



Report:

Georgia Airport Pavement Management System Executive Summary

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Overview

Background

Georgia's airport system serves a crucial role for the State. It supports economic development opportunities, connects its citizenry to the world, and facilitates key lifesaving and emergency operations when needed, including in times of disaster. Its pavement system represents a large capital investment. If not managed and maintained at acceptable condition levels, the value of these capital investments will be diminished, and the important role the airport system plays in the State will be compromised.

Identifying the appropriate maintenance and rehabilitation (M&R) treatment and applying it at the right time is key to cost-effective management of pavement infrastructure. Delaying M&R until a pavement structure has seriously degraded can cost much more than if appropriate M&R was applied earlier in a pavement's life cycle. Additionally, as pavements deteriorate, cracks and loose debris may pose risks in terms of the potential for aircraft tire damage and the ability of a pilot to safely control an aircraft.

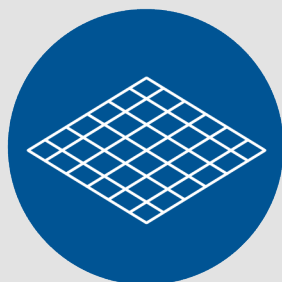
Recognizing the importance of airport pavements, the Georgia Department of Transportation (GDOT) established a Statewide Airport Pavement Management System (APMS) in 1998 to monitor the health of the pavement system and proactively plan for its cost-effective preservation. Since that time, the APMS has been updated periodically. The APMS provides airport sponsors, GDOT, and the FAA with current, objective data on airport pavement conditions. The APMS data can also be used to assess the need for pavement-related funding, prioritize project needs, and formulate capital improvement programs. Further, the APMS fulfills most of the individual airport responsibilities required by Public Law 103-305 and FAA Grant Assurance 11, which both require airports to maintain an effective pavement maintenance

management system. Through completion of the APMS update, airports have a complete pavement inventory and detailed inspection, and to remain in compliance with the law, they will need to undertake monthly drive-by inspections of pavement conditions and track pavement-related maintenance activities. GDOT's continued update and utilization of the APMS for nearly three decades is evidence of its commitment to maintaining its airport infrastructure and is consistent with the priorities of the FAA for continued maintenance of existing pavement.

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GDOT's APMS was updated during 2024 and 2025. A total of 102 publicly owned, public-use airports were evaluated as part of this project (94 general aviation airports and 8 commercial service airports). The pavement inventory and condition information were updated, and a recommended work plan was developed. This report establishes the findings and recommendations as a result of this project. Detailed information is provided in the individual airport reports and the interactive pavement data visualization tool developed during this project, which is accessible through GDOT's website.

Quick Facts



The area of pavement to be maintained at the 102 airports in the APMS has grown to **155.2 million sf** and its area-weighted age has increased to **19 years**, resulting in increased funding needs for pavement preservation and rehabilitation.



Through careful investment of available funding, the overall Pavement Condition Index (PCI), ranging from 100 to 0, has stabilized at **71**. However, as the system continues to age and grow in size, funding levels must increase to meet needs.



The current unlimited estimated amount of funding needed for pavement M&R over the next 5 years is **\$640.9 million** (or **\$128.2 million annually**)—\$536.3 million for general aviation airports and \$104.6 million for commercial service airports—which would achieve an area-weighted PCI of 85 by 2030.



An estimated annual funding level of **\$45 million** for major rehabilitation projects—\$33.5 million for general aviation airports and \$11.5 million for commercial service airports—would achieve an overall area-weighted PCI of 73 in 2030 and meet the target PCIs utilized in the constrained funding scenarios.

Impact of the Statewide APMS

As part of the APMS process, a visual assessment of pavement condition is performed using the PCI methodology. This evaluation results in the calculation of an overall value, which ranges from a PCI of 100 (*Excellent* [no visible signs of pavement deterioration]) to 0 (*Failed*).

In 2012, the overall area-weighted PCI (average PCI adjusted to account for the relative size of the pavement sections) of the system was 77; in 2018, it had dropped to 71. During the most recent update, completed between October 2024 and February 2025, the overall area-weighted PCI was 71.

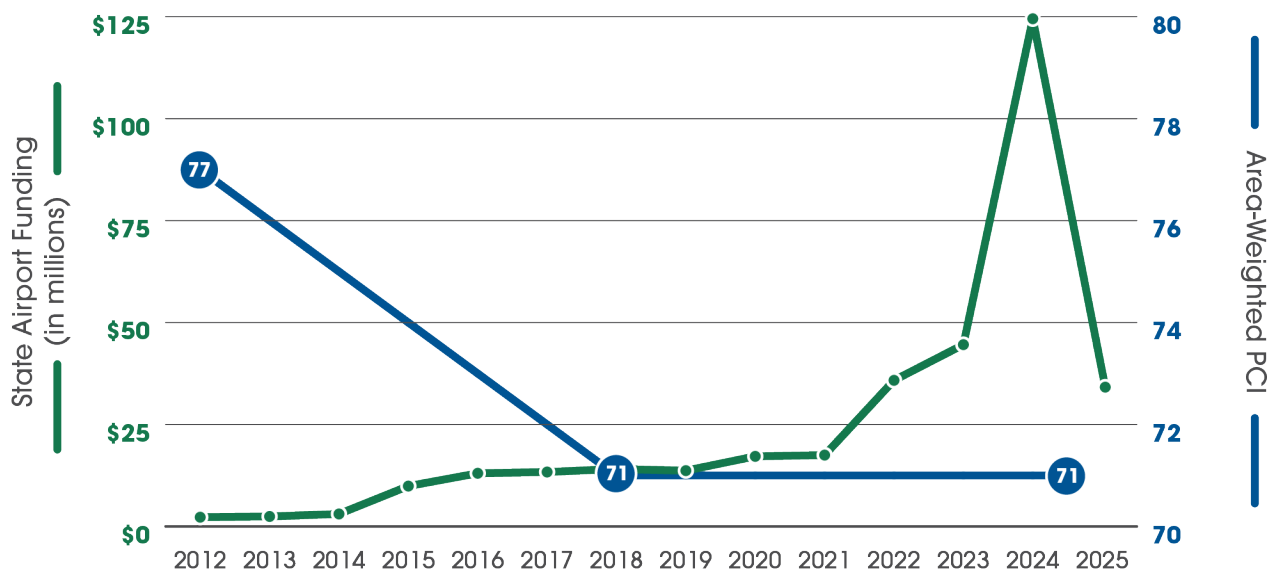
While the condition of the system did not increase between 2018 and this evaluation, the downward decline

evident between 2012 and 2018 has stopped through increased funding that has been carefully invested in the pavement system. A few factors should be considered when reviewing the evaluation results which indicate why condition of the pavement system has stabilized but has not increased, including:

- **The area of pavement to be managed has increased.** Since 2012, GDOT's APMS has grown from 145.5 million sf to 155.2 million sf currently. Funding allocated for pavement M&R must address the needs of a pavement system that is almost 7 percent larger today than it was 13 years ago.

- The airport pavement system has aged.** In 2012, the area-weighted age was 16 years; and in 2018, it was 18 years. The current age of the system has increased to 19 years. During the life cycle of pavement, the PCI typically decreases as the age of the pavement increases. At the beginning of a pavement's life cycle, preventive maintenance actions, such as crack sealing and surface treatments, are usually a cost-effective approach for preserving and extending pavement life. As pavement ages and conditions deteriorate, a point is reached where major work is needed, such as an overlay or reconstruction.
- Continued inflation has affected the ability of the allocated funding to keep pace with pavement needs.** Due to inflation, there has been a significant increase in costs for pavement rehabilitation and construction. As a result, the cost of pavement projects has a direct impact on how many projects can be undertaken.
- Future funding for pavement M&R is critical.** The current APMS identified an estimated 5-year funding need of \$45 million annually to achieve the overall area-weighted target PCIs utilized in the constrained funding scenario, detailed later in this report, compared to the annual average funding for the entire program (not just paving-related projects) currently set at \$30 million.

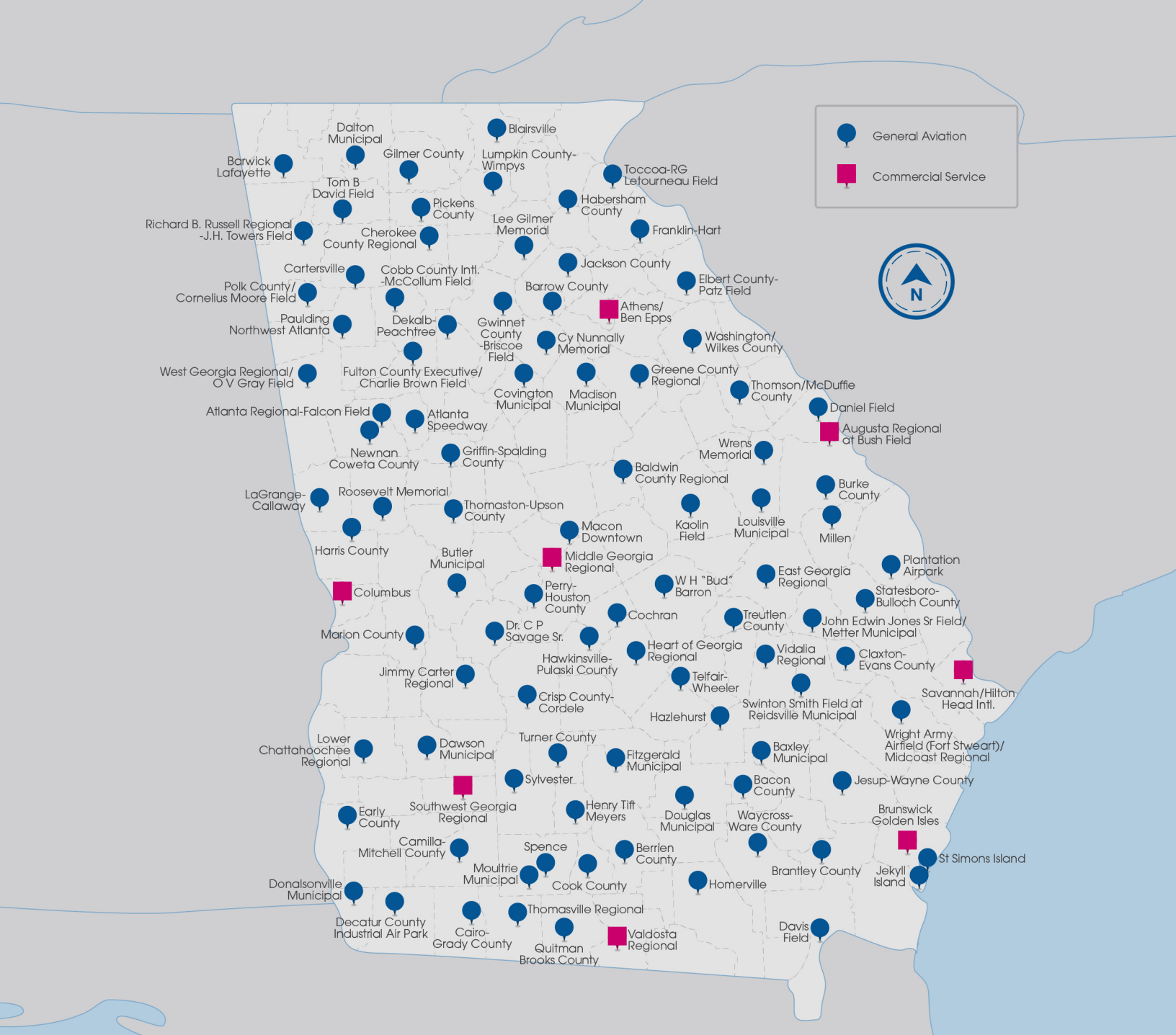
State Airport Funding vs. Area-Weighted PCI



Study Airports

In 2024 and 2025, 102 publicly owned, public-use Georgia airports shown in the figure on the following page were evaluated (94 general aviation airports and 8 commercial service airports). These airports include approximately 155.2 million sf of pavement, which equates to a two-lane paved road from Atlanta, Georgia, to Santa Fe, New Mexico.

The total area can be further broken down into 44 percent runway pavement, 26 percent taxiway pavement, 25 percent apron and helipad pavement, and 5 percent T-hangar taxilane pavement. The airport pavement included in the APMS consists of 84 percent asphalt-surfaced pavement and 16 percent concrete pavement.



Pavement Condition Assessment

The PCI methodology, as documented in the FAA Advisory Circular 150/5380-6C, *Guidelines and Procedures for Maintenance of Airport Pavements*, and the ASTM D5340, *Standard Test Method for Airport Pavement Condition Index Surveys*, was used to assess the pavement condition at Georgia airports. This procedure is the standard used by the aviation industry in the United States for visually assessing and monitoring the condition of airport pavements. Established in the early 1980s, it provides a consistent, objective, and repeatable method to evaluate overall pavement conditions.

During a PCI survey, the types, severities, and amounts of distress present on a pavement’s surface are quantified.

This information is used to develop a composite index that represents the overall pavement condition in numerical terms, ranging from 100 (*Excellent*) to 0 (*Failed*). In addition, the data collected are used to calculate pavement deterioration rates and identify major causes of pavement deterioration, which is a key to selecting the appropriate repair action.

Programmed into an APMS, the analysis of PCI data is used to determine when preventive maintenance actions, such as crack sealing, are advisable and to identify the most cost-effective time to perform major rehabilitation, such as an overlay. The relationship between pavement PCI and the typical type of repair recommended is shown below.



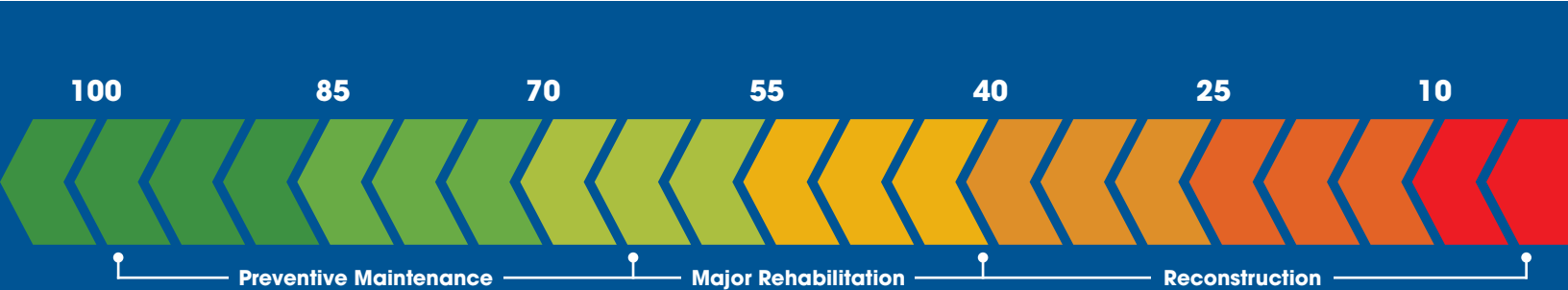
Pavements with PCIs above a critical threshold (ranging from 60 to 75 depending on the classification of the airport and the use of the pavement) may benefit from preventive maintenance actions, such as crack sealing and surface treatments.



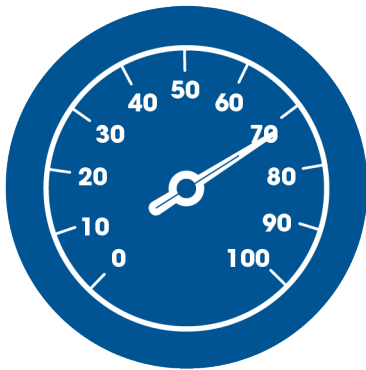
Pavements with a PCI in the range of 40 to the critical threshold will typically require more costly rehabilitation, such as an overlay.



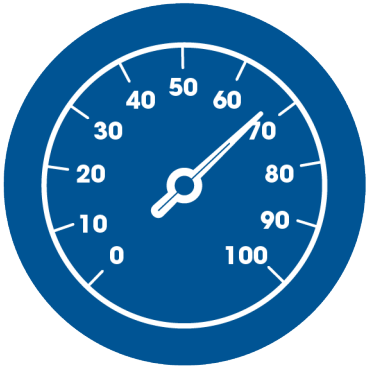
Pavement below a PCI of 40 may require even more costly reconstruction to restore it to operational condition.



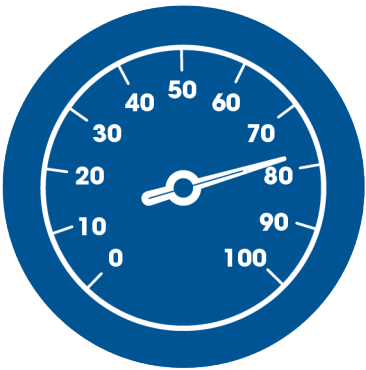
2024/2025 PCI Results



ALL
AIRPORTS
71

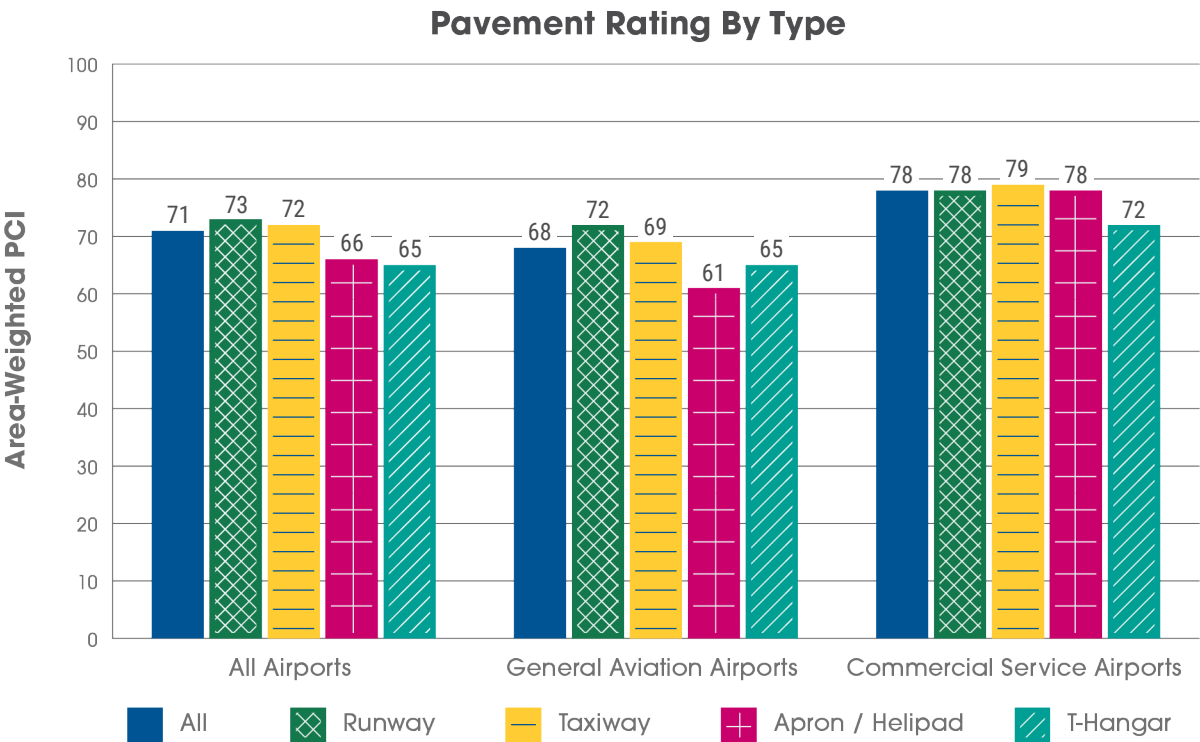


GENERAL AVIATION
AIRPORTS
68



COMMERCIAL
SERVICE AIRPORTS
78

The 2024/2025 area-weighted PCI of the 102 airports included in the APMS is 71. The figures above compare the overall condition of the pavement for the 102 airports with that of the general aviation airports and the commercial service airports. The figure below shows the 2024/2025 condition distributed by airport classification and pavement use.



Typical Distress Types at Georgia Airports

Following are descriptions for the most commonly observed pavement distresses at the Georgia airports evaluated during this project. The descriptions (based on USACE 2009 *Asphalt Surfaced Airfields PAVER Distress Identification Manual*¹) are limited to asphalt-surfaced pavements because most of the airport infrastructure consists of this type of pavement.



Alligator Cracking

Alligator cracking typically occurs in areas subjected to repeated traffic loading and is a sign of structural failure in the pavement layers. Initially appearing as a series of parallel cracks, it progresses into a pattern of interconnected cracks in asphalt pavement that resembles the skin of an alligator.



Block Cracking

Block cracking is the progression of longitudinal and transverse (L&T) cracking as the pavement continues to age. The cracking interconnects to form rectangular or square pieces. Block cracking is not a load-related distress—it is caused by the shrinking of the asphalt pavement and daily temperature changes.



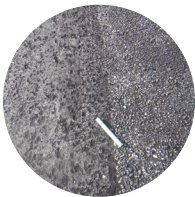
Longitudinal & Transverse (L&T) Cracking

Longitudinal cracking forms parallel to the pavement centerline or laydown direction. Transverse cracking forms perpendicular to the pavement centerline. L&T cracking can be due to a variety of causes, including poor construction joints, asphalt binder shrinkage due to temperature fluctuations and age, brittle pavements, or underlying reflection cracking from existing cracks in an overlaid pavement.



Patch/Utility Cut Patch

Patching is a localized repair used to restore damaged areas of asphalt pavement by replacing the affected material with new asphalt. Even if it is performing well, a patch is still a pavement distress.



Raveling

Raveling is the progressive loss of coarse aggregate particles from the pavement surface, resulting in a rough, uneven texture and reduced surface integrity. Raveling can pose a safety hazard as loose aggregate could be ingested by aircraft engines.



Weathering

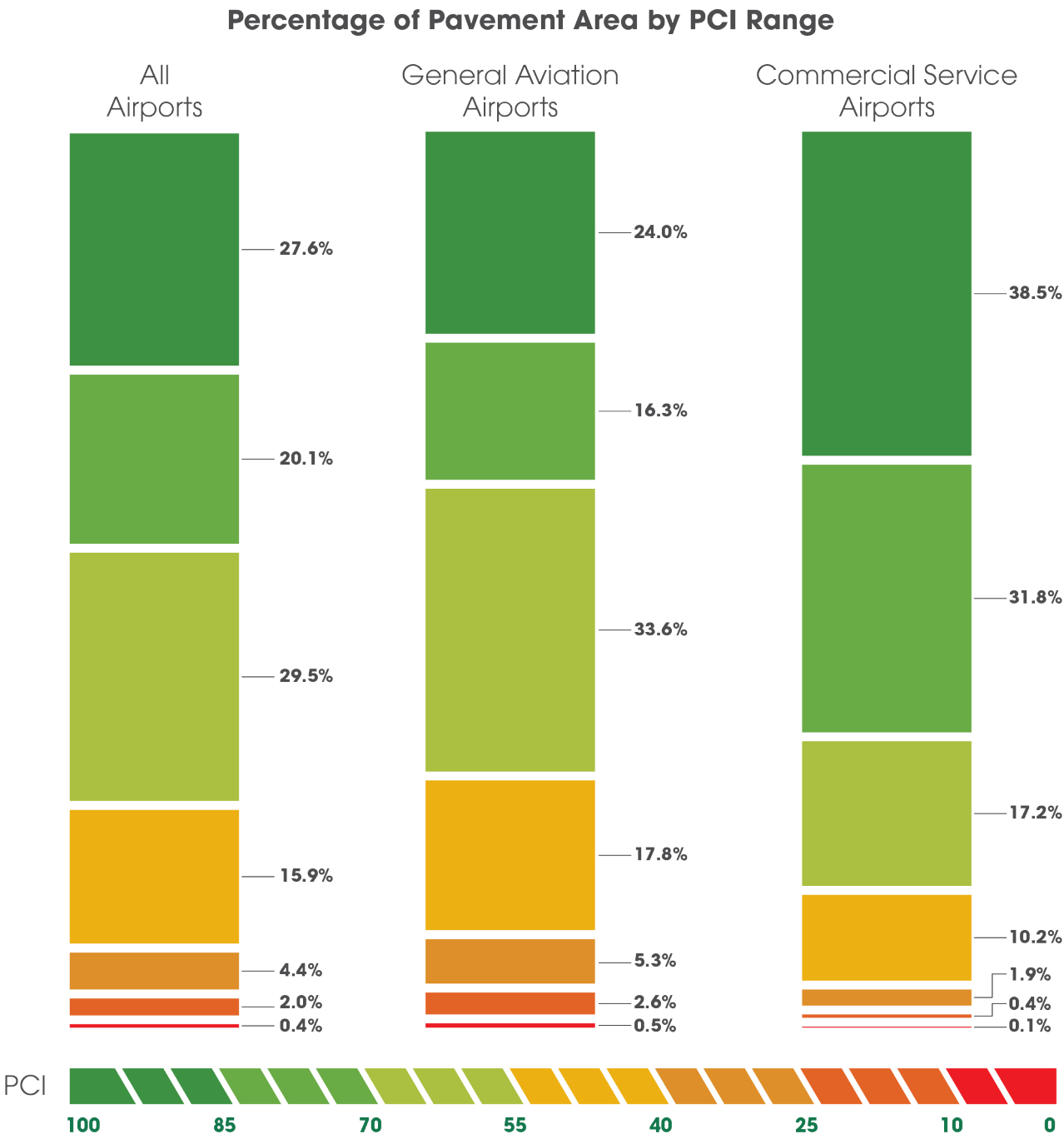
Weathering occurs as a pavement ages and hardens causing the asphalt binder and/or the fine aggregate to wear away. It is an indication that the pavement is becoming more brittle.

¹ US Army Corps of Engineers (USACE). 2009a. *Asphalt Surfaced Airfields PAVER Distress Identification Manual*. USACE, Washington, DC.

Pavement Needs Assessment

The evaluation results indicate that 48 percent of Georgia’s airport pavement would benefit from preventive maintenance, 45 percent needs more extensive rehabilitation (such as an overlay), and 7 percent needs reconstruction. Because the pavement system is aging, many of the pavements that will benefit now from preventive maintenance will soon deteriorate to a point where more costly rehabilitation will be required.

The figures below show the percentage of pavements in each condition range and indicate which type of work should be performed. In these figures, preventive maintenance refers to activities such as crack sealing, joint sealing, patching, and surface treatments. Major rehabilitation includes overlays and concrete restoration. Reconstruction involves replacement of the entire pavement.



Protecting Capital Investment

An analysis was performed to assess pavement needs for 2026 to 2030. This analysis predicted future pavement conditions and drew conclusions as to whether preventive maintenance or major rehabilitation/reconstruction would be the best strategy based on whether a pavement was above or below its critical PCI threshold (definitions are provided below). Above its critical PCI, the pavement was recommended for preventive maintenance; below its critical PCI, the pavement was recommended for major rehabilitation or reconstruction.

GDOT established critical PCI thresholds as follows:

- General aviation airports have a critical PCI of 60 for taxiways, aprons, helipads, and T-hangar taxilanes, and a critical PCI of 70 for runways.
- Commercial service airports have a critical PCI of 65 for taxiways, aprons, helipads, and T-hangar taxilanes, and a critical PCI of 75 for runways.

Three financial scenarios were analyzed for years 2026 through 2030: no funding, unlimited funding, and the estimated funding to achieve area-weighted PCI targets set for the pavement system (see establishment of target PCIs below).

The no funding analysis resulted in the pavement system deteriorating from a 2024/2025 PCI of 71 to 62 by the end of 2030. This decrease translates to higher future M&R costs due to the delay of projects needed.

The unlimited funding analysis assumed all identified pavement projects were undertaken. This scenario would result in an estimated expenditure of \$640.9 million (\$536.3 million for general aviation airports and \$104.6 million for commercial service airports) over the next 5 years and would result in a projected PCI of 85 at the end of 2030. The table at the end of this report provides a total estimated cost per airport for the projects recommended under the unlimited budget scenario.

Because the no funding and the unlimited funding scenarios produced undesirable and unachievable results, respectively, an additional analysis was performed to determine the estimated funding level required for major rehabilitation projects to achieve PCI targets for the airport pavement system. These overall area-weighted PCI targets are shown in the following table and were generated to allow the system as a whole to remain, on average, above the critical PCIs allowing for time to program major rehabilitation work actions when needed. These overall PCI targets, which resulted in an overall area-weighted PCI of 73, could be achieved through 2030 with an estimated annual expenditure of \$45 million for major rehabilitation projects—\$33.5 million annually for general aviation airports and \$11.5 million annually for commercial service airports. The cost for localized preventive maintenance and surface treatment projects would be in addition to this value.

Constrained Funding Scenario Details

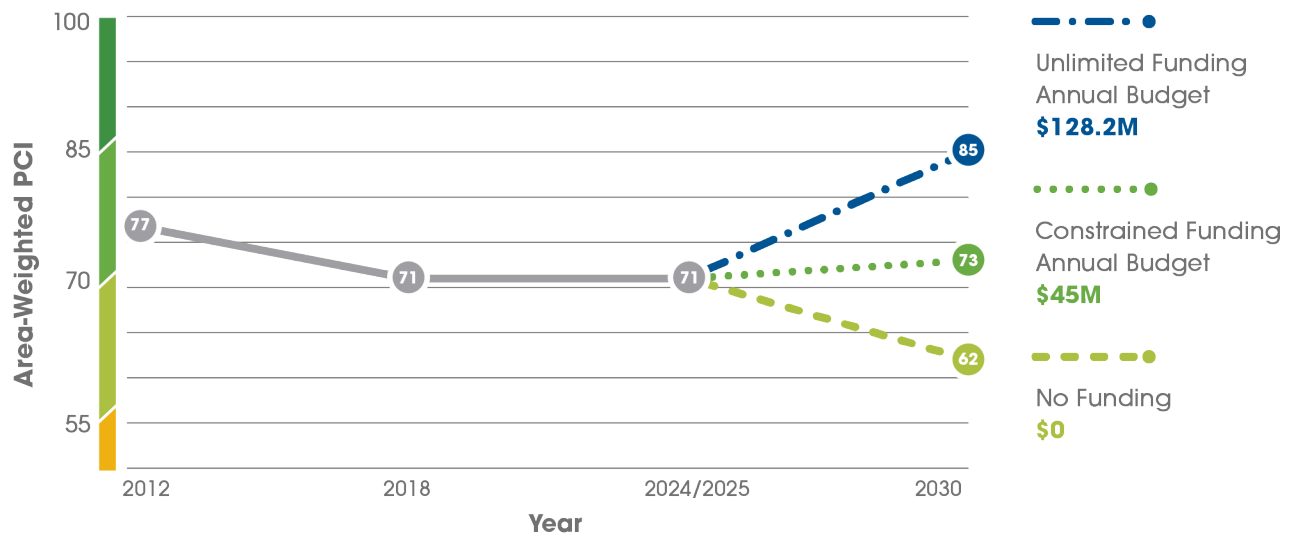
General Aviation Airports				Commercial Service Airports		
Branch Use	Critical PCI	Target PCI	Estimated Annual Funding Required	Critical PCI	Target PCI	Estimated Annual Funding Required
Apron/Helipad	60	65	\$9.75M	65	80	\$3.25M
Runway (Primary)	70	75	\$11.5M	75	80	\$3.75M
Runway (Other)	70	68	\$4.25M	75	80	\$1.5M
Taxiway	60	70	\$6M	65	80	\$2.5M
T-hangar Taxilane	60	65	\$2M	65	75	\$0.5M
Overall	N/A		\$33.5M	N/A		\$11.5M

Annual Budget Needed to Achieve Area-Weighted PCI Targets

All Airports	General Aviation Airports	Commercial Service Airports
2012		
\$30.25M	\$25M	\$5.25M
2018		
\$58M	\$48.75M	\$9.25M
2024/2025		
\$45M	\$33.5M	\$11.5M

***2012 and 2018 had a target PCI of 80 for the entire system. The 2024/2025 target PCIs are listed on the previous page.**

Forecasted PCIs by Funding Scenario



5-Year Estimated Pavement Funding Needs (Unlimited Funding Scenario)

Associated City	Airport Name	Area-Weighted 2024/2025 PCI	Estimated 5-Year Total Funding Needs (Unlimited Funding)
General Aviation Airports			
Adel	Cook County Airport	72	\$2,743,700
Alma	Bacon County Airport	76	\$563,100
Americus	Jimmy Carter Regional Airport	53	\$9,514,700
Ashburn	Turner County Airport	70	\$1,887,900
Atlanta	Atlanta Regional Airport-Falcon Field	65	\$8,655,300
Atlanta	Atlanta Speedway Airport	71	\$2,227,300
Atlanta	Cobb County International Airport-McCollum Field	78	\$5,165,800
Atlanta	Covington Municipal Airport	76	\$544,100
Atlanta	Dekalb-Peachtree Airport	60	\$54,082,500
Atlanta	Fulton County Executive Airport/Charlie Brown Field	61	\$19,664,300
Atlanta	Newnan Coweta County Airport	66	\$8,163,600
Atlanta	Paulding Northwest Atlanta Airport	96	\$28,300
Augusta	Daniel Field Airport	78	\$5,158,100
Bainbridge	Decatur County Industrial Air Park	51	\$54,209,300
Baxley	Baxley Municipal Airport	94	\$154,800
Blairsville	Blairsville Airport	67	\$1,908,500
Blakely	Early County Airport	57	\$3,615,500
Brunswick	St Simons Island Airport	70	\$5,053,800
Buena Vista	Marion County Airport	76	\$864,700
Butler	Butler Municipal Airport	82	\$1,110,000
Cairo	Cairo-Grady County Airport	57	\$3,802,500
Calhoun	Tom B David Field Airport	84	\$1,533,000
Camilla	Camilla-Mitchell County Airport	56	\$5,524,900
Canon	Franklin-Hart Airport	59	\$4,305,100
Canton	Cherokee County Regional Airport	87	\$1,140,300
Carrollton	West Georgia Regional Airport/O V Gray Field	83	\$2,528,000
Cartersville	Cartersville Airport	76	\$5,033,000
Cedartown	Polk County Airport/Cornelius Moore Field	65	\$3,458,500
Claxton	Claxton-Evans County Airport	90	\$409,400
Cochran	Cochran Airport	63	\$2,484,100
Cordele	Crisp County-Cordele Airport	55	\$11,837,800
Cornelia	Habersham County Airport	84	\$857,000
Cuthbert	Lower Chattahoochee Regional Airport	41	\$2,493,700
Dahlonega	Lumpkin County-Wimpys Airport	60	\$1,018,400
Dalton	Dalton Municipal Airport	66	\$5,365,300
Dawson	Dawson Municipal Airport	48	\$6,836,600
Donalsonville	Donalsonville Municipal Airport	56	\$6,734,200
Douglas	Douglas Municipal Airport	66	\$5,330,000
Dublin	W H "Bud" Barron Airport	65	\$6,447,300

Associated City	Airport Name	Area-Weighted 2024/2025 PCI	Estimated 5-Year Total Funding Needs (Unlimited Funding)
General Aviation Airports			
Eastman	Heart of Georgia Regional Airport	89	\$1,336,100
Elberton	Elbert County Airport-Patz Field	98	\$6,900
Ellijay	Gilmer County Airport	68	\$1,034,200
Fitzgerald	Fitzgerald Municipal Airport	65	\$3,029,200
Folkston	Davis Field Airport	43	\$1,136,300
Gainesville	Lee Gilmer Memorial Airport	70	\$8,857,700
Greensboro	Greene County Regional Airport	83	\$2,125,600
Griffin	Griffin-Spalding County Airport	71	\$4,101,000
Hawkinsville	Hawkinsville-Pulaski County Airport	78	\$659,100
Hazlehurst	Hazlehurst Airport	95	\$237,300
Hinesville	Wright Army Airfield (Fort Stewart)/Midcoast Regional Airport	72	\$2,427,900
Homerville	Homerville Airport	48	\$4,405,100
Jasper	Pickens County Airport	74	\$2,943,600
Jefferson	Jackson County Airport	81	\$1,868,000
Jekyll Island	Jekyll Island Airport	62	\$2,308,500
Jesup	Jesup-Wayne County Airport	65	\$3,269,000
LaFayette	Barwick Lafayette Airport	82	\$1,976,200
Lagrange	LaGrange-Callaway Airport	53	\$15,740,500
Lawrenceville	Gwinnett County Airport-Briscoe Field	57	\$26,893,500
Louisville	Louisville Municipal Airport	52	\$4,926,700
Macon	Macon Downtown Airport	70	\$4,502,100
Madison	Madison Municipal Airport	95	\$300,800
Mc Rae	Telfair-Wheeler Airport	62	\$1,844,300
Metter	John Edwin Jones Sr Field/Metter Municipal Airport	63	\$2,093,100
Milledgeville	Baldwin County Regional Airport	77	\$3,113,700
Millen	Millen Airport	58	\$2,893,100
Monroe	Cy Nunnally Memorial Airport	75	\$1,891,400
Montezuma	Dr. C P Savage Sr. Airport	67	\$1,689,200
Moultrie	Moultrie Municipal Airport	75	\$4,326,500
Moultrie	Spence Airport	40	\$18,317,800
Nahunta	Brantley County Airport	73	\$839,500
Nashville	Berrien County Airport	68	\$1,553,200
Perry	Perry-Houston County Airport	75	\$2,985,200
Pine Mountain	Harris County Airport	63	\$2,570,400
Quitman	Quitman Brooks County Airport	69	\$1,790,500
Reidsville	Swinton Smith Field at Reidsville Municipal Airport	73	\$1,152,900
Rome	Richard B. Russell Regional Airport-J.H. Towers Field	63	\$9,953,200
Sandersville	Kaolin Field Airport	92	\$77,600
Soperton	Treutlen County Airport	65	\$520,800
Statesboro	Statesboro-Bulloch County Airport	80	\$2,657,100
Swainsboro	East Georgia Regional Airport	70	\$2,770,200

Associated City	Airport Name	Area-Weighted 2024/2025 PCI	Estimated 5-Year Total Funding Needs (Unlimited Funding)
General Aviation Airports			
Sylvania	Plantation Airpark	49	\$8,728,000
Sylvester	Sylvester Airport	68	\$811,600
Thomaston	Thomaston-Upson County Airport	68	\$5,617,900
Thomasville	Thomasville Regional Airport	59	\$25,850,200
Thomson	Thomson/McDuffie County Airport	58	\$5,014,100
Tifton	Henry Tift Myers Airport	78	\$3,663,300
Toccoa	Toccoa Airport-RG Letourneau Field	55	\$7,269,800
Vidalia	Vidalia Regional Airport	61	\$30,141,500
Warm Springs	Roosevelt Memorial Airport	61	\$2,389,300
Washington	Washington/Wilkes County Airport	80	\$674,300
Waycross	Waycross-Ware County Airport	62	\$9,382,200
Waynesboro	Burke County Airport	79	\$964,500
Winder	Barrow County Airport	60	\$14,208,200
Wrens	Wrens Memorial Airport	42	\$1,994,500
General Aviation Airports Total:			\$536,288,800

Associated City	Airport Name	Area-Weighted 2024/2025 PCI	Estimated 5-Year Total Funding Needs (Unlimited Funding)
Commercial Service Airports			
Albany	Southwest Georgia Regional Airport	76	\$11,493,900
Athens	Athens/Ben Epps Airport	81	\$6,155,000
Augusta	Augusta Regional Airport at Bush Field	89	\$8,067,400
Brunswick	Brunswick Golden Isles Airport	87	\$5,861,300
Columbus	Columbus Airport	60	\$20,353,100
Macon	Middle Georgia Regional Airport	70	\$20,306,700
Savannah	Savannah/Hilton Head International Airport	79	\$25,037,700
Valdosta	Valdosta Regional Airport	77	\$7,323,500
Commercial Service Airports Total:			\$104,598,600

The results of the 2024/2025 study reflect a well-maintained system with an overall area-weighted PCI of 71. The funding scenarios show the critical importance of continued funding in supporting cost-effective management of pavement infrastructure. With an estimated unlimited budget of \$640.9 million across 5 years, the overall area-weighted PCI could reach 85. With a lesser investment of \$225 million over 5 years, or \$45 million annually, the system will show steady improvement resulting in an overall area-weighted PCI of 73 through a cost-effective strategy of investing in pavement infrastructure.



PRESERVING
GEORGIA'S
CRITICAL
PAVEMENT
INFRASTRUCTURE