

RECOMMENDATIONS

- » **Plan and Fund for the Future:** While the system continues to enjoy excess capacity and increased accessibility it still needs continued focus on funding projects that remedy non-standard conditions (conditions that do not comply with FAA regulatory guidelines) and updating airport layout plans. Improvements in the runway systems should be planned and executed in the next few years.
- » **Keep Airport Layout Plans Up to Date:** While the FAA and GDOT Aviation Programs permit the airports to rely on the most recent Airport Layout Plan beyond the 5 year period if there are no new requirements, there are still improvements to be accomplished from the most recent plan.
- » **Use Technology to Improve:** Encourage airports to use innovative technology and processes when expanding and enhancing their infrastructure.

DEFINITION OF THE ISSUE

The Federal Aviation Administration (FAA) reviews the condition of the airports in the state and their ability to serve the public. There are 109 public use airports in the state of Georgia including the busiest airport in the world, Hartsfield-Jackson Atlanta International Airport. Due to its unique nature, Hartsfield-Jackson is considered separately from Georgia's other airports, and this report focuses primarily on the overall aviation system in Georgia. The review of airport system was divided into five performance measures:

1. **Capacity** – The percent usage of available airport operational capacity.
2. **Standards** – The ability to meet design standards for safety and use of airports.
3. **Flexibility** – The ability to meet current and future demands.
4. **Accessibility** – The accessibility of airports to the public.
5. **Facilities and Services** – The ability to provide the minimum facilities and services for the particular level of airport.

Since the 2009 Report Card, the assessment confirms that aviation facilities in Georgia have improved in areas of Capacity, Accessibility and Facilities & Services, but have declined in Standards and Flexibility. Based on traffic projections put together by the FAA, capacity for the system continues to exceed current requirements, implying additional capacity. There were no data available at the time of this publication that could be used to compare Georgia's aviation infrastructure to other states.



GRADE

The Georgia Section of ASCE has assigned Aviation a 2014 grade of B+. This grade was obtained by assessing the five performance areas. The percentage goal for each weighted performance measure was used to arrive at the numerical score. The weighting was established for each measure based on significance to the performance of the system (“1” is least significant and “3” is most significant).

1. **Capacity** – The aviation system still has excess capacity, so a capacity grade of 100 percent was awarded. Capacity is very significant to performance of the system so a relative weight of 3 was used.
2. **Standards** – The aviation system average of the Standards measures is 86 percent, an increase from 84 percent in 2009. Standards address compliance with federal safety requirements and are very significant to performance of the system. Therefore, a relative weight of 3 was assigned.
3. **Flexibility** – This criterion calls for 100 percent compliance with federal regulatory requirements for Level 2 and 3 airports. There are 73 Level 2 and 3 airports (71 percent of the total). The system average (which includes Level 1, 2 and 3 airports) is 45 percent, down from 56 percent in 2009. This was divided by the goal of 71 percent to yield a score of 79 percent. Flexibility is less significant to performance of the system so a relative weight of 1 was used.
4. **Accessibility** – The aviation system average of the Accessibility measures (which require accessibility to airport facilities) is 100 percent based on the targets, which is an increase from 98 percent in 2009. Access is not as critical to performance of the system so a relative weight of 1 was assigned.
5. **Facilities and Services** – The aviation system average score was 75 percent, an increase of 5 points from 2009 largely due to the improvement in Level 1 facilities. Facilities and Services are significant to performance of the system so a relative weight of 2 was used.

The overall score results in an aviation grade of B+, which is unchanged from 2009.

TYPES OF AIRPORTS

There are three levels of airports as evaluated by the Federal Aviation Administration (FAA):

- **Level I** - Minimum standard general airport: Level I airports should accommodate all single-engine and some small twin-engine general aviation aircraft. A minimum runway length of 4000 feet is recommended. It is also recommended that Level I airports be aided by a non-precision instrument approach. Examples of these types of airports are Dahlenega, Jekyll Island, and Madison.
- **Level II** - Business airport of local impact: Level II airports should be capable of accommodating all business and personal use single and twin-engine general aviation aircraft, and a broad range of the corporate/business jet fleet. A minimum runway length of 5000 feet is recommended. It is also recommended that Level II airports be aided by a non-precision instrument approach. Examples of these types of airports are Cartersville, Pine Mountain, and Moultrie.
- **Level III** - Business airport of regional impact: Level III airports should be capable of accommodating commercial aircraft or the majority of business and corporate jet aircraft. A minimum runway length of 5,500 feet is recommended. It is also recommended that Level III airports be aided by a precision instrument approach. Examples of these types of airports are Hartsfield-Jackson, Peachtree-Dekalb, Macon, Newnan, and Savannah.



CAPACITY

The goal is to provide a statewide aviation system with airside and landside facilities to meet current and future demand. The FAA has determined that as an airport’s annual demand reaches 60 percent or more of the airport’s calculated airfield operating capacity, delays to aircraft on the ground and in the air begin to increase and capacity-enhancing

Table 1: Georgia Aviation System General Information

Criteria	2012	2008	Difference
Total Number of Airports (95 General Aviation and 9 Commercial Service)	104	104	0
General Aviation Airport Arrivals and Departures	1,617,000	1,970,000	-353,000
Air Carrier Airport Arrivals and Departures (not including Hartsfield-Jackson)	272,438	363,703	-91,265
Aircraft Based at Georgia Airports	4,996	6,098	-1102
Square Yards of Pavement at Georgia Airports	16,170,000	15,490,000	680,000
Average Number of Daily Arrivals and Departures at Hartsfield-Jackson	2,549	2,716	-167
Airports with Runway Length of 4000 feet or greater (Level I airports)	87%	83%	5%
Airports with Runway Length of 5000 feet or greater (Level II airports)	76%	64%	12%
Airports with Runway Length of 5,500 feet or greater (Level III airports)	43%	40%	3%
Airports in the National Plan of Integrated Airport Systems (NPIAS)	94%	94%	0%
Airports that Meet or Exceed a PCI Rating of 70 for their Primary Runway	84%	85%	-1%

SOURCE: GDOT

capital projects should be planned. As annual demand exceeds or equals 80 percent of an airport’s operation capacity, delays can increase dramatically and capacity projects should be implemented. Current data suggest that Georgia has significant excess capacity; however this may be reduced as air travel increases with the improvement in the economy. Updated projections for 2021 show that the state will have usage rates well below the 60 percent level.

At Hartsfield-Jackson airport, efficiency is measured by the FAA using performance indicators, including average gate arrival delay, average gate to gate time and taxi times, among others. Besides being the world’s busiest airport in terms of passenger traffic and numbers of take-offs and landings, Hartsfield-Jackson has seen steady improvement in all efficiency metrics over the past 5 years. The airport has been recognized for many years by the Air Transport Research Society as the world leader in airport efficiency. Hartsfield-Jackson is often referred to as the busiest airport in the world and to meet that demand a \$1.2 billion international terminal was opened in 2012.

STANDARDS

The goal is to support a statewide aviation system that complies with applicable State and Federal design, safety, and development standards. It should be noted that many of the airports in the state were constructed when design standards were significantly different than today. Because some of the new design standards are more stringent, some of these airports will require significant modification to meet current standards. Therefore, although the goal is to have 100 percent compliance, this will be unlikely until major capital projects can be funded. Below is a summary of significant aspects of this performance measure:

Table 2: Statewide Annual Demand/Capacity ratios (Percentage of available capacity in use)

Year	Level I	Level II	Level III	Total System
2001	9%	10%	20%	15%
2012	7%	10%	15%	11%
2021	10%	12%	25%	19%

SOURCE: GDOT

- The Runway/Taxiway Separation Standard measures the ability to meet the separation standard between the primary runway centerline and any full or partial parallel taxiway centerline. Each airport's standard is determined by its current FAA Runway Reference Code (RRC). Currently, 82 percent of Georgia airports meet the standard. This is a decrease from 89 percent in 2008.
- The Runway Safety Area (RSA) Standard for Primary Runways measures the ability to meet the dimensions of runway safety areas on each end of the primary runway. Each airport's standard is determined by its current FAA Runway Reference Code (RRC). Currently, 91 percent of Georgia airports meet the standard. This is a slight increase from 90 percent in 2008.
- The Pavement Condition Index (PCI) Standard measures the ability of airports to meet a PCI rating of 70 or greater for the primary runway. Currently, 84 percent of Georgia airports meet the standard. This is a decrease from 85 percent in 2008. Between 2003 and 2008, nearly 30 runways were extended as part of the statewide AirGeorgia program. A combination of reduced state funding levels and aging pavements at AirGeorgia airports contributed to this slight decrease in the last 5 years. A number of runway and other airport pavement maintenance projects are funded for 2013 and are planned for the next several years to maintain these pavements in accordance with the PCI criteria.

FLEXIBILITY

The goal is to provide a system of airports that remains flexible and capable of responding to future change while maintaining compatibility with surrounding communities.

- Of Level I, II, and III airports that have current master plans or Airport Layout Plans (ALPs), 40 percent have completed the plan within the past 5 years. This is down from 64 percent in 2008. Because of the requirement of planned construction projects to be shown on an approved ALP to indicate all safety and design standards are met or planned to be met, many AirGeorgia airports updated their ALPs between 2003 and 2008 in anticipation of pending runway extensions and other capital airside improvements. Although many of the ALPs were completed longer than five years ago, the plans remain valid until all projects are completed or a new layout of facilities is required.
- Of Level I, II, and III airports with surrounding municipalities that have adopted controls and/or zoning to assure land use in the airport environs is compatible with airport operations and development, 50 percent have adopted land use or zoning controls. This is an increase from 48 percent in 2008.

ACCESSIBILITY

When evaluating accessibility, the goal is to provide an airport system that is easily accessible from both the ground and the air. These criteria are evaluated based on the airport Level designation. To summarize significant changes since 2008:

- The goal of Level I Airports is to be within a 30-minute drive time of the statewide population. The target population coverage per GDOT is 96.1 percent. The existing population coverage of Level I Airports in Georgia is 99 percent. This is an increase from 93 percent in 2008.
- The goal of Level II Airports is to be within a 30-minute drive time of the statewide population. The target population coverage per GDOT is 89.5 percent. The existing population coverage of Level II Airports in Georgia is 90 percent. This is an increase from 86 percent in 2008.
- The goal of Level III Airports is to be within a 45-minutes drive time of the statewide population and a 60-minutes drive time for commercial service airports. The target population coverage for Georgia per GDOT is 98.1 percent. The existing population coverage for Level III Airports in Georgia is 98.1 percent. This is unchanged from 2008.

FACILITIES AND SERVICES

The goal is to provide facilities and services, such as adequate airfield infrastructure, parking, terminal space, navigation aids, etc., that should ideally be in place at Level I, Level II, and Level III airports as identified by the Georgia Aviation System Plan. This should guide future development at Georgia airports. Table 3 (on page 10) shows the compliance percentages for a number of facilities and services.

AVIATION

Giving each category equal weight we were able to compute an overall score for each level of airport.

- The percentage of Level I Airports meeting the combined standard is 61 percent (up from 49 percent in 2008).
- The percentage of Level II Airports meeting the combined standard is 78 percent (up from 70 percent in 2008).
- The percentage of Level III Airports meeting the combined standard is 90 percent (up from 89 percent in 2008).

Table 3: Facilities and Services by Level of Airport

	Level I	Level II	Level III
Runway Length	60	88	95
Runway & Taxiway Lighting	87	100	100
Terminal Building	23	50	78
Aircraft Maintenance Availability	47	81	88
Fuel Availability	50	97	98
Hangar Space	87	84	88
Tie Downs	73	78	88
Vehicle Parking	57	47	61

SOURCES

Georgia Department of Transportation (GDOT) Intermodal Division Director.

Georgia Department of Transportation (GDOT) Aviation Programs Aviation Planner.

National Plan of Integrated Airport Systems (NPIAS).