New Mexico Airport System Plan Update 2009

NEW MEXICO DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

New Mexico DEPARTMENT OF TRANSPORTATION

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Introduction

New Mexico's Airport System serves as an integral connection between New Mexico's businesses and residents, and the expanding global economy. The New Mexico Department of Transportation's Aviation Division has long recognized the importance of planning as a proactive approach to ensuring the airport system is being developed in a manner that best serves the people of New Mexico. In 2008, the Aviation Division initiated an update of the previous system plan for its system of 51 publically owned public-use airports. The New Mexico Airport System Plan Update (NMASPU) provides a crucial document that summarizes the needs of New Mexico's airports and provides each airport with valuable information regarding the economic importance of the airport, land use protection needs, project and funding needs, and the value of the airport as an asset.

The update to the NMASPU includes the following components:

- State Airport System Plan
- Economic Impact Analysis
- Land Use Evaluation
- Asset Summary

A full version of the NMASPU can be obtained from the Aviation Division.

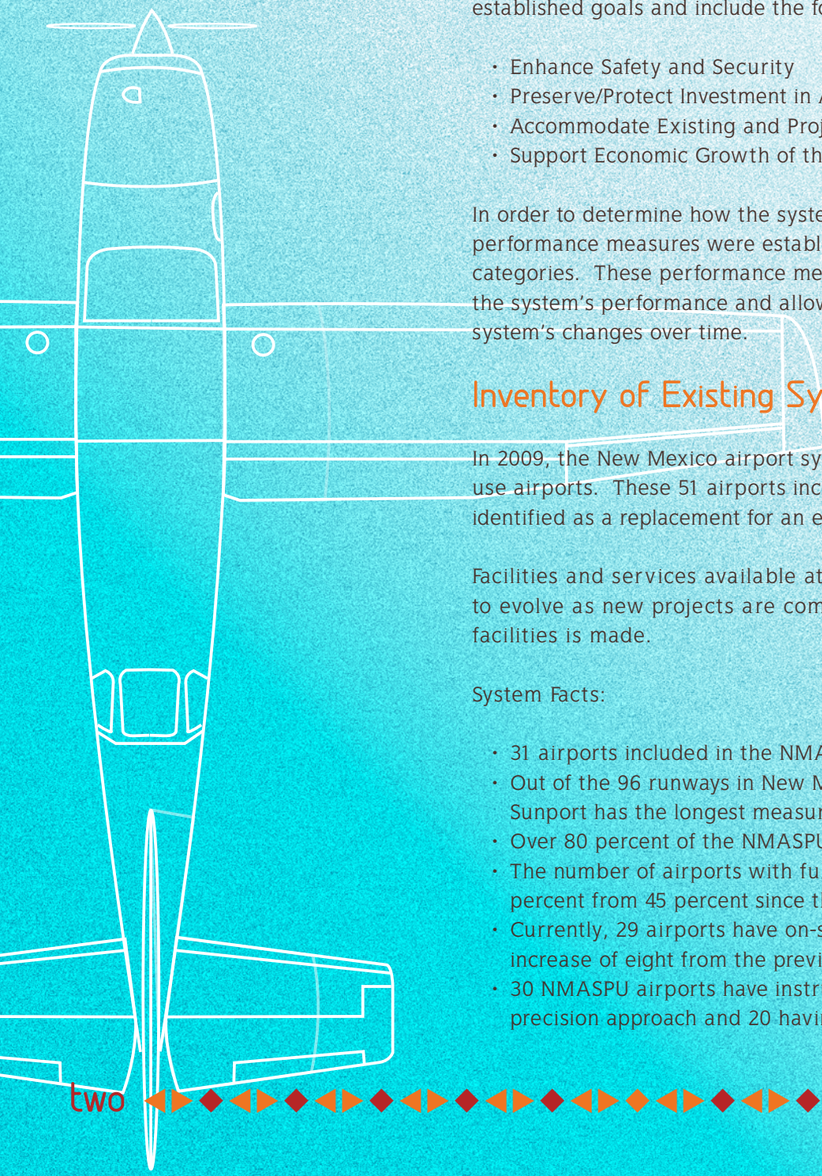
Study Process

The NMASPU followed an approved Federal Aviation Administration (FAA) methodology to identify the needs of the airport system for New Mexico. The System Plan methodology included the following elements:

- Goals and performance measure development
- Inventory of existing facilities
- Demand projections of aviation activity
- Analysis of existing system's performance
- Future system needs determination
- Recommended system development

Using this process and a similar process employed in the 2003 New Mexico Airport System Plan, the NMASPU provides the Aviation Division with a comprehensive review of the system's needs. These needs reflect current conditions, as well as the issues impacting New Mexico in 2008/2009.

Planning for a safe, efficient, and effective system of airports is integral to the aviation system planning process.



Goals and Performance Measures

The State of New Mexico recognizes the importance of a healthy airport system in promoting statewide, regional, and local economies. Planning for a safe, efficient, and effective system of airports is integral to the aviation system planning process.

Based on a review of the goals established in the 2003 New Mexico system plan and an updated vision for the system of airports, four goal categories were developed for the 2009 NMASPU. The goal categories support the vision of identifying airport development projects that best enhance the safety and utility of the New Mexico airport system. The goals identified for the 2009 NMASPU are similar to the previously established goals and include the following:

- Enhance Safety and Security
- Preserve/Protect Investment in Airports
- Accommodate Existing and Projected Aviation Demand
- Support Economic Growth of the Community

In order to determine how the system is meeting these goals, performance measures were established within each of these four goal categories. These performance measures provide a means of evaluating the system's performance and allow the Aviation Division to track the system's changes over time.

Inventory of Existing System

In 2009, the New Mexico airport system was comprised of 51 public-use airports. These 51 airports include one new airport that has been identified as a replacement for an existing airport at Black Rock/Zuni.

Facilities and services available at the 51 public-use airports continue to evolve as new projects are completed and investment in the facilities is made.

System Facts:

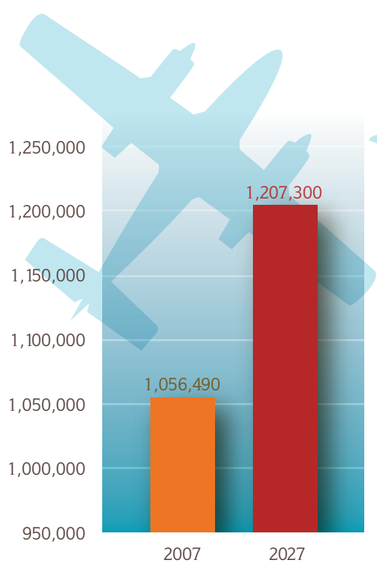
- 31 airports included in the NMASPU have multiple runways
- Out of the 96 runways in New Mexico, Albuquerque International Sunport has the longest measuring 13,793 feet
- Over 80 percent of the NMASPU airports have a paved asphalt surface
- The number of airports with full parallel taxiways increased to 51 percent from 45 percent since the 2003 NMASP
- Currently, 29 airports have on-site weather reporting which is an increase of eight from the previous study
- 30 NMASPU airports have instrument approaches with 10 having a precision approach and 20 having a non-precision approach
- 57 percent of the NMASPU airports provide Jet A and AvGas fuel service
- Double Eagle II Airport has the greatest number of based aircraft with 261 reported
- Albuquerque International Sunport is the busiest airport with over 190,000 operations
- Aside from Albuquerque International Sunport, Four Corners Regional, Double Eagle II, and Las Cruces International each reported more than 100,000 annual aircraft operations

Forecast of Aviation Demand

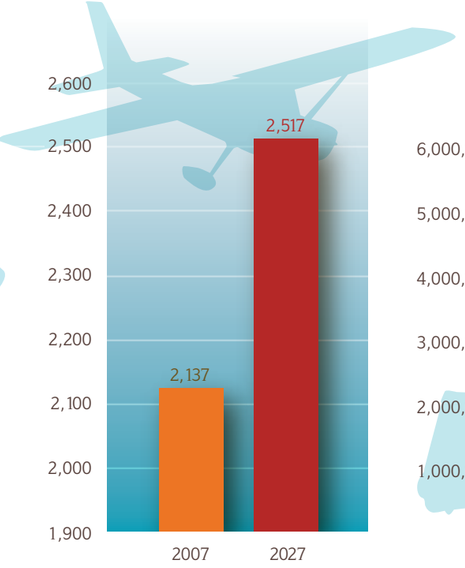
In order to assist in determining New Mexico's airport needs, a forecast of aviation demand is necessary. By evaluating future demand, each airport's role in meeting forecasted activity levels is analyzed. Demand projections were prepared for the following activity components of the New Mexico airport system:

- Aircraft operations
- Based general aviation aircraft
- Annual passenger enplanements

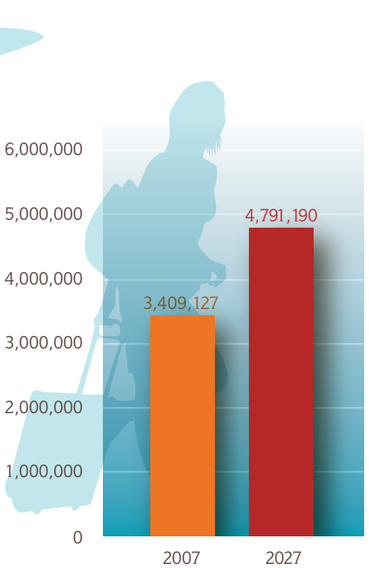
Aircraft Operations



Based General Aviation Aircraft



Annual Passenger Enplanements



**Note that annual passenger enplanements only apply to commercial service airports*

Airport Role Analysis

The FAA primarily categorizes airports in its National Plan of Integrated Airport Systems (NPIAS) report based on the availability of commercial service. Airports are categorized as commercial or general aviation, with notation only as to whether they meet primary commercial standards or are designated as general aviation reliever airports.

While these service levels are useful to the FAA in making funding decisions, they do not adequately describe the function or role of each airport in the New Mexico system, especially those in the general aviation category. These airports have varying levels of activity, facilities, and services and meet a wide range of needs. Some general aviation airports are used extensively by large business-class aircraft; others are used primarily by small aircraft for business and recreational purposes; and others are used for emergency medical air transport. It is essential that airports in New Mexico be developed to the extent necessary to perform their identified roles, and that federal and state funding be applied in a manner to support these roles.

A deliberate and quantitative process was used to evaluate how each New Mexico airport contributes to the overall system. This process examined 25 different factors, some aviation related and others that are community specific. The factors were chosen based on those determined to be most significant in establishing the role or function of an airport within New Mexico's system.

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The quantitative process scored each airport for each of the 25 factors for comparative purposes. Using the results, as well as reviewing FAA's current NPIAS classifications, each of New Mexico's 51 public-use airports was assigned to one of the following role categories:

- Primary Commercial Service
- Non-Primary Commercial Service
- Limited Commercial Service
- Regional General Aviation
- Community General Aviation
- Low Activity General Aviation

For each of these role categories, specific facilities and services needed for each airport to successfully fulfill its role in the system were identified. Each airport was then evaluated to determine if additional facilities or services were needed or could likely be provided at the airport during the 20-year planning period for the NMASPU.

System Performance

The system adequacy analysis provides an evaluation of New Mexico's airport system, including specific performance measures. The analysis includes an update of performance measures utilized in the 2003 New Mexico Airport System Plan, as well as new measures deemed applicable given the current aviation environment. The performance-based analysis identifies how New Mexico's investment in the airport system has provided meaningful improvement and where improvement is still needed.

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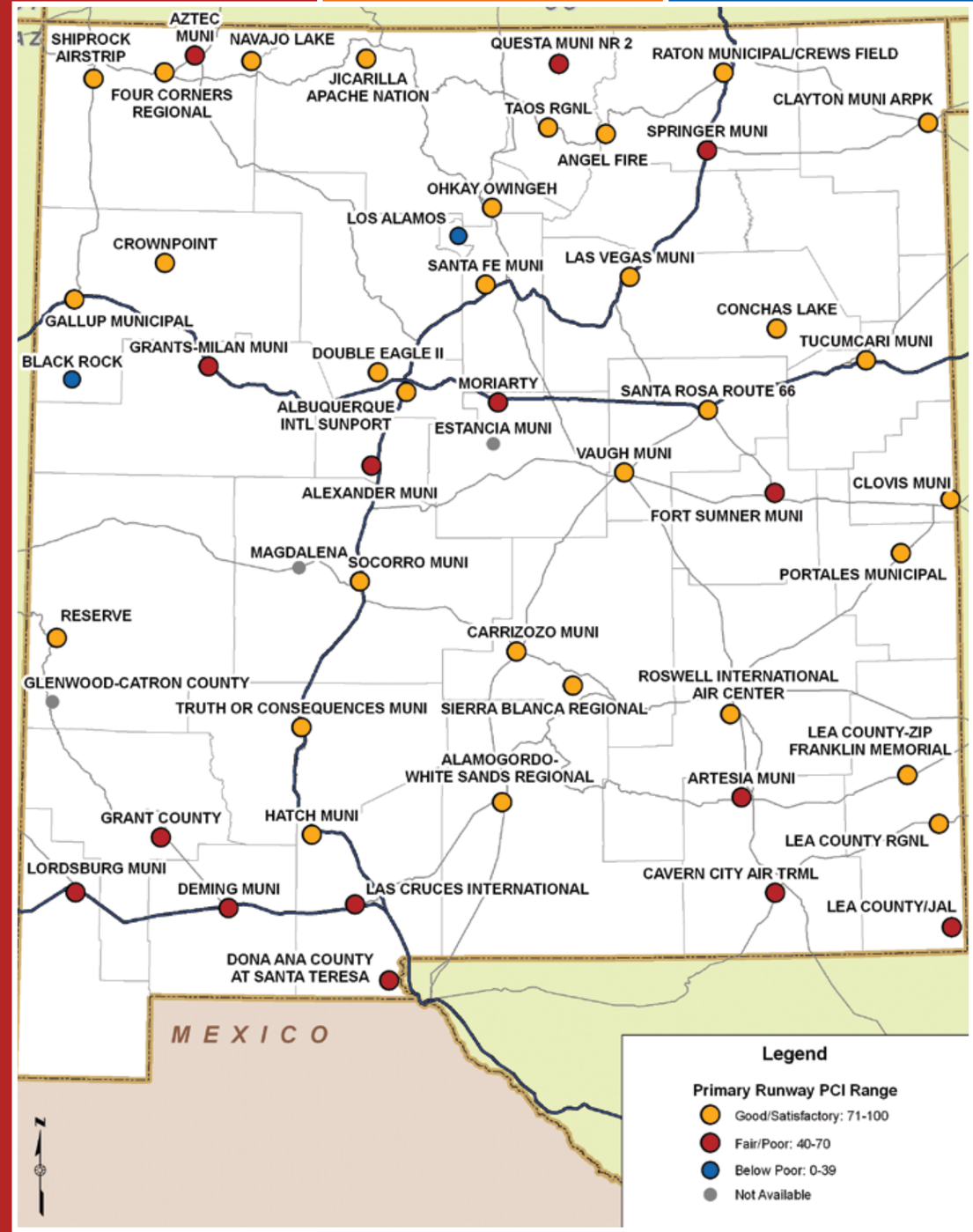
Based on the evaluation of the existing system and consideration of future system needs, recommendations for each of the performance measures are determined. These recommendations are used to develop cost estimates to implement the projects. The impact of outside influences on the future system is also considered in the development of recommendations.

Of the 29 performance measures included in the NMASPU, three measures with relatively low statewide results include Primary Runway Length, Pavement Condition Index (PCI), and the Adoption of Emergency Response Plans.

- The analysis showed only 51 percent of the system's airports meet the objective for primary runway length. According to the New Mexico Aviation Division, 78 percent of all NMASPU airports appear capable of meeting objectives in the future.

- In addition to runway length, pavement condition is an area requiring much improvement with only 57 percent of the airports having a weighted average PCI of 71 or better for their primary runway. It is recommended that at least the primary runway be maintained to a minimum PCI of 71 or greater.

- Emergency response plans is another performance measure needing improvement from its current performance of 51 percent. Since all airports are recommended to adopt these plans, 100 percent of the NMASPU airports should fulfill this target established for this performance measure.

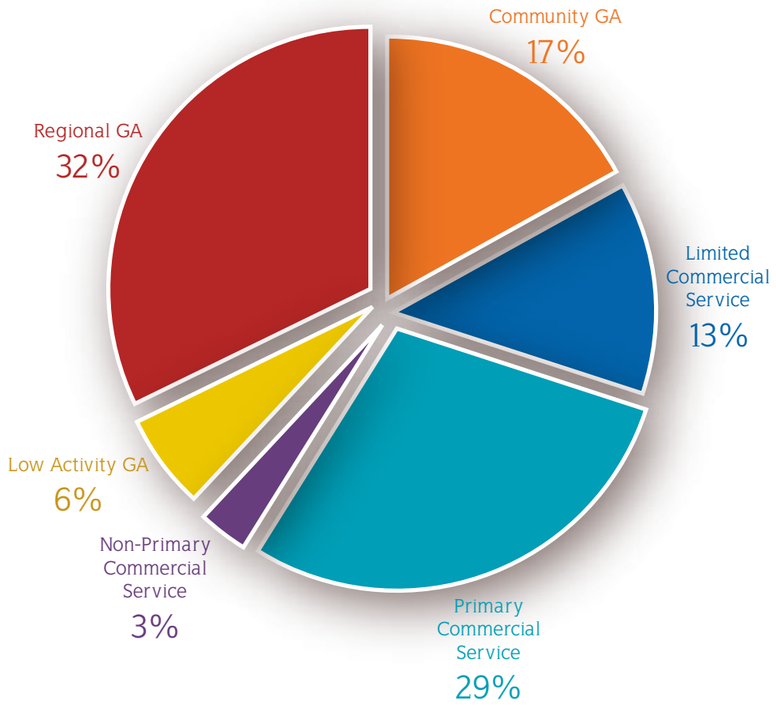


Development Costs

In order to improve the New Mexico airport system's performance, the NMASPU identified projects needed at all 51 airports. Project development costs are those that may be incurred to improve the performance of the system, to meet identified targets, to correct deficiencies noted for facility and service objectives, and to implement current airport capital improvement plans (CIPs). The cost estimates are prepared to a planning level of detail and summarize the general financial requirements for the entire airport system. The costs developed are in 2009 dollars and do not account for inflation.

	SHORT-TERM	LONG-TERM	TOTALS
NMASPU	$126.3 M	$372.2 M	$498.5 M
CIP	$370.4 M	$301.0 M	$671.4 M
TOTAL	$496.7 M	$673.2 M	$1,169.9 M

The NMASPU identified $1.17 billion in total project development costs over the 20-year planning period. These costs include projects identified in the NMASPU as well as individual airport CIPs for the short-term (five-year) and long-term (six to 20-year) periods. The majority of the development needs have been identified at the Regional GA airports (32%), with Primary Commercial Service airports comprising 29% of the total needs.



Total 20-Year Development Cost Percentage by Airport Classification

Land Use Evaluation

Land use compatibility guidance from the FAA is limited to the immediate vicinity of the runway and protection of airport airspace. This guidance is primarily safety related but does not address the potential for incompatible development near airports. In order to assist airports with understanding land use issues and the current circumstances, the Aviation Division desired a land use review for each of the system airports. This review utilized generic "Airport Influence Areas" that represent a combination of similar land use planning techniques utilized by other state aviation planning organizations.

A diagram was prepared for each study airport depicting a suggested "Airport Influence Area". These diagrams can be used by the State, airport management and local planning agencies to examine their specific land use planning and encroachment issues as they seek to protect the airport from future incompatible development. The Airport Influence Areas used for New Mexico reflect the property most likely to have aircraft overflights, particularly on approach or departure. The suggested Airport Influence Area boundaries consider the following FAA clearance zones:

- Runway Protection Zone (RPZ)
- Part 77 Approach Surface
- Part 77 Horizontal Surface

The Airport Influence Area boundary is centered on the runway midpoint and its centerline but varies at each airport based on the instrument approach procedures to each runway end and the Airport Reference Code for each runway. The dimensions for these areas are discussed in an appendix to the NMASPU document. Brief descriptions of the suggested levels of land use controls in each area are described below:

- **No Development Area:** Development in this area should be strictly controlled and limited, to the greatest extent possible, to on-airport developments, and be closely coordinated. The height of any proposed development within this area should be reviewed through the Part 77 process to ensure existing and future Part 77 surfaces are not penetrated and to determine if airport operations would be negatively impacted. Noise sensitive land uses such as residences, churches, schools, and hospitals, should not be developed within this area.

- **Limited Development Area:** Developments that are noise sensitive or accommodate significant groups of people should be limited within this area. Avigation easements are encouraged within this area; at a minimum, notification should be required of property owners or potential buyers that the property falls within this Airport Influence Area. Tall structures should be submitted under the Part 77 airspace review process.

- **Controlled Development Area:** All land use categories are allowable within this area with residential development having the lowest density possible. Notification of the property owner or potential buyers that the property falls within this Airport Influence Area should be required. Tall structures should be submitted under the Part 77 airspace review process.

Economic Impact

The total economic benefit of aviation activity in New Mexico was quantified in terms of employment, payroll, and output.

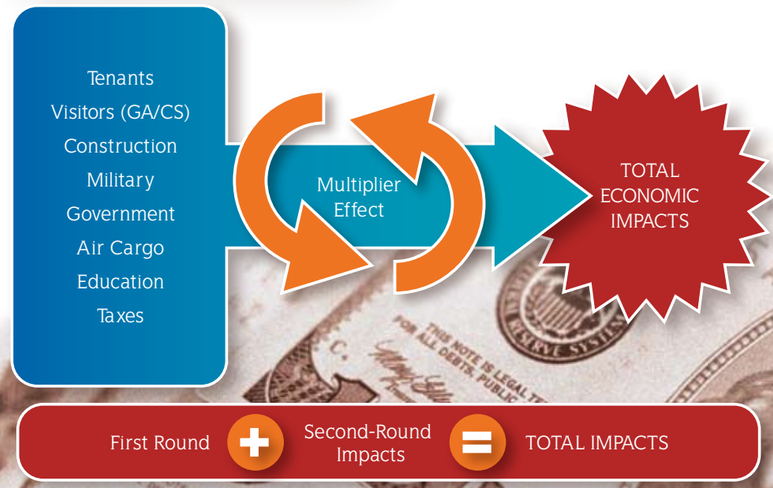
2008 Total

Employment.....48,795
Payroll.....$1.3 billion
Output.....$3.2 billion

New Mexico's system of 51 public-use airports generates billions of dollars in economic activity and supports thousands of quality jobs. An economic impact study was prepared as part of the NMASPU and shows that each airport in the State serves as an economic catalyst not only for their community but for the State as a whole. The total economic benefit of aviation activity in New Mexico was quantified in terms of employment, payroll, and output (economic activity). The analysis considers two rounds of impact: the first round of benefits from employees of on-airport businesses, indirect expenditures of visitors who arrive via the airports and the construction-related activity. The construction activity considers each airport's spending for capital projects, and was averaged over a three-year period. The second round of benefits is the additional economic impacts that occur as the first round of impacts "multiply" or are re-spent as they enter the State's economy. For example, when an airport employee uses their paycheck to purchase groceries, this money is re-spent as the grocer purchases the products to sell and employs people at the store. The first and second rounds of benefits are added to determine the total economic impact of each airport.

When all factors are combined, New Mexico's 51 public-use airports:

- Support nearly 48,800 jobs
- Generate $1.3 billion in payroll
- Produce $3.2 billion in economic activity
- Serve as vital business links and support critical services such as medical care, agriculture support, law enforcement, recreation, and career training
- Civil aviation's total economic impact comprises four percent of New Mexico's estimated 2007 Gross Domestic Product and the employees of aviation represent four percent of all jobs in the State



New Mexico System Plan Update
Total Economic Impact of Study Airports

ASSOCIATED CITY	AIRPORT	TOTAL EMPLOYMENT	TOTAL PAYROLL	TOTAL OUTPUT
Alamogordo	Alamogordo-White Sands Regional Airport	299	$5,289,200	$11,798,100
Albuquerque	Albuquerque International Sunport	42,171	$1,088,221,300	$2,664,031,600
Albuquerque	Double Eagle II Airport	815	$29,844,300	$70,871,100
Angel Fire	Angel Fire Airport	40	$901,400	$2,506,500
Artesia	Artesia Municipal Airport	38	$1,312,400	$4,597,000
Aztec	Aztec Municipal Airport	14	$297,400	$563,400
Belen	Alexander Municipal Airport	75	$2,048,900	$5,546,400
Carlsbad	Cavern City Air Terminal	170	$5,256,600	$12,566,500
Carrizozo	Carrizozo Municipal Airport	17	$521,200	$1,145,700
Clayton	Clayton Municipal Airpark	26	$714,500	$1,471,700
Clovis	Clovis Municipal Airport	231	$6,610,000	$16,599,300
Conchas Dam	Conchas Lake Airport	11	$337,700	$783,000
Crownpoint	Crownpoint Airport	5	$99,200	$114,700
Deming	Deming Municipal Airport	143	$4,507,600	$12,611,600
Dulce	Jicarilla Apache Nation Airport	8	$178,900	$272,600
Espanola	Ohkay Owingeh Airport	3	$91,500	$193,800
Estancia	Estancia Municipal Airport	4	$74,400	$76,600
Farmington	Four Corners Regional Airport	641	$16,682,600	$45,143,600
Fort Sumner	Fort Sumner Municipal Airport	17	$821,800	$1,800,900
Gallup	Gallup Municipal Airport	207	$7,524,400	$15,643,500
Glenwood	Glenwood-Catron County Airport	1	$19,300	$28,500
Grants	Grants-Milan Municipal Airport	48	$1,786,500	$4,587,800
Hatch	Hatch Municipal Airport	13	$339,100	$725,800
Hobbs	Lea County Regional Airport	164	$5,164,900	$13,554,300
Jal	Lea County/Jal Airport	10	$228,800	$490,900
Las Cruces	Las Cruces International Airport	567	$14,415,800	$43,103,100
Las Vegas	Las Vegas Municipal Airport	29	$794,900	$2,115,800
Lordsburg	Lordsburg Municipal Airport	22	$601,700	$1,276,700
Los Alamos	Los Alamos Airport	94	$2,744,100	$6,529,400
Lovington	Lea County-Zip Franklin Memorial Airport	4	$108,600	$223,100

New Mexico System Plan Update
Total Economic Impact of Study Airports

ASSOCIATED CITY	AIRPORT	TOTAL EMPLOYMENT	TOTAL PAYROLL	TOTAL OUTPUT
Magdalena	Magdalena Airport	2	$28,700	$51,600
Moriarty	Moriarty Airport	34	$888,400	$2,103,200
Navajo Dam	Navajo Lake Airport	3	$74,500	$158,700
Portales	Portales Municipal Airport	30	$665,400	$3,461,000
Questa	Questa Municipal Airport Nr 2	7	$192,100	$322,700
Raton	Raton Municipal Airport/Crews Field	32	$858,700	$2,488,300
Reserve	Reserve Airport	5	$158,400	$292,800
Roswell	Roswell International Air Center Airport	1,198	$35,832,200	$112,668,800
Ruidoso	Sierra Blanca Regional Airport	99	$3,681,600	$5,934,300
Santa Fe	Santa Fe Municipal Airport	659	$22,196,100	$70,800,400
Santa Rosa	Santa Rosa Route 66 Airport	12	$320,700	$710,300
Santa Teresa	Doña Ana County Airport	234	$7,511,400	$17,960,300
Shiprock	Shiprock Airstrip	5	$108,600	$135,700
Silver City	Grant County Municipal Airport	124	$5,197,600	$11,875,300
Socorro	Socorro Municipal Airport	13	$374,400	$840,200
Springer	Springer Municipal Airport	3	$52,500	$76,900
Taos	Taos Regional Airport	205	$4,801,800	$12,383,500
Truth or Consequences	Truth or Consequences Municipal Airport	80	$1,924,200	$4,653,800
Tucumcari	Tucumcari Municipal Airport	136	$3,272,500	$7,302,200
Vaughn	Vaughn Municipal Airport	16	$456,900	$1,051,800
Zuni Pueblo	Black Rock Airport	11	$284,900	$536,300

** The totals reflect both first and second round impacts.*

These airports have varying levels of activity, facilities, and services and meet a wide variety of needs.

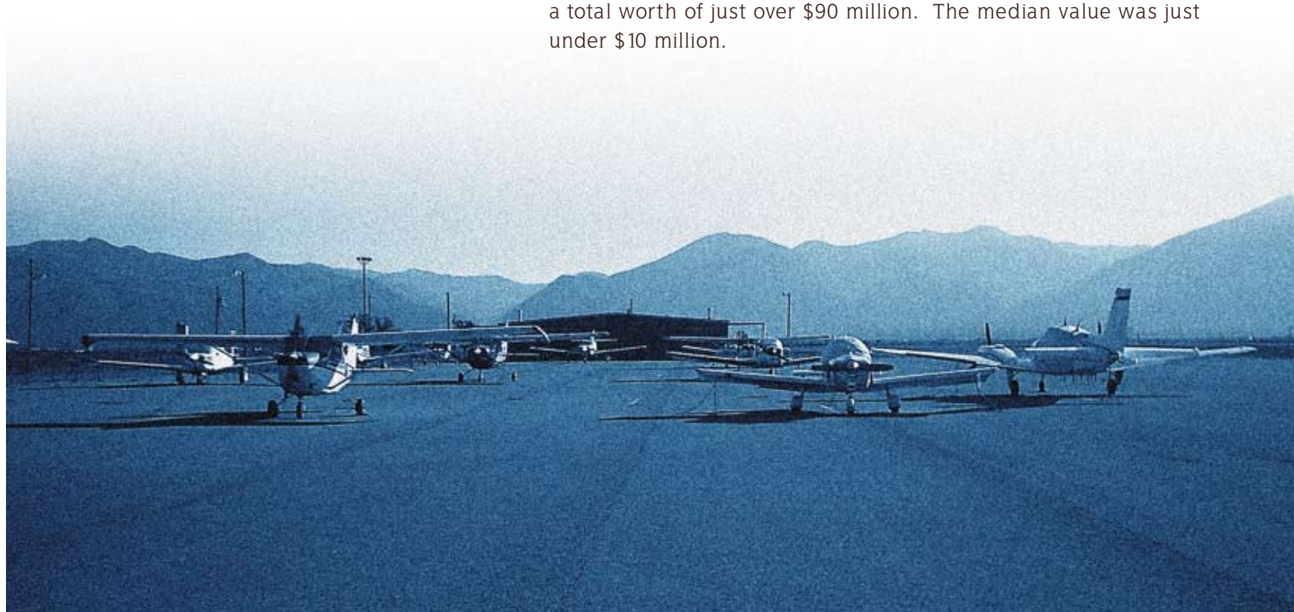
It is estimated that to reconstruct New Mexico's system of airports, excluding Albuquerque International Sunport, in 2008 dollar values would cost approximately $1.7 billion.

Asset Analysis

A valuation of each New Mexico airport was developed based on current construction costs and existing assets. This valuation includes pavement, buildings, some equipment, and an "airport size adjustment factor" to account for less identifiable infrastructure assets such as utilities, parking lots, and fuel farms. The 2008 valuation is a more in-depth update of an analysis conducted in a previous plan, adjusted for inflation and for infrastructure improvements between 2005 and 2008. Developing this estimate provides the New Mexico public, airport stakeholders, and policy decision makers with an understanding of the value of their airport. The table below summarizes the total value of the entire system of New Mexico airports and how much it increased from 2005.

Asset Summary	
Total Value $1.7 billion	Percentage Increase 10%

It is estimated that to reconstruct New Mexico's system of airports, excluding Albuquerque International Sunport, in 2008 dollar values would cost approximately $1.7 billion, an increase of 10 percent since 2003. This is an increase of approximately $140 million, which is about $131 million in 2005 dollars. As noted in the previous valuation study, Roswell International Air Center has the highest value in the state due to its extensive apron and taxiway system. This airport is valued at over $740 million. Santa Fe follows Roswell as the most valuable airport in the system with a total worth of just over $90 million. The median value was just under $10 million.



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