E. Appendix E – Cost Estimates and Project Funding

As part of the Alabama Statewide Airport System Plan (AL SASP), estimated costs are developed for facility and service objective deficiencies that should be resolved. These deficiencies are presented previous Chapter 6. The projects needed to resolve facility/service objective deficiencies will raise the bar in terms of overall system performance. Projects to address facility and service deficiencies also provide guidance to individual airports so that they can best fulfill their identified role in the state airport system.

In order to establish an appropriate view of the funding necessary for the Alabama Department of Transportation (ALDOT) Aeronautics Bureau to continue to assist the state's airports operate at a high level, costs associated with future projects included as part of each airport's capital improvement program and/or the airport's pavement maintenance and rehabilitation projects have been also considered. The sum of the costs for system plan projects, capital improvement program projects, and pavement maintenance and rehabilitation projects are reflective of the financial needs of Alabama airports over the next 10 years.

Project funding sources are also reviewed and summarized as part of this appendix. Primary funding sources include the FAA, the State of Alabama, and local governments. Project costs in this appendix portray an unconstrained funding scenario, but in reality, the system and its airports as well as funding agencies all operate within limited budgets. This appendix helps to identify funding gaps that may be associated with addressing all needs for the airport system.

E.1 System Plan Project Cost Estimate Methodology

The methodology used to estimate costs for projects includes the following:

1. Compare existing facilities at each individual airport with the Alabama Facility and Service Objectives identified for each airport's recommended role within the AL SASP. Airport roles, as defined within the plan include the following:
    a. International
    b. National
    c. General Aviation Regional
    d. General Aviation Community
    e. Local Service
2. Identify specific airport projects or actions needed to correct areas where the airports are deficient, as per their system plan related objectives.
3. Estimate project quantities, as applicable, to resolve deficiencies.
4. Utilize Alabama unit costs and apply these costs to specific airport needs/projects to address deficiencies.

Statewide costs have been developed by compiling all projects at the system level by project type. Historical data, local knowledge of the airport construction industry, and past project bid tabulations have been used to analyze current market construction costs and develop realistic unit costs for each project type.

Unit costs for this analysis have been increased to account for non-construction "soft costs" such as engineering, design, planning, and legal services. Project construction costs also accounted for variance based on location conditions such as sites that require significant preparation work or other mitigation efforts that would be required for construction. Due to the range of airports and their specific settings in the state, the

actual cost of any particular project may vary greatly. Note that all project costs are based on 2021 United States dollars without adjustment to reflect future inflation.

The estimated costs for projects have been grouped into a number of project types. Assumptions were made, based on project type, when developing project costs and these have been provided below in **Table E-1.**

Table E-1: Alabama Project Type Considerations

Project Type	Assumptions
Runway Dimensions	Runway lengthening and widening projects take into consideration site preparation and construction, new airfield lighting, pavement marking, changes to safety areas, and relocation of NAVAIDs. For runway widening projects, it was assumed that the runway length remains unchanged.
Runway Turnarounds	Several runway turnaround estimates are developed using different runway-taxiway separation distances. Estimated costs include typical engineering and construction fees such as design, materials, and labor.
Approach Design	Design of an LPV approach procedure involves an estimate for an aeronautical survey for an RNAV approach.
Runway and Taxiway Lighting	Estimates for new or relocated runway and taxiway lighting include costs for removal of existing lighting and installation of new fixtures.
NAVAIDs	Precision Approach Path Indicators (PAPI) and Approach Lighting Systems (ALS) estimates include installation of the system and additional electrical work. The ALS estimate assumes installation on a prepared site and omits costs associated with any terrain alterations, land acquisition, or road construction.
Weather Observation	Weather reporting equipment estimates involve calculating the costs for installation, surveying, engineering, and construction.
Hangar Space	Costs include estimates for different size hangars depending on the need at a particular airport. Site preparation, engineering, and construction costs are included.
Tie Downs	Tie-down costs include materials, pavement coring, and installation.
Terminal Building	Terminal building cost estimates are primarily driven by the square footage necessary to meet facility and service objectives.
Automobile Parking	Auto parking facilities account for paving and base material, as well as erosion control.
Fuel Availability	A full study of fuel availability throughout the State of Alabama is recommended in order to identify airports that would best benefit from upgraded or new fuel systems.
Aircraft Maintenance Availability	A full study of aircraft maintenance availability throughout the State of Alabama is recommended in order to identify airports where maintenance services would best support aircraft users.
Airport Master Planning	Airport Master Plans include Airport Layout Plan updates and other technical documentation to support future airport development. Assumed costs associated with these projects primarily consist of consultant fees.

Source: MaesAwyr

E.2 Combined Estimated Development Costs

To understand the true development costs for the Alabama airport system, the estimated costs associated with system plan recommendations should be considered together with the estimated costs for Airport Capital Improvement Programs (ACIP) for each airport as well as each airport's pavement management needs. To ensure project costs have not been duplicated, the current ACIPs for each airport were compared to the system plan facility recommendations to identify projects already being considered as part of each airport's CIP. If a particular project was identified as part of the system plan as well as being included in the current CIP for a given airport, the ACIP project was maintained and the system plan cost removed from consideration. (Note that it was assumed that costs reflected in an ACIP would be more accurate than the more generalized estimates generated within the system plan.) In this way, the most accurate cost estimates available have been reflected in the system plan development costs. Pavement management costs were also reviewed against listed ACIP projects and any duplications eliminated. Note that in this case, duplicative projects were removed from the ACIP since the pavement management and rehabilitation estimates tend to have a higher level of detail and accuracy.

System plan development costs generated as part of this estimate have no assigned project year and thus are assumed to be needed over a 10-year development horizon. Six-year capital improvement programs for system airports were provided as the source for ACIP estimated needs. In order to achieve a 10-year development estimate, an annual average cost was interpolated from the identified projects in the ACIPs. This annual average cost was then added for the remaining four years to complete a 10-year estimated ACIP development need. A similar methodology was used to estimate the future development needs associated with pavement maintenance and rehabilitation. Seven-year cost estimates were provided by the state's Pavement Management Program (PMP) for 59 system airports. An annual average pavement maintenance costs was interpolated and applied to the remaining three years included as part of the 10-year development need. Pavement maintenance needs were also identified at the 21 other system airports not included in the PMP, either as part of their ongoing ACIP, or on an individual airport basis.

E.3 Costs Associated with System Plan Recommendations

The initial cost estimates for projects identified within the system plan for specific airports are summarized in **Table E-2**. Overall, the costs associated with the system plan recommendations for all project types at all study airports is estimated at $76.0 million. (Note that if an airport shows a cost of $0, this does not necessarily mean that the airport has no development needs, rather it reflects that the airport does not have facility and service objective deficiencies as defined in the system plan analysis.)

The initial system plan cost estimates were then reviewed against projects included in the ACIP to eliminate any duplications and ensure that the most accurate estimates available were utilized. **Table E-2** provides initial system plan costs and revised system plan costs by airport and by project type.

Table E-2: Alabama System Plan Needs by Project

City	Airport Name	FAA ID	Project Type	Initial Estimated System Plan Cost	Revised System Plan Cost
International					
Birmingham	Birmingham-Shuttlesworth International	BHM	Add Hangar Space	$5,800,000	$5,800,000
Huntsville	Huntsville International-Carl T Jones Field	HSV	–	–	–
National					
Albertville	Albertville Regional-Thomas J	8A0	Install ALS	$2,090,000	$2,090,000
			Install HIRL	$830,000	$830,000
Auburn	Auburn University Regional	AUO	Runway Extension	$3,660,000	$3,660,000
			Install PAPI	$110,000	$110,000
			New MP	$500,000	–*
Bessemer	Bessemer	EKY	Install ALS	$2,090,000	$2,090,000
			New MP	$500,000	$500,000
Decatur	Pryor Field Regional	DCU	Install PAPI	$90,000	$90,000
			Install ALS	$2,090,000	$2,090,000
			Add Hangar Space	$890,000	–*
			GA Car Park	$69,000	$69,000
Dothan	Dothan Regional	DHN	Install PAPI	$85,000	$85,000
			Add Hangar Space	$3,230,000	$3,230,000
			New MP	$500,000	$500,000
Gulf Shores	Jack Edwards National	JKA	–	–	–
Huntsville	Huntsville Executive Airport Tom Sharp Jr Field	MDQ	Install ALS	$2,090,000	$2,090,000
			Install HIRL	$880,000	$880,000
			Install Tie Downs	$46,000	$46,000
Mobile	Mobile Regional	MOB	–	–	–

City	Airport Name	FAA ID	Project Type	Initial Estimated System Plan Cost	Revised System Plan Cost
Mobile	Mobile Downtown	BFM	–	–	–
Montgomery	Montgomery Regional (Dannelly Field)	MGM	Install Tie Downs	$46,000	$46,000
			New MP	$500,000	$500,000
Muscle Shoals	Northwest Alabama Regional	MSL	New MP	$500,000	$500,000
Troy	Troy Municipal Airport At N Kenneth Campbell Field	TOI	Install ALS	$2,090,000	$2,090,000
			Install HIRL	$840,000	$840,000
			Install Tie Downs	$13,000	$13,000
Tuscaloosa	Tuscaloosa National	TCL	–	–	–
General Aviation Regional					
Alabaster	Shelby County	EET	Runway Widening	$2,130,000	$2,130,000
			Install Tie Downs	$79,000	$79,000
			New MP	$340,000	$340,000
Alexander City	Thomas C Russell Field	ALX	Runway Widening	$370,000	$370,000
			Install Tie Downs	$33,000	–*
			GA Car Park	$38,000	$38,000
			New MP	$340,000	$340,000
Andalusia/Opp	South Alabama Regional At Bill Benton Field	79J	New MP	$340,000	$340,000
Anniston	Anniston Regional	ANB	New MP	$340,000	$340,000
Brewton	Brewton Municipal	12J	Design LPV	$80,000	$80,000
			Install Tie Downs	$6,000	$6,000
Cullman	Cullman Regional-Folsom Field	CMD	Install Tie Downs	$79,000	–*
			GA Car Park	$82,000	$82,000
Enterprise	Enterprise Municipal	EDN	GA Car Park	$24,000	$24,000
Fairhope	H L Sonny Callahan	CQF	Install Tie Downs	$11,000	–*
			New MP	$340,000	$340,000
Fort Payne	Isbell Field	4A9	New MP	$340,000	$340,000
Gadsden	Northeast Alabama Regional	GAD	–	–	–
Headland	Headland Municipal	0J6	Runway Widening	$1,500,000	$1,500,000
			Install ASOS	$300,000	$300,000
			Install Tie Downs	$11,000	$11,000
Jasper	Walker County-Bevill Field	JFX	–	–	–
Ozark	Ozark Airport - Blackwell Field	71J	Runway Widening	$1,600,000	$1,600,000
			Install ASOS	$300,000	$300,000

City	Airport Name	FAA ID	Project Type	Initial Estimated System Plan Cost	Revised System Plan Cost
Pell City	St Clair County	PLR	Runway Widening	$1,600,000	$1,600,000
			GA Car Park	$55,000	$55,000
Prattville	Prattville - Grouby Field	1A9	–	–	–
Selma	Craig Field	SEM	–	–	–
Sylacauga	Merkel Field Sylacauga Municipal	SCD	Install MITL	$1,230,000	$1,230,000
Talladega	Talladega Municipal	ASN	Install Tie Downs	$51,000	$51,000
General Aviation Community					
Atmore	Atmore Municipal	0R1	Install Turn Arounds	$710,000	–*
			Install ASOS^	$300,000	$300,000
			Install Tie Downs	$3,000	$3,000
Bay Minette	Bay Minette Municipal	1R8	Install ASOS^	$300,000	$300,000
Clanton	Chilton County	02A	Install Turn Arounds	$710,000	–*
			Install Tie Downs	$21,000	$21,000
			Design LPV^	$1,444,000	$1,444,000
			Install ASOS^	$300,000	$300,000
			New MP	$340,000	$340,000
Courtland	Courtland	9A4	New MP	$340,000	$340,000
Demopolis	Demopolis Regional	DYA	Install Tie Downs	$16,000	$16,000
Eufaula	Weedon Field	EUF	–	–	–
Evergreen	Evergreen Regional - Middleton Field	GZH	–	–	–
Fayette	Richard Arthur Field	M95	Design LPV^	$170,000	$170,000
Florala	Florala Municipal	0J4	Runway Extension	$1,850,000	$1,850,000
			Install Turn Arounds	$360,000	$360,000
			Install Tie Downs	$16,000	$16,000
			GA Terminal	$460,000	–*
Foley	Foley Municipal	5R4	Runway Widening	$64,000	$64,000
			New MP	$340,000	–*
Geneva	Geneva Municipal	33J	Install Tie Downs	$11,000	$11,000
			GA Terminal	$460,000	$460,000
			New MP	$340,000	$340,000
Greenville	Mac Crenshaw Memorial	PRN	Design LPV^	$130,000	$130,000
Guntersville	Guntersville Municipal - Joe Starnes Field	8A1	GA Car Park	$28,000	–*
Haleyville	Posey Field	1M4	Install Turn Arounds	$710,000	$710,000

City	Airport Name	FAA ID	Project Type	Initial Estimated System Plan Cost	Revised System Plan Cost
			GA Car Park	$11,000	–*
			New MP	$340,000	$340,000
Hamilton	Marion County-Rankin Fite	HAB	New MP	$340,000	$340,000
Hartselle	Hartselle-Morgan County Regional	5M0	Runway Extension	$660,000	–*
			Install Tie Downs	$3,000	–*
Marion	Vaiden Field	A08	Install Turn Arounds	$870,000	$870,000
			Install Tie Downs	$3,000	$3,000
			GA Terminal	$58,000	$58,000
			GA Car Park	$7,000	$7,000
			New MP	$340,000	$340,000
Monroeville	Monroe County Airport	MVC	New MP	$340,000	$340,000
			Install ASOS^	$300,000	$300,000
			Design LPV^	$143,000	$143,000
Scottsboro	Scottsboro Municipal-Word Field	4A6	New MP	$340,000	–*
			Design LPV^	$160,000	$160,000
St Elmo	St Elmo	2R5	GA Terminal	$460,000	–*
Tuskegee	Moton Field Municipal	06A	–	–	–
Wetumpka	Wetumpka Municipal	08A	Runway Extension	$4,070,000	$4,070,000
			Install Tie Downs	$71,000	$71,000
Local Service					
Abbeville	Abbeville Municipal	0J0	Install Turn Arounds	$670,000	$670,000
			Install Fuel	$325,800	$325,800
			New MP	$170,000	–*
Addison	Addison Municipal	2A8	Install Turn Arounds	$420,000	$420,000
			Install MIRL	$260,000	$260,000
			Install Fuel	$325,800	$325,800
			New MP	$170,000	$170,000
Aliceville	George Downer	AIV	New MP	$170,000	$170,000
Ashland/Lineville	Ashland/Lineville	26A	Install Turn Arounds	$670,000	$670,000
			Install Fuel	$325,800	–*
			New MP	$170,000	$170,000
Butler	Butler-Choctaw County	09A	Install Turn Arounds	$470,000	$470,000
			Install Fuel	$325,800	$325,800
			New MP	$170,000	$170,000
Camden	Camden Municipal	61A	Install Turn Arounds	$670,000	$670,000
			Install Fuel	$325,800	–*

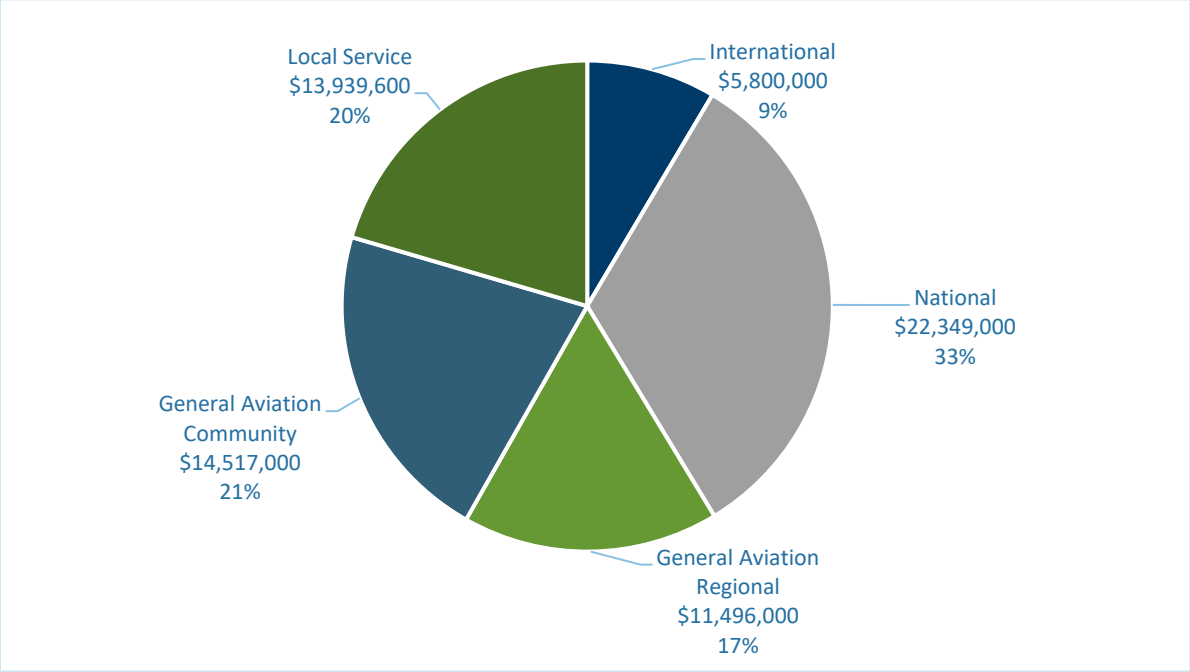
City	Airport Name	FAA ID	Project Type	Initial Estimated System Plan Cost	Revised System Plan Cost
Centre	Centre-Piedmont-Cherokee County Regional	PYP	New MP	$170,000	$170,000
			Install ASOS^	$300,000	$300,000
			Install Fuel^	$325,800	$325,800
Centreville	Bibb County	0A8	Install Fuel	$325,800	–*
Chatom	Roy Wilcox	5R1	Install Turn Arounds	$670,000	$670,000
			Install Fuel	$325,800	$325,800
Clayton	Clayton Municipal	11A	Install Fuel	$325,800	$325,800
			New MP	$170,000	$170,000
Dauphin Island	Jeremiah Denton	4R9	Install Fuel	$325,800	$325,800
			New MP	$170,000	–*
Double Springs	Double Springs-Winston County	3M2	Install Turn Arounds	$670,000	$670,000
			Install Fuel	$325,800	$325,800
			New MP	$170,000	$170,000
Elba	Carl Folsom	14J	–	–	–
Greensboro	Greensboro Municipal	7A0	Install Turn Arounds	$710,000	$710,000
Jackson	Jackson Municipal	4R3	New MP	$170,000	–*
Lanett	Lanett Municipal	7A3	Install Turn Arounds	$670,000	$670,000
Luverne	Frank Sikes	04A	Install MIRL	$430,000	$430,000
			New MP	$170,000	$170,000
Oneonta	Robbins Field	20A	Install Fuel	$325,800	–*
Reform	North Pickens	3M8	New MP	$170,000	–*
Roanoke	Roanoke Municipal	7A5	Install Turn Arounds	$670,000	–*
			Install Fuel	$325,800	$325,800
Russellville	Bill Pugh Field	M22	–	–	–
Samson	Logan Field	1A4	Install Fuel	$325,800	$325,800
Stevenson	Stevenson	7A6	Install Turn Arounds	$670,000	$670,000
			Install MIRL	$380,000	$380,000
			Fuel Study	$325,800	$325,800
			New MP	$170,000	$170,000
Union Springs	Franklin Field	07A	Install Turn Arounds	$670,000	$670,000
Vernon	Lamar County	M55	Fuel Study	$325,800	$325,800
			New MP	$170,000	$170,000
Total Costs				**$75,989,800**	**$68,101,600**

Source: MaesAwyr

*Indicates project was duplicated in ACIP project list. ^Indicates project added to meet NBAA criteria

After review of initial system plan costs against projects listed in the ACIP, about $7.9 million in project costs were removed from the system plan need. **Figure E-1** illustrates final system plan costs by airport role.

Figure E-1: 10-Year Alabama System Plan Needs by Airport Role



Source: ALDOT, MaesAwyr

E.4 Costs Associated with ACIP Projects

Projects identified by the system plan represent only a portion of the total development and maintenance costs Alabama airports may have in the near term. To better understand the needs of the state's airport system, consideration of each airport's projects in the state's approved ACIP was included. The ACIP is developed annually in partnership with members of the ALDOT Aeronautics Bureau, the Federal Aviation Administration's (FAA) Jackson Airports District Office, and Alabama airport sponsors. The purpose of the ACIP is to identify development and maintenance needs for each airport in future years. This information helps with allocating future funding to the system airports.

To ensure no duplication between project source, ACIP projects were compared against those identified in the state's PMP and removed if already included in the PMP. A summary of initial and revised ACIP project costs for all Alabama system airports from Fiscal Year 2021 to 2026[1], categorized by role, is presented in **Table E-3**.

[1] ACIP project costs are updated annually and include six years of CIP costs.

Table E-3: Alabama ACIP Project Estimates by Airport, FY21-26

City	Airport Name	FAA ID	Initial ACIP Costs	Revised ACIP Costs
International				
Birmingham	Birmingham-Shuttlesworth International	BHM	$91,154,500	$91,154,500
Huntsville	Huntsville International-Carl T Jones Field	HSV	$33,741,021	$33,741,021
National				
Albertville	Albertville Regional-Thomas J Brumlik Field	8A0	$4,894,210	$1,788,425*
Auburn	Auburn University Regional	AUO	$22,163,362	$20,420,362*
Bessemer	Bessemer	EKY	$8,396,000	$4,870,000*
Decatur	Pryor Field Regional	DCU	$4,947,000	$3,812,000*
Dothan	Dothan Regional	DHN	$11,932,350	$11,932,350
Gulf Shores	Jack Edwards National	JKA	$11,794,705	$11,628,205*
Huntsville	Huntsville Executive Airport Tom Sharp Jr Field	MDQ	$27,376,067	$26,338,297*
Mobile	Mobile Regional	MOB	$11,738,220	$11,738,220
Mobile	Mobile Downtown	BFM	$92,467,000	$92,467,000
Montgomery	Montgomery Regional (Dannelly Field)	MGM	$3,465,000	$3,465,000
Muscle Shoals	Northwest Alabama Regional	MSL	$8,313,800	$8,313,800
Troy	Troy Municipal Airport At N Kenneth Campbell Field	TOI	$5,729,750	$0*
Tuscaloosa	Tuscaloosa National	TCL	$16,518,860	$7,821,015*
General Aviation Regional				
Alabaster	Shelby County	EET	$634,200	$634,200
Alexander City	Thomas C Russell Field	ALX	$7,735,900	$5,201,300*
Andalusia/Opp	South Alabama Regional At Bill Benton Field	79J	$7,714,820	$5,224,270*
Anniston	Anniston Regional	ANB	$10,951,975	$7,691,975*
Brewton	Brewton Municipal	12J	$4,534,935	$4,251,415*
Cullman	Cullman Regional-Folsom Field	CMD	$10,586,925	$1,070,000*
Enterprise	Enterprise Municipal	EDN	$9,397,992	$9,397,992
Fairhope	H L Sonny Callahan	CQF	$11,568,879	$5,457,252*
Fort Payne	Isbell Field	4A9	$3,228,011	$2,325,622*
Gadsden	Northeast Alabama Regional	GAD	$2,892,297	$1,920,774*
Headland	Headland Municipal	0J6	$656,500	$656,500
Jasper	Walker County-Bevill Field	JFX	$3,540,313	$840,313*
Ozark	Ozark Airport - Blackwell Field	71J	$904,850	$904,850
Pell City	St Clair County	PLR	$4,268,650	$4,268,650
Prattville	Prattville - Grouby Field	1A9	$5,121,825	$3,572,000*
Selma	Craig Field	SEM	$9,026,831	$0*
Sylacauga	Merkel Field Sylacauga Municipal	SCD	$1,805,300	$940,000*
Talladega	Talladega Municipal	ASN	$4,459,191	$1,474,373*

City	Airport Name	FAA ID	Initial ACIP Costs	Revised ACIP Costs
General Aviation Community				
Atmore	Atmore Municipal	0R1	$5,869,786	$5,869,786
Bay Minette	Bay Minette Municipal	1R8	$12,490,190	$12,000,690*
Clanton	Chilton County	02A	$8,848,000	$8,338,100*
Courtland	Courtland	9A4	$3,725,790	$3,725,790
Demopolis	Demopolis Regional	DYA	$3,587,339	$3,088,315*
Eufaula	Weedon Field	EUF	$3,166,758	$3,166,758
Evergreen	Evergreen Regional - Middleton Field	GZH	$3,027,900	$1,881,700*
Fayette	Richard Arthur Field	M95	$3,595,000	$1,995,000*
Florala	Florala Municipal	0J4	$6,047,350	$5,697,350*
Foley	Foley Municipal	5R4	$2,639,343	$1,154,514*
Geneva	Geneva Municipal	33J	$1,894,525	$1,740,700*
Greenville	Mac Crenshaw Memorial	PRN	$4,308,687	$3,001,037*
Guntersville	Guntersville Municipal - Joe Starnes Field	8A1	$3,190,369	$2,877,369*
Haleyville	Posey Field	1M4	$2,629,561	$772,044*
Hamilton	Marion County-Rankin Fite	HAB	$2,885,500	$2,885,500
Hartselle	Hartselle-Morgan County Regional	5M0	$2,246,100	$2,246,100
Marion	Vaiden Field	A08	$632,400	$0*
Monroeville	Monroe County Airport	MVC	$8,555,780	$6,305,780*
Scottsboro	Scottsboro Municipal-Word Field	4A6	$11,033,633	$8,347,403*
St Elmo	St Elmo	2R5	$3,249,799	$2,818,745*
Tuskegee	Moton Field Municipal	06A	$3,791,850	$0*
Wetumpka	Wetumpka Municipal	08A	$3,505,825	$1,809,550*
Local Service				
Abbeville	Abbeville Municipal	0J0	$5,965,535	$5,965,535
Addison	Addison Municipal	2A8	$0	$0
Aliceville	George Downer	AIV	$2,437,000	$2,437,000
Ashland/Lineville	Ashland/Lineville	26A	$1,675,000	$1,160,000*
Butler	Butler-Choctaw County	09A	$0	$0
Camden	Camden Municipal	61A	$4,302,650	$4,302,650
Centre	Centre-Piedmont-Cherokee County Regional	PYP	$1,980,667	$236,000*
Centreville	Bibb County	0A8	$4,188,045	$4,188,045
Chatom	Roy Wilcox	5R1	$0	$0
Clayton	Clayton Municipal	11A	$0	$0
Dauphin Island	Jeremiah Denton	4R9	$3,816,210	$3,700,718*
Double Springs	Double Springs-Winston County	3M2	$0	$0
Elba	Carl Folsom	14J	$2,305,500	$1,484,500*
Greensboro	Greensboro Municipal	7A0	$1,540,000	$505,000*

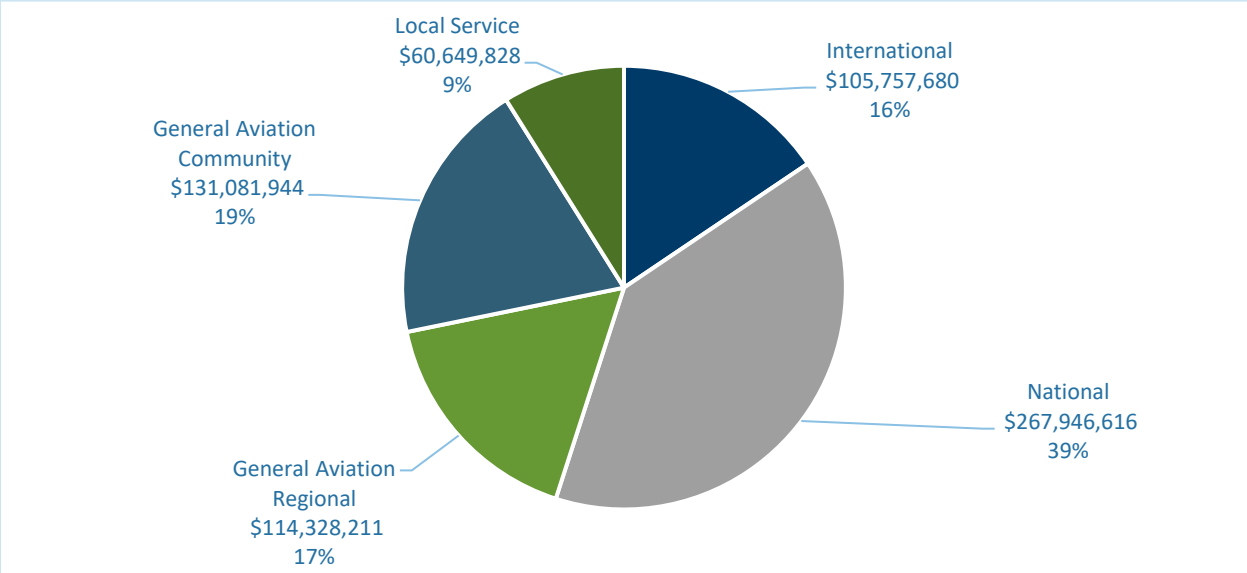
City	Airport Name	FAA ID	Initial ACIP Costs	Revised ACIP Costs
Jackson	Jackson Municipal	4R3	$1,952,456	$1,952,456
Lanett	Lanett Municipal	7A3	$5,416,000	$5,416,000
Luverne	Frank Sikes	04A	$21,500	$21,500
Oneonta	Robbins Field	20A	$1,878,000	$1,878,000
Reform	North Pickens	3M8	$2,932,000	$2,432,000*
Roanoke	Roanoke Municipal	7A5	$3,299,667	$2,481,667*
Russellville	Bill Pugh Field	M22	$3,326,000	$1,266,000*
Samson	Logan Field	1A4	$0	$0
Stevenson	Stevenson	7A6	$0	$0
Union Springs	Franklin Field	07A	$1,505,000	$1,505,000
Vernon	Lamar County	M55	$0	$0
Total Costs			**$603,123,954**	**$505,975,983**

Source: ALDOT
*Indicates airport with projects duplicated in PMP project list.

After revising ACIP projects against those included in the Pavement Management Program, estimated costs over the six-year time frame are $506 million, or approximately $84 million annually. As noted above in **Section E.2**, the system plan provides estimates over a ten-year period and not just six. Therefore, the $84 million average annual need was used as an estimate for each of the remaining four years that lacked ACIP data. Once ten-year ACIP needs were established for each system airports, projects from the 21 airports not included in the PMP were reviewed to establish a reasonable estimate of ACIP dollars dedicated to pavement maintenance. This analysis resulted in taking percentages of these airports projected ACIP expenditures and redistributing those dollars to the pavement maintenance cost category. Note that this does not impact the overall SASP cost, as the pavement maintenance projects are only separated as a percentage of projected need for these airports, essentially moving some dollars from the ACIP category to the pavement maintenance category to better represent where investment is needed.

Through this methodology, the total ten-year ACIP need of approximately $679.8 million was established. **Figure E-2** illustrates estimated ACIP project needs over the next 10 years, by airport role.

Figure E-2: 10-Year Alabama ACIP Needs by Airport Role



Source: ALDOT
*Proposed construction of the Clarke County Airport was included under the General Aviation Regional role.

E.5 Costs Associated with Pavement Management and Rehabilitation Projects

The ALDOT Aeronautics Bureau monitors pavements at Alabama airports through routine inspections and evaluations of existing pavement conditions. For 59 of the state airports, Pavement Management Program reports were developed to proactively plan for pavement preservation to maximize pavement life and to forecast future investment needs. The PMPs consist of pavement condition index (PCI) analyses and recommendations to ensure quality management and proper planning for future pavement investments. Pavement project cost estimates for each airport in Alabama were completed in 2020. Using the information collected from pavement inspections, PMP reports to maintain each airport's pavements, above an established critical PCI value, were developed for each airport. It is worth noting that the recommendations are based on general network-level analysis and assume an unlimited budget. Further engineering work and coordination is recommended to determine the most appropriate pavement improvement remedies for each airport. A summary of pavement management and rehabilitation programs is included in the analysis for future airport needs over the next seven years. **Table E-4** provides a summary of costs identified as part of the PMP.

Table E-4: Alabama Pavement Management Program Estimates by Airport, FY21-27

City	Airport Name	FAA ID	Estimated Pavement Costs
International			
Birmingham	Birmingham-Shuttlesworth International	BHM	NA*
Huntsville	Huntsville International-Carl T Jones Field	HSV	NA*
National			
Albertville	Albertville Regional-Thomas J Brumlik Field	8A0	$8,184,521
Auburn	Auburn University Regional	AUO	$10,675,666
Bessemer	Bessemer	EKY	$9,720,894
Decatur	Pryor Field Regional	DCU	$9,940,637
Dothan	Dothan Regional	DHN	NA*
Gulf Shores	Jack Edwards National	JKA	$10,051,113
Huntsville	Huntsville Executive Airport Tom Sharp Jr Field	MDQ	$14,137,693
Mobile	Mobile Regional	MOB	NA*
Mobile	Mobile Downtown	BFM	NA*
Montgomery	Montgomery Regional (Dannelly Field)	MGM	NA*
Muscle Shoals	Northwest Alabama Regional	MSL	NA*
Troy	Troy Municipal Airport At N Kenneth Campbell Field	TOI	$10,917,768
Tuscaloosa	Tuscaloosa National	TCL	$25,288,419
General Aviation Regional			
Alabaster	Shelby County	EET	$4,738,429
Alexander City	Thomas C Russell Field	ALX	$3,757,834
Andalusia/Opp	South Alabama Regional At Bill Benton Field	79J	$11,327,714
Anniston	Anniston Regional	ANB	$10,525,083
Brewton	Brewton Municipal	12J	$2,158,980
Cullman	Cullman Regional-Folsom Field	CMD	$8,279,764
Enterprise	Enterprise Municipal	EDN	$2,532,903

City	Airport Name	FAA ID	Estimated Pavement Costs
Fairhope	H L Sonny Callahan	CQF	$10,797,335
Fort Payne	Isbell Field	4A9	$2,732,431
Gadsden	Northeast Alabama Regional	GAD	$3,517,967
Headland	Headland Municipal	0J6	$3,603,314
Jasper	Walker County-Bevill Field	JFX	$7,061,872
Ozark	Ozark Airport - Blackwell Field	71J	$3,336,665
Pell City	St Clair County	PLR	$4,075,343
Prattville	Prattville - Grouby Field	1A9	$6,746,618
Selma	Craig Field	SEM	$14,723,457
Sylacauga	Merkel Field Sylacauga Municipal	SCD	$2,461,940
Talladega	Talladega Municipal	ASN	$7,408,761
General Aviation Community			
Atmore	Atmore Municipal	0R1	$620,000
Bay Minette	Bay Minette Municipal	1R8	$1,308,227
Clanton	Chilton County	02A	$1,338,981
Courtland	Courtland	9A4	NA*
Demopolis	Demopolis Regional	DYA	$1,930,869
Eufaula	Weedon Field	EUF	$999,853
Evergreen	Evergreen Regional - Middleton Field	GZH	$5,765,000
Fayette	Richard Arthur Field	M95	$1,570,607
Florala	Florala Municipal	0J4	$1,440,058
Foley	Foley Municipal	5R4	$2,798,432
Geneva	Geneva Municipal	33J	$2,504,470
Greenville	Mac Crenshaw Memorial	PRN	$1,671,572
Guntersville	Guntersville Municipal - Joe Starnes Field	8A1	$2,730,213
Haleyville	Posey Field	1M4	$3,350,009
Hamilton	Marion County-Rankin Fite	HAB	$1,174,096
Hartselle	Hartselle-Morgan County Regional	5M0	$2,451,967
Marion	Vaiden Field	A08	$3,868,143
Monroeville	Monroe County Airport	MVC	$3,744,175
Scottsboro	Scottsboro Municipal-Word Field	4A6	$1,608,428
St Elmo	St Elmo	2R5	$507,721
Tuskegee	Moton Field Municipal	06A	$5,060,126
Wetumpka	Wetumpka Municipal	08A	$2,600,890
Local Service			
Abbeville	Abbeville Municipal	0J0	NA*
Addison	Addison Municipal	2A8	NA*
Aliceville	George Downer	AIV	NA*

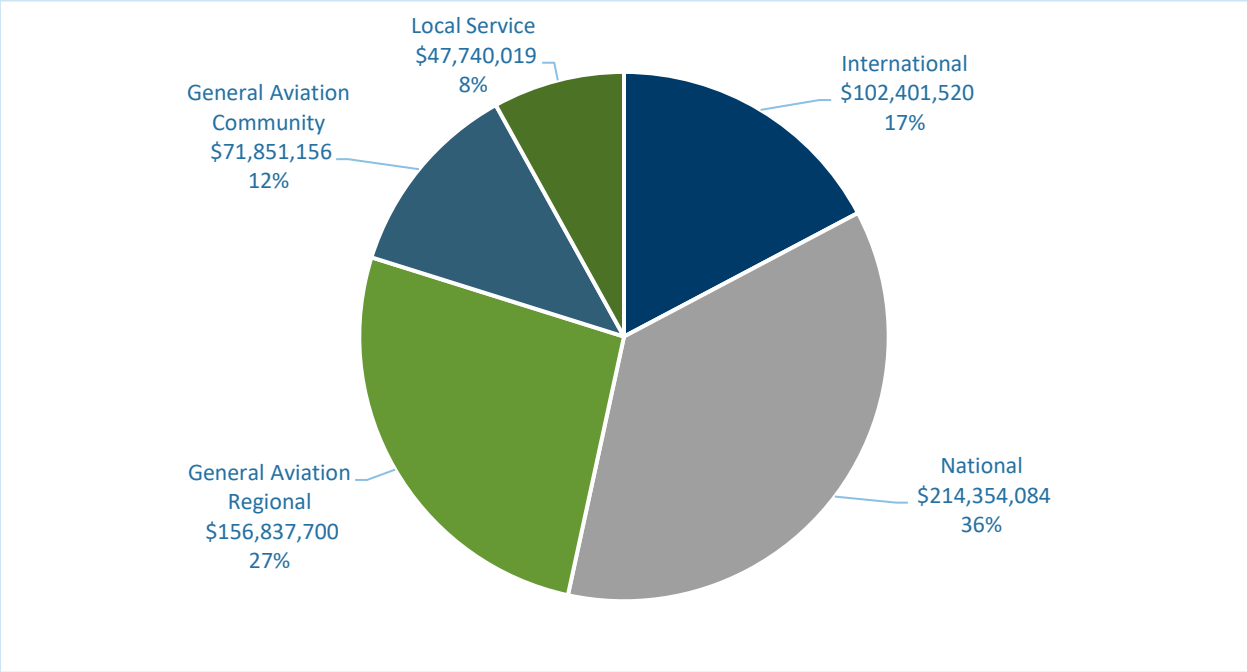
City	Airport Name	FAA ID	Estimated Pavement Costs
Ashland/Lineville	Ashland/Lineville	26A	$1,827,633
Butler	Butler-Choctaw County	09A	NA*
Camden	Camden Municipal	61A	$1,983,422
Centre	Centre-Piedmont-Cherokee County Regional	PYP	$3,340,899
Centreville	Bibb County	0A8	$627,129
Chatom	Roy Wilcox	5R1	NA*
Clayton	Clayton Municipal	11A	NA*
Dauphin Island	Jeremiah Denton	4R9	$1,566,254
Double Springs	Double Springs-Winston County	3M2	NA*
Elba	Carl Folsom	14J	$1,874,987
Greensboro	Greensboro Municipal	7A0	$1,655,602
Jackson	Jackson Municipal	4R3	NA*
Lanett	Lanett Municipal	7A3	NA*
Luverne	Frank Sikes	04A	NA*
Oneonta	Robbins Field	20A	$2,585,454
Reform	North Pickens	3M8	$2,914,596
Roanoke	Roanoke Municipal	7A5	$1,530,348
Russellville	Bill Pugh Field	M22	$2,580,049
Samson	Logan Field	1A4	NA*
Stevenson	Stevenson	7A6	NA*
Union Springs	Franklin Field	07A	$489,462
Vernon	Lamar County	M55	NA*
Total PMP Costs			**$280,722,793**

Source: ALDOT Pavement Management Program

* Airport was not included in the Pavement Management Program. These 21 airports' pavement management costs were assumed to be included in each airport's ACIP. Estimates of each airport's pavement management costs were interpolated through an analysis of the ACIPs and application of averaging methodology. Based on this, assumed pavement maintenance costs were removed from the projected ACIP to avoid double counting. The results of this process are reflected in Table 7-8 in Chapter 7, Recommendations.

Pavement management and rehabilitation projects for the airports included in the PMP would require an investment of $280.7 million over the next seven years, approximately $40.1 million per year. The estimated $40.1 million in average annual need was used to approximate pavement management needs for the remaining three years in the 10-year development outlook. For the remaining 21 system airports not included in the PMP, pavement management and rehabilitation project costs were interpolated for the ten-year period by estimating a percentage of ACIP projects dedicated to pavement maintenance. Combined, the ten-year projected system need for pavement management and rehabilitation projects is approximately $593.2 million. **Figure E-3** illustrates 10-year pavement costs by system role. .

Figure E-3: 10-Year Alabama Pavement Management Costs by Airport Role

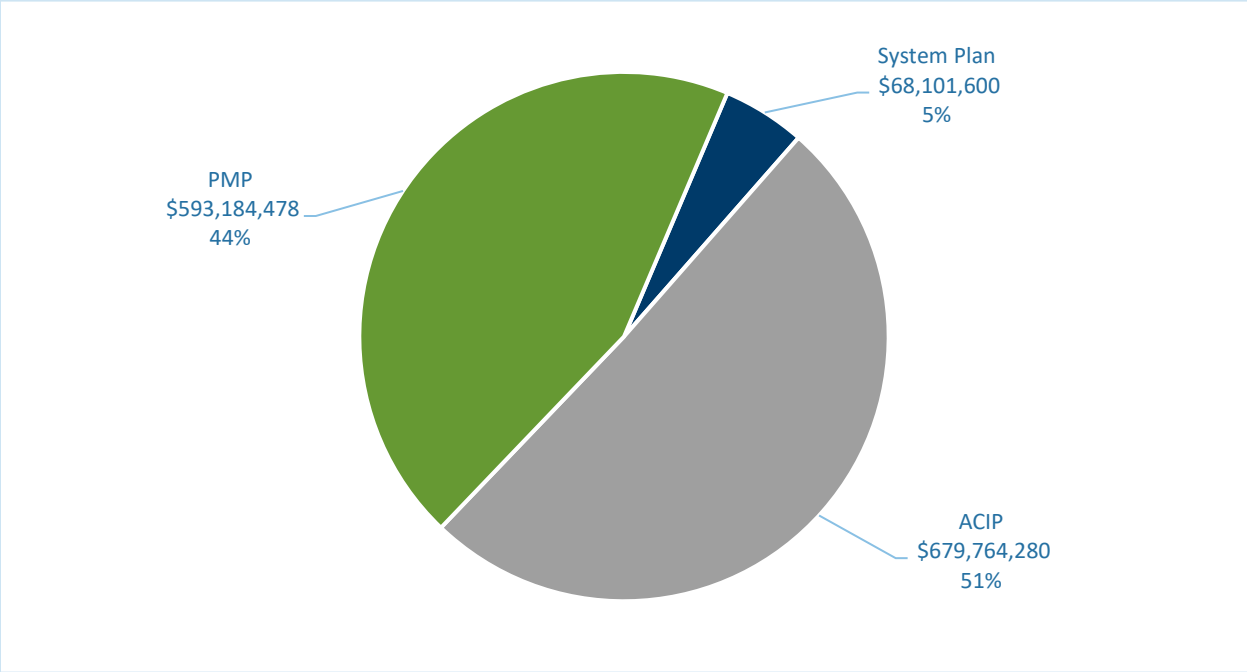


Source: ALDOT, All About Pavements

E.6 Complete Airport System Development Need

A 10-year development need was estimated for the Alabama airport system by evaluating projects from three sources: the Alabama State Airport System Plan, the ACIP, and the PMP. These three sources were also reviewed against each other to eliminate any duplication in proposed projects. Following the review of projects, the ACIP and PMP project costs were averaged, and intervening years interpolated, to arrive at estimated costs for years without identified projects. The 10-year development need for the Alabama system of airports is estimated at **$1.3 billion**. **Figure E-4** illustrates the breakdown of this need by the three project sources discussed in this appendix.

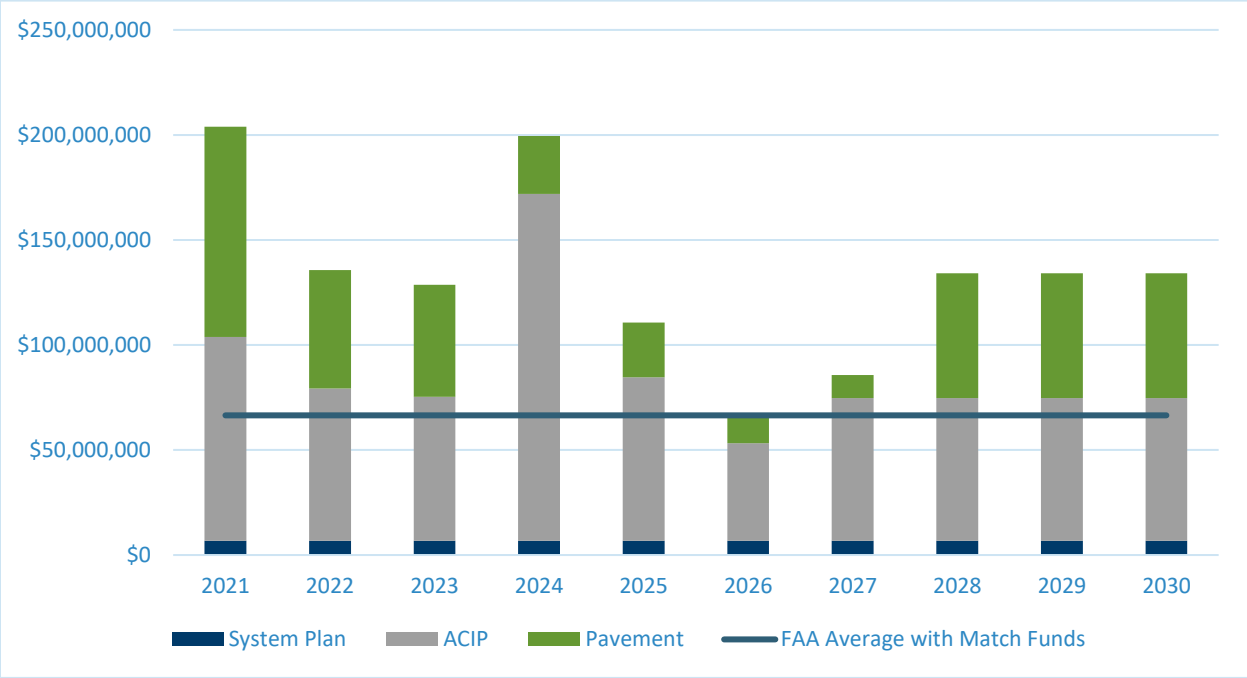
Figure E-4: 10-Year Alabama System Need by Project Source



Source: ALDOT, MaesAwyr, All About Pavements

Combining the costs from all three sources (system plan, ACIP, and pavement management) provides a comprehensive look at anticipated investment needs for Alabama's airport system. A summary of the combined development costs from all three sources is provided in **Figure E-5**. This summary presents a 10-year development timeframe with interpolated averages for future years where projects have yet to be identified. FAA average grant funding levels as well as state and local matches from the previous ten years (2011-2020) have been included to illustrate the projected funding gap that may be encountered to address the identified needs. Over the next 10 years, average annual Alabama airport project costs are estimated to be **$134.1 million**, compared to **$66.5 million** in total annual FAA AIP, state, and local funding levels; this is a gap of approximately **$67.6 million** per year.

Figure E-5: Estimated Alabama Project Costs with Average Historic FAA AIP Funding, FY21-30



Source: ALDOT, MaesAwyr, All About Pavements

E.7 Funding Sources for Capital Improvement Projects

E.7.1 FAA Airport Improvement Program Funding

The federal government started an airport grants-in-aid program to units of state and local government at the end of World War II to support the needs of the nation's public airports. After several earlier versions of the federal funding program, the Airport Improvement Program (AIP) was established through the Airport and Airway Improvement Act of 1982. The initial AIP program provided funding legislation through 1992. Since 1992, the program has been authorized and appropriated on an annual basis or even quarterly basis.

AIP provides grants to airports that are part of the National Plan of Integrated Airports System (NPIAS). Administered by the FAA, AIP provides funds for planning and development projects geared to improving infrastructure, safety, and security. Projects range from improvements to runways, taxiways, and aprons; noise control; land purchases; and navigational aids. In Alabama, there are 73 airports included in the NPIAS[2], but only 70 of these airports are eligible for federal funding; three of the NPIAS airports fall into the Unclassified category. Additionally, seven system airports are not included in the NPIAS and are ineligible for federal funding.

AIP funds originate from the Airport and Airway Trust funds and are sourced from aviation-related fees and taxes such as airline ticket taxes, segment and international travel fees, cargo fees, and general aviation and jet fuel taxes.

[2] https://www.faa.gov/airports/planning_capacity/npias/current/media/NPIAS-2021-2025-Appendix-A.pdf

Because the demand for AIP funds exceeds the funding available, AIP funds are distributed by the FAA based on national priorities and objectives. The distribution is accomplished utilizing formulas set by law for entitlement and discretionary grants as determined by the FAA.

The FAA appropriates AIP funds into major entitlement categories such as passenger entitlements, cargo entitlements, non-primary entitlements, and state apportionment funds. The remaining funds are distributed to a discretionary fund based on a national prioritization system. This system gives priority to projects classified as safety, security, reconstruction, capacity, and standards.

Airport projects in Alabama are accomplished through a combination of federal (FAA), state, and local funding. In general, airports that are eligible for FAA and state funding must be available for public use, and they are required to meet appropriate FAA design standards. Projects that are eligible for state and federal funding are subject to both state and FAA priority rankings considerations, grant assurances, and funding availability. FAA Order 5100.38D, *Airport Improvement Program (AIP) Handbook,* presents a detailed list of projects that are and are not eligible for FAA funding.

AIP funds must be spent on FAA-eligible projects as defined in FAA Order 5100.38D, *Airport Improvement Program (AIP) Handbook*. In general, this reference document states that:

- An airport must be in the current/approved NPIAS.
- Most public-use general aviation airport improvements are eligible for 90 percent federal funding, with the remaining 10 percent coming from local or state matching funds.
- Non-primary entitlement funds of $150,000 per year can be accumulated for up to four years; it should be noted that Unclassified airports are not eligible for these funds.

In addition, revenue-producing items (such as hangars) are typically not eligible for federal funding, unless certain conditions are met. All federally eligible projects must be depicted on an FAA-approved ALP.

From 2011 to 2020, Alabama received an average of $60.1 million annually in federal share of FAA AIP grants, ranging from a high of $78.6 million in 2018 to a low of $45.5 million in 2016.

E.7.2 FAA Entitlement Funding

AIP entitlement grants are allocated among NPIAS airports by a formula that is driven by passenger enplanements, and these funds are awarded in accordance with specific guidelines. Generally, Primary Airports (Part 139) receive at least $1 million in entitlements based on their number of enplaning passengers (greater than 10,000 enplanements on scheduled commercial airlines) and landed air cargo weights. Larger commercial airports receive significantly more in annual entitlement funding. Non-primary NPIAS airports, which include general aviation airports, may receive entitlement funding of up to $150,000 per year.

Non-Primary airports, which may not have a need for AIP funds in a given year, are permitted by the FAA to carryover their entitlement funds for up to four years, until a project is identified and a total of four years of funds are accumulated. These accumulated funds may be held for four years, for example, then expended in an AIP grant for a total project value of $600,000.

E.7.3 FAA Discretionary Funding

Commercial service and general aviation airports also compete for federal discretionary funds. These funds are awarded based on priority ratings given to each FAA eligible project. The distribution of discretionary funds is based on a national prioritization system. Prioritization is based on projects that best meet the goals of the

AIP program, with priority given to projects classified as safety, security, reconstruction, capacity, and standards. Each project receives a priority ranking based on formula calculations which are defined by FAA in Order 5100.39A, *Airports Capital Improvement Plan*.

Federal funding is limited to development that is justified to meet aviation demand, according to FAA guidelines. Each NPIAS airport development project is subject to eligibility and justification requirements as part of the normal AIP funding process.

E.7.4 State Apportionment Funding

FAA funds are made available to states under various conditions and are apportioned based on the number of airports, operations, population, and pavement quantities. The distribution of these grants is decided through collaborative efforts between the FAA and each state. For 2021, Alabama airports are anticipated to receive $3.38 million in state apportionment funding.

E.7.5 Passenger Facility Charge (PFC) Program

The Passenger Facility Charge (PFC) program allows commercial service airports to collect PFC fees up to $4.50 for each eligible boarding passenger at commercial airports. PFC fees are capped at $4.50 per flight segment with a maximum of two PFCs charged on a one-way trip or four PFCs on a round trip ($18 total).

Commercial airports electing to impose a PFC may that utilize that revenue for one or more of the following:

- Pay all or part of the allowable cost of an FAA approved project
- Pay debt service and financing costs associated with bond issuance
- Combine PFC funds with Federal Grant funds (e.g. AIP) to accomplish an approved project
- Apply PFC funds to meet the non-federal share of projects costs funded under the Federal Airport Grant Program

In Alabama, six commercial service airports utilize PFC fees to fund a variety of projects such as improving safety, security, and capacity; reducing noise; or increasing air carrier competition. The six commercial airports in the system include: Birmingham-Shuttlesworth International, Huntsville International, Montgomery Regional, Mobile Regional, Northwest Alabama Regional, and Dothan Regional. It is important to note that the previously identified annual funding gap of $67.6 million does not consider PFCs collected by the commercial airports. Most often, these funds are not used to support airport capital projects and/or airport maintenance and rehabilitation needs.

E.7.6 CARES Act Funding and Airport Coronavirus Relief Grant Program

The Coronavirus Aid, Relief, and Economic Security (CARES) Act enacted in March 2020 included $10 billion in relief funds to assist eligible airports in response to the COVID-19 pandemic. Of the amount, at least $100 million was dedicated for general aviation airports. The Act also included $56 million for the Essential Air Service Program to maintain existing air service to small/rural communities.

The CARES Act provided funds to increase the federal share to 100 percent for AIP and supplemental discretionary grants already planned for FY20. Normally, AIP grant recipients are required to contribute a local match percentage. The additional CARES funds allowed critical safety and capacity projects to continue as planned, despite an airport's current financial situation.

CARES funds were distributed by various formulas to airports that are part of the national airport system. This system includes commercial and general aviation airports that are part of the NPIAS.

Similar to CARES funds, additional funding was provided for airports in December 2020 through the Coronavirus Response and Relief Supplemental Appropriation Act. The FAA allocated funding from this act to the Airport Coronavirus Relief Grant Program (ACRGP) to provide relief to important on-airport tenants and support for airport budgets. $45 million was set aside for general aviation airports through the ACRGP.

In total, Alabama airports received one-time amounts of $54.0 million from the CARES Act and $17.3 million from the ACRGP. These funds can be used for a variety of needs, including airport operational expenses, airport staffing, debt payments, and other expenses not covered by AIP funds. Given the unique nature of these funds, they were not considered in the anticipated annual funding gap of $67.6 million.

E.7.7 ALDOT Aeronautics Bureau Funding

The ALDOT Aeronautics Bureau operates the Airport Development Fund (ADF) to assist with administration of the system and disburse state aviation grant funds. Primary sources that support this fund include fuel tax revenue and supplemental funding from the state Department of Transportation (DOT).

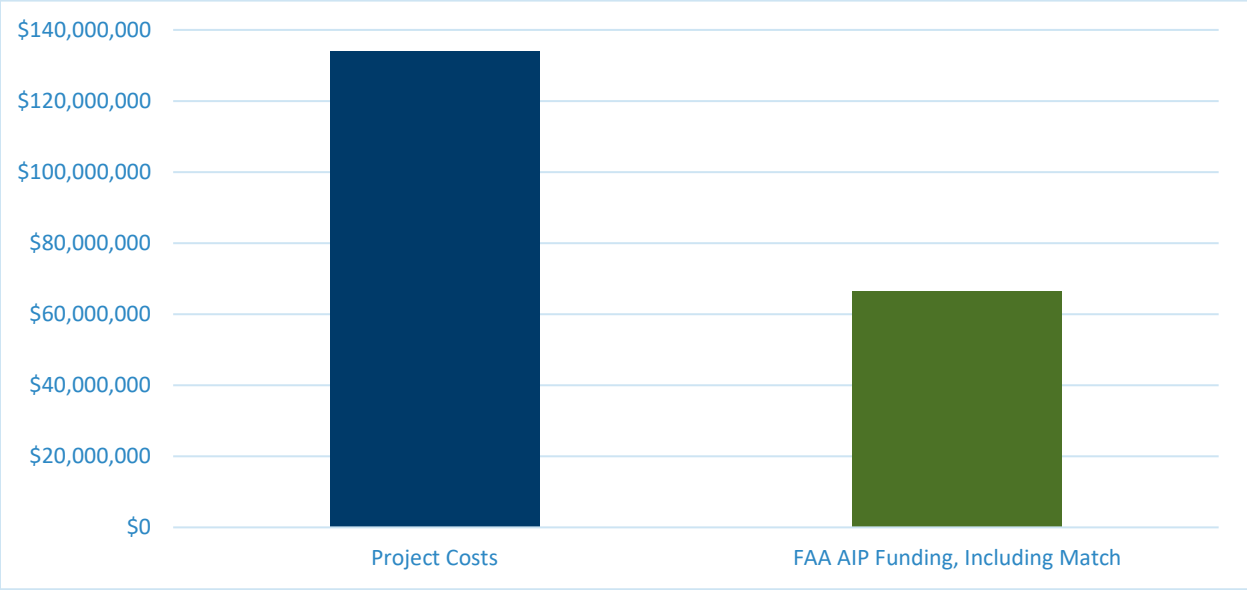
The State of Alabama collects aviation fuel taxes on the sale of AvGas and Jet A fuel. Current rates are $0.035 per gallon for Jet A and $0.095 per gallon for AvGas. The ALDOT Aeronautics Bureau typically receives around $2.0 million from fuel tax revenue. To supplement the aviation fuel tax revenue, DOT has shifted other funds into the ADF for the purpose of leveraging federal grants for airport improvements. These supplemental funds are derived from revenue that are not constitutionally or statutorily dedicated for highway and bridge construction. This program contributes approximately $1.4 million to $1.7 million annually to the ADF.

After taking into account money allocated for administration of the ALDOT Aeronautics Bureau, $2.5 million to $2.8 million is typically available to support state-matching funds for annual FAA AIP grants. In the event a project is fully funded by the AIP, state grant funds have been made available for 50/50 state and local share grants for projects such as terminal buildings and fuel facilities that have a low FAA priority. Average annual state funding of $2.7 million for capital development projects at system airports was included in the funding gap analysis.

E.8 Summary of Airport Cost Estimates and Funding

Analysis of FAA AIP and Apportionment funding from 2011-2020 compared to estimated costs associated with system plan-identified deficiencies, ACIP projects, and pavement management and rehabilitation demonstrate a shortfall of approximately **$67.6 million dollars** in annual funding, illustrated in **Figure E-6.** This shortfall directly limits the Alabama airport system's ability to fully serve users and communities throughout the state.

Figure E-6: Projected Average Annual Project Costs and Available Funding



Source: ALDOT, MaesAwyr, Jviation

Funding sources used by the state to help airports make capital improvements were reviewed as part of this appendix. Federal funding from the FAA's AIP program makes up a large portion of the money that is available to make improvements to airports in Alabama. Additional state and local matching funds to leverage FAA AIP grants puts part of the onus on ALDOT and local communities to participate in maintaining and expanding the airport system. While AIP will continue to be the primary funding source for capital improvements at Alabama airports, other funding sources will need to be increased or created to fully respond to the maintenance and improvement needs of the airports in the state airport system.