or locally sourced materials. Number of concessionaires committed to the "Green" Concessions Policy Number of construction/renovation projects that include sustainable elements.