SEC. 570. STUDY ON AIRPORT CREDIT ASSISTANCE

FAA Reauthorization Act of 2018 (Pub. L. 115-254) direction from Congress to the U.S. Department of Transportation to conduct this study

January 19, 2021

Executive Summary

Section 570 of the FAA Reauthorization Act of 2018 (Pub. L. 115-254) requires the Secretary of the U.S. Department Transportation (USDOT or the Department) to conduct a review to determine whether a Federal credit assistance program would be beneficial and feasible for airport-related projects as defined in section 40117(a) of title 49[1], which are projects eligible for Passenger Facility Charge (PFC) revenue. The Department was asked to consider expanding eligibility under an existing Federal credit assistance program to include such projects or establishing a new credit assistance program for such projects.[2]

USDOT concludes that a Federal airport credit program would likely be beneficial for airport-related projects as defined in section 40117(a) of title 49, because it could provide airports a lower-cost and more flexible option for financing portions of such projects.[3] USDOT also concludes that such a program is feasible. It is not within the scope of this study, however, to make a legislative recommendation.

Based on USDOT's research on the airport industry, existing funding opportunities, and current credit products, the following seven options have been identified for Congress to consider:

- Option 1: Take no action[4]
- Option 2: Modify Transportation Infrastructure Finance and Innovation Act (TIFIA) eligibility to specifically exclude airport projects[5]
- Option 3: Modify TIFIA eligibility to explicitly include airport-related projects
- Option 4: Expand existing Railroad Rehabilitation and Improvement Financing (RRIF) eligibilities to include airport-related projects
- Option 5: Create a new airport-related project credit program modeled after TIFIA
- Option 6: Create a new airport-related project credit program modeled after RRIF
- Option 7: Create a new hybrid airport credit program modeled on both RRIF and TIFIA

[1] Section 570 refers to "airport-related projects as defined in section 40117(a) of title 49, United States Code"; however, the term used in section 40117(a) of title 49 is, in fact, "eligible airport-related project." For purposes of this report, we have interpreted the section 570 reference to "airport-related projects" to mean "eligible airport-related projects" as used and defined in section 40117(a) of title 49. However, for ease of reference and consistency with section 570, we have continued to use the term "airport-related projects" throughout this document, which term is intended to refer to "eligible airport-related project" under section 40117(a) of title 49.

[2] Because Section 570 focuses on PFC-eligible projects, this report focuses solely on credit assistance for new capital investments. It does not address refunding or restructuring of existing debt.

[3] This review did not assess whether a Federal credit assistance program for airport projects is necessary to overcome a market imperfection or would have net economic benefits, which are criteria in OMB Circular No. A-129 for considering whether a Federal credit program, or change to an existing Federal credit program, is necessary.

[4] Under this option, DOT would continue to administer the existing TIFIA project eligibility for public infrastructure projects located within walking distance of, and accessible to, certain specified types of transportation facilities (23 U.S.C. §601(a)(12)(E)), which some airport projects may meet.

[5] By amending 23 U.S.C. §601(a)(12)(E).

Congress could choose any of these options, or direct DOT to conduct a pilot program to test these or other concepts before committing to full implementation.

Each option varies in its degree of benefit for airport-related projects as defined under section 40117(a) of title 49, and feasibility. If a standalone credit program for airport-related projects were to be created (Options 5, 6, and 7), situating the program in the USDOT Build America Bureau (the Bureau) would leverage the expertise and resources already present in the Bureau, and such a program aligns with the Bureau's mission.

To estimate average annual loan volume, the Department reviewed publicly available estimates of airport infrastructure needs and planned expenses over the next five years. These estimates vary, and their parameters do not align precisely with the scope of projects identified in Section 570. Specifically, this report assumes that projects meeting the definition in section 40117(a) of title 49, at both commercial service and non-commercial service airports, would be eligible for financing under an airport credit program.

The lowest estimate of airports' five-year planned infrastructure expenses (from the FAA's National Plan of Integrated Airport Systems Report) is $35 billion[6], but this estimate likely understates the amount of section 40117(a) project costs at both commercial service and non-commercial service airports because it includes only projects that are eligible for Airport Improvement Program (AIP) grant funding, which are a subset of section 40117(a) projects. The high-end estimate of airports' planned five-year infrastructure expenses (the Airport Council International's Infrastructure Needs Survey) is $128 billion[7], and the Government Accountability Office (GAO) recently estimated that airports' planned infrastructure costs for fiscal years 2019 to 2023 is $110 billion[8]. However, these estimates likely overstate the amount of section 40117(a) project costs at both commercial service and non-commercial service airports because they include non-section 40117(a) projects.[9] Many terminal and landside connection projects (which comprise a significant percentage of capital needs for many airports) are either ineligible or a very low priority for AIP grant funding. Airports typically pay for them using bond proceeds, to be repaid with a combination of aeronautical and non-aeronautical revenues, including PFC revenues.[10]

There is no comprehensive data source on the level of demand for a Federal airport credit assistance program. Therefore, this report estimates average annual loan volume for an airport credit assistance

[6] National Plan of Integrated Airport Systems Report 2019-2023.
[7] "Terminally Challenged: Addressing the Infrastructure Funding Shortfall of America's Airports," ACI-NA, 2019.
[8] "Airport Infrastructure, Information on Funding and Financing for Planned Projects," Government Accountability Office, February 2020, GAO-20-298.
[9] "Airport Infrastructure, Information on Funding and Financing for Planned Projects," Government Accountability Office, February 2020, GAO-20-298.
[10] It remains to be seen how long the COVID-19 public health emergency will continue, with corresponding impacts on the overall economy as well as specifically on the aviation industry. Forecasts for recovery to pre-COVID aviation activity levels vary significantly. Many airports will face significantly slower collection of approved PFC revenues, meaning that it will be even longer into the future before those airports can initiate new collections. The same will be true of other types of airport revenue. Therefore, it is possible that there will be even more interest in a federal credit assistance program that could help reduce the costs of capital for at least certain types of airports and/or projects.

program using a "share" method. More specifically, this report assumes the share of airport-related project loan volume compared to total section 40117(a) project costs would be similar to the TIFIA program's share of the total cost of Federal-aid highway projects (about 3 percent). The average annual loan volume that results from this "share" method is a range of $115 million[11] to $672 million – with the difference dependent on the assumed amount of section 40117(a) project costs. This estimate is subject to significant uncertainty; actual average annual loan volume may be higher or lower. An airport association surveyed its members to gauge interest in a Federal airport credit program, but the response rate was too low to support a reliable loan volume estimate across all commercial and non-commercial airports.

Expanding airports' eligibility to participate in existing credit programs, or creating a separate airport credit program, would provide airports a financing option that is currently available to other modes of transportation, via the TIFIA and RRIF programs. The TIFIA program has historically been funded out of the Highway Trust Fund, and the RRIF program has historically required project sponsors to pay credit risk premiums due to the absence of appropriated credit subsidy, although RRIF was recently appropriated subsidy for the first time.

This report does not estimate any loss of Federal revenue from providing credit assistance to section 40117(a) projects, and notes that since at least 1983, no airport has defaulted on a General Airport Revenue Bond (GARB).[12] There have been a small number of defaults under the TIFIA and RRIF programs throughout their history (5 out of 128 loans defaulted). The total amount of Federal losses from those defaults is not yet certain because recovery efforts are ongoing for some of the loans.

The Department expects that the average subsidy rate for airport-related projects would be similar to that for TIFIA program projects, which was 2.48 percent in fiscal year 2019. If Federal loans for airport-related projects have the same credit risk as TIFIA loans, then $1 of credit subsidy could support an average of approximately $40 in loan value. In other words, as an illustrative example, $10 million in Federal subsidy could support as much as $400 million in Federal airport loans. If the amount of Federal credit assistance for each airport-related project was capped at 33 percent of eligible project costs, like DOT's policy under the TIFIA program, that $10 million in credit subsidy could contribute to $1.2 billion in airport infrastructure investment.

[11] This figure reflects the 2019-2023 NPIAS figure of $35.1 billion. Based on the subsequent NPIA figure of $43.6 billion, the bottom end of this range would be $166 million instead. See footnote #22 on page 10 for further explanation.

[12] Source: Moody's Investor Service, "Infrastructure default and recovery rates, 1983-2017," published September 27, 2018. There have been a very small number of defaults on Special Facility Bonds, one default on a General Obligation bond that supported airport development, and one default on unrated bonds in connection with a private airport development.

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List of Abbreviations

A4A	Airlines for America
AAAE	American Association of Airport Executives
AATF	Airport and Airway Trust Fund
ACC	Airport Consultants Council
ACI	Airports Council International
ACI-NA	Airports Council International – North America
AIP	Airport Improvement Program
BUREAU	Build America Bureau
CARES Act	Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136)
CATS	Certification Activity Tracking System
DOT	Department of Transportation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FTE	Full-time Equivalent
FY	Fiscal Year
GAO	Government Accountability Office
GARB	General Airport Revenue Bond
GO	General Obligation
NAS	National Airspace System
NPIAS	National Plan of Integrated Airport Systems
PFC	Passenger Facility Charge
RAND	The RAND Corporation
RRIF	Railroad Rehabilitation & Improvement Financing
STIP	State Transportation Improvement Program
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIP	Transportation Improvement Program
TOD	Transit Oriented Development
TSA	Transportation Security Administration
USDOT	U.S. Department of Transportation

Scope & Methodology

Section 570 of the FAA Reauthorization Act of 2018 directs the Secretary of Transportation "to conduct a review to determine whether a Federal credit assistance program would be beneficial and feasible for airport-related projects as defined in section 40117(a) of title 49." In preparing that determination, Congress indicated that, "The Secretary may consider:

(A) expanding eligibility under an existing Federal credit assistance program to include such projects; and
(B) establishing a new credit assistance program for such projects."

The Act instructed the Secretary to "include a description of—

(1) the benefits and other effects;
(2) potential projects;
(3) the budgetary impacts, including an estimate of—
    (A) the average annual loan volume;
    (B) the average subsidy rate; and
    (C) any loss of Federal revenue;
(4) impacts on existing programs;
(5) the administrative costs; and
(6) any personnel changes."[13]

Per the statutory requirements, this review studies the possibility of Federal credit assistance to airport-related projects as defined in section 40117(a) of title 49, which are projects eligible for PFC revenue. Although section 40117(b)(3) of title 49 authorizes the imposition of PFCs for airport-related projects only at commercial service airports, the language in section 570 refers only to the definition of airport-related projects, which is not itself limited to commercial service airports. Therefore, this report does not limit the scope of its review to Federal credit assistance to commercial service airports. Instead, this report assumes that all airports in the NPIAS[14], which include both commercial and non-commercial service airports, could have projects eligible under the Federal airport credit assistance program contemplated in Sec. 570.

This report does not evaluate grant programs, whether at the U.S. Department of Transportation or at other Federal agencies, nor does it include State or local programs that might assist airports in pursuing their infrastructure needs.

As outlined in section 40117(a), airports can use PFC revenues to fund any project that is eligible under the Airport Improvement Program, as well as somewhat broader eligibility for passenger terminals, certain types of noise mitigation, and certain specific types of low-emission vehicles and equipment. Appendix V contains the actual statutory text.

[13] H.R. 302 (P.L. 115-254), the FAA Reauthorization Act of 2018.
[14] Inclusion in the NPIAS is the first requirement for an airport to be eligible for AIP grants.

For the purposes of this review, *financing* is defined as the process of obtaining the necessary funds for an airport-related project through borrowing, whether from a bank, the bond market, or a government credit assistance program. *Funding* in this review refers to available sources of money for a project, such as grants, passenger facility charges, unrestricted reserves[15], or other airport revenues. Available funds are used not only to pay the costs of an airport-related project; they are also vital to obtaining loans or issuing bonds as they represent possible sources of repayment.

Congress did not direct the Secretary of Transportation to evaluate changes to existing airport funding sources. This review of a possible Federal airport credit program assumes existing funding sources would continue at projected levels. The RAND Corporation (RAND) and the GAO have published recent reports addressing the state of airport funding.[16]

The results of this review are based on a close examination of the USDOT Build America Bureau's existing portfolio of airport projects, as well as reports and data from the FAA, GAO, RAND, Airports Council International – North America (ACI-NA), and others. Additionally, this review benefited from discussions with FAA personnel, airport managers, airport and airline associations, financial advisors to airports, and other airport funding and financing experts.

U.S. Airports and Capital Investment Needs

In any discussion of airport capital needs, funding sources, and financing opportunities, it is important to consider not just airport infrastructure, but also airport operational, economic, financial, environmental, and legal circumstances. Airport infrastructure projects affect the safety, mobility, and quality of life of a diverse range of stakeholders.

The availability of accessible airport capital financing, and any decision to provide or not provide Federal credit assistance to airports, will impact these stakeholders:

- Airport owners and operators
- Airlines and other user-groups
- Traveling public
- Travel industry
- Businesses that rely upon air cargo
- Neighboring communities
- Federal agencies
- State, county and local governments
- Federal taxpayers

[15] It is important to note that many airports maintain unrestricted reserves in order to be prepared for a crisis involving operating costs or revenues, rather than for new capital expenditures.
[16] "U.S. Airport Infrastructure Funding and Financing," RAND Corporation, 2020 & "Airport Infrastructure, Information on Funding and Financing for Planned Projects," Government Accountability Office, February 2020, GAO-20-298.

National Plan of Integrated Airport Systems (NPIAS)

As of May 2018, 19,627 airports were in operation in the United States. Their size and level of service vary significantly. The FAA recognizes around 3,300 of those airports as part of the NPIAS, which qualifies them for federal assistance for airport capital projects under the AIP.[17] Airports are generally divided into two categories: commercial service and noncommercial service. Commercial service airports are publicly owned airports with at least 2,500 passenger boardings each calendar year and scheduled passenger service. General aviation airports do not have scheduled service or board fewer than 2,500 passengers annually.[18] The 506 commercial service airports in the U.S. are divided by federal law into hub sizes based on passenger boarding data (Table 1).[19]

Table 1: Characteristics of National Plan of Integrated Airport Systems Airports, 2018

Airport Classification		Common Name	Criterion for Determining Common Name	Percentage of Total Enplanements	Total Enplanements	Number of Airports
Commercial service: At least 2,500 annual enplanements and scheduled passenger service	**Primary:** More than 10,000 annual enplanements	Large hub	Airport accounts for 1 percent or more of total enplanements	67.88	534,507,475	30
		Medium hub	At least 0.25 percent but less than 1 percent	18.75	147,624,888	31
		Small hub	At least 0.05 percent but less than 0.25 percent	9.54	75,150,646	72
		Non-hub	More than 10,000, but less than 0.05 percent	3.67	28,874,664	247
	Nonprimary: No more than 10,000 annual enplanements	Nonprimary commercial service	At least 2,500 and no more than 10,000	0.10	813,688	126
Noncommercial service: Less than 2,500 annual enplanements		General aviation	Less than 2,500	0.05	378,858	2,549
		Reliever	Designated to relieve congestion at commercial service airports	0.01	107,503	261

Source: RAND analysis of T-100 segment data (Bureau of Transportation Statistics, 2019c) and FAA, 2017c.

Note: Enplanements are for domestic flights only. Domestic flights begin and end in the U.S.

[17] 49 U.S.C. § 47103.
[18] 49 U.S.C. § 47102(7) & 47102(8).
[19] The term "hub" is defined in federal law to identify commercial service airports as measured by passenger boardings, and the airports are grouped into four hub categories (49 U.S.C. § 40102(29), (31), (34), & (42)).

Airport Capital Needs[20]

While each airport has unique and complex sets of circumstances under which it operates, all U.S. airports face a broad range of challenges resulting in pressure to undertake capital projects: facilities are aging and becoming outdated; airplanes are generally getting bigger (*i.e.*, with U.S. airlines transitioning from smaller regional jets to larger ones, or to narrow body aircraft for their domestic fleets); technology is advancing; security needs are changing; the number of air travelers has grown over time; and passenger expectations have shifted.

Many passenger terminals that were built in the 1960s or 1970s, for example, were designed before the security requirements implemented since 9/11 and for airplanes carrying about 100 passengers. Today, airports operate under a far different security regime, and planes typically carry 180 passengers or more. The result is that facilities ranging from gates to restrooms are often undersized, and there are severe constraints on concession spaces (which impacts both passenger comfort and airport revenues). In 2016, the number of U.S. passenger enplanements totaled 829 million, and within two years that number increased to 900 million, an 8 percent jump. FAA projects this number to surpass 1 billion annual enplanements in 2039.[21] In addition, in a security era requiring departing passengers to arrive more than an hour early, a simple terminal building with few amenities cannot support the experience that airline passengers expect (e.g., the ability to be relaxed and/or productive while waiting for flights to board).

It is also important to note that security considerations go well beyond passenger and baggage screening. Terminals must also accommodate other requirements that are less visible to the traveling public.

Assessments of airport capital needs are regularly conducted by the FAA and other industry stakeholders. In most cases, these projections include only the airports included in the NPIAS (approximately 3,300 airports nationwide), and in some cases even greater emphasis is placed on the Primary airports. The NPIAS Report itself includes only AIP-eligible costs, while other assessments include a broader range of projects. Therefore, this review uses a range of reported airport capital needs.

Based on the following sources, the Bureau estimates that NPIAS airports have planned capital expenditures of $110-$130 billion over the next five years.[22]

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[20] At the writing of this report, the U.S. aviation industry is suffering from the effects of the COVID-19 public-health crisis and resulting travel restrictions. This report assumes that this is a short-term impact, and that demand will return to previous levels and growth rates within 18-24 months. Even if growth rates take longer to recover, many of the highest-priority terminal projects will still be needed, not because of capacity constraints but because of serious pre-existing functional or structural deficiencies, ranging from inadequate seismic protection and disability access to serious public-health risks (such as asbestos and insufficient ventilation systems).

[21] FAA Terminal Area Forecast Summary FY2019-2045

[22] In September 2020, the FAA published an updated NPIAS Report, for the five-year period FY 2021-2025. That report shows a figure of $43.6 billion—an increase of nearly 25 percent over the previous figure of $35.1 billion. However, ACI's estimate for 2019-2023 relies upon the NPIAS report for the same time period (for airports other than Large, Medium, and Small hubs). Moreover, the NPIAS report reflects airport master plan updates and capital improvement plans that take significant time to update when there are major changes in activity levels (such as the downturn resulting from the COVID-19 public health emergency that began in March 2020). Therefore, this report on airport credit assistance continues to reflect the previous 2019-2023 figure of $35.1 billion, except where specifically noted to the contrary.

FAA's September 2018 NPIAS report estimates a need for $35.1 billion in AIP-eligible airport development projects over the next five years (2019-2023). However, airports only submit to the NPIAS survey their planned AIP-eligible projects that do not yet have an identified funding source. Reported AIP-eligible projects typically emphasize airside improvement (runways, taxiways, aprons). Airports often exclude from their NPIAS submissions planned projects that are not eligible for AIP funds or not likely to be highly competitive in the AIP discretionary program (i.e. terminals and terminal-related projects). Hence, planned airport development investment is likely to be underreported by NPIAS. By contrast, the FAA has a long-standing performance target in place that at least 93 percent of paved runways and taxiways at NPIAS airports will be in Good, Fair, or Excellent condition. Achieving this metric requires periodic monitoring of pavement conditions and careful capital planning, because runway rehabilitation projects have to be timed carefully to minimize capacity and efficiency impacts.

"Terminally Challenged: Addressing the Infrastructure Funding Shortfall of America's Airports," a 2019 report produced by ACI-NA, projects $128 billion in infrastructure needs across the National Airspace System (NAS) for 2019-2023. This survey includes all future AIP eligible and ineligible projects. However, many of the projects included already have at least part or all of the necessary funding identified. For a more comprehensive discussion on AIP project eligibility, and the difference between the FAA NPIAS and ACI-NA reports, please see appendices I and II.

GAO's 2020 report, "Airport Infrastructure: Information on Funding and Financing for Planned Projects," estimates that airports' planned infrastructure costs will total $110 billion for 2019-2023. GAO arrives at that figure by combining FAA's NPIAS AIP-eligible planned infrastructure costs of $35 billion with ACI-NA's $75 billion forecast of non-AIP-eligible costs.

The 2020 RAND report, "U.S. Airport Infrastructure Funding and Financing: Issues and Policy Options Pursuant to Section 122 of the 2018 Federal Aviation Administration Reauthorization Act," analysis was conducted by an independent, non-profit organization with input from a broad range of aviation industry stakeholders, as required by statute. One key observation from the RAND report was that, although total PFC revenues have outpaced inflation since 2000, that increase is due primarily to the increase in passenger enplanements over the same period. And, although that increase in enplanements has led to an increase in PFC revenue, it also created an additional capital need for airports to expand their facilities.[23]

While this review has neither the intent, nor a mandate, to weigh in on changes to funding programs, RAND's discussion of the AIP and PFC programs is useful insofar as it highlights the amount of funding available to airports to support their infrastructure projects.[24]

[23] See page 16 of the final RAND report, available online at https://www.rand.org/pubs/research_reports/RR3175.html.

[24] While a small part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act (P.L. 116-136) covered the local share for AIP grant funds appropriated in fiscal year 2020, the vast majority of the CARES Act funds were structured to help mitigate the revenue loss and operational cost increases resulting from the COVID-19 public health emergency. The CARES Act was not generally designed to help fund existing or future capital needs.

Regarding the accessibility of capital markets to U.S airports, RAND reports that airports generally have demonstrated little difficulty accessing capital, but that larger airports, with their stronger revenue streams, are usually able to secure debt at a lower cost in the market than their smaller counterparts. In few cases do Small hub and Nonhub airports[25], with their less robust revenue streams, bring the ability to secure debt at the same cost as larger airports in the credit marketplace. As noted on the previous page, however, many airports face growing capital needs. The provision of Federal credit assistance could help airports address those needs sooner by lowering their financing costs.

The Airport Consultants Council (ACC) 2020 study, "Capital Development at US Airports: A near term outlook of trends, projects, and funding," examines the planned capital spending of U.S. airports through 2024. Based on a survey of the 130 airports with the most enplanements and a review of publicly available data, ACC estimates total project costs over the next five years at $138 billion. The study points out that, "Significant modernization in aging facilities makes investment necessary beyond that required for new capacity alone."[26] Like ACI-NA and Rand, ACC notes that the bond market is the biggest source of investment capital for airport projects, and that at least 50 percent of planned investment will support terminal projects, with additional investment planned for other landside elements unlikely to be awarded AIP grant funding.

In addition, ACC also observes that customer experience is, and ought to be, a key element in effective airport planning. Not only does enhanced customer experience increase an airport's competitiveness, the report observes; it also helps diversify an airport's revenue stream. The report notes that airport operators like the Columbus Regional Airport Authority have hired Chief Innovation Officers, and others, like San Diego and Dallas, "have established 'innovation labs' to test customer service enhancements and amenities."[27]

Table 2: Summary of Airport Capital Needs Reports

	FAA 2018 Report	ACI 2019 "Terminally Challenged" Survey	GAO 2020 Report	RAND 2020 Report	ACC 2020 "Capital Development" Survey
Time Period	2019 - 2023	2019-2023	2019-2023	historical and forecasted	2020-2024
Total Development Costs	$35.1 billion	$128 billion	$110 billion	n/a	$138 billion

Source: Build America Bureau summary of published reports

Because the scope, assumptions and methodologies vary so significantly among these various analyses, it is virtually impossible to reconcile the various forecasts to arrive at a single estimate of total capital funding needs that is reliable. Accordingly, this report relies instead upon historical rates of participation in TIFIA, in conjunction with the highest and lowest forecasts of airport capital investment needs, to

[25] See footnote #19 on page 9.
[26] ACC (2020), p.9.
[27] ACC (2020), p.16.

establish a range of annual average financing needs. Please see "Findings: Airport Demand," starting on page 20, for the resulting range of annual average loan volumes.

Regardless of financing mechanisms, many larger airports have a broad range of revenue and funding sources to help support capital investment, listed below (Table 3).

Table 3: Airport Funding Sources

Funding Category	Items
Operating Revenues	
Aeronautical operating revenue	• Apron charges and tie downs • Aviation fuel tax retained for airport use • Cargo and hangar rentals • Fixed-base operator revenue • Fuel sales net profit/loss or fuel flowage fees • Landing fees from passenger flights • Landing fees from cargo flights • Landing fees from GA and military flights • Other aeronautical fees • Terminal rentals (aero)
Non-aeronautical operating revenue	• Hotel • Land and nonterminal facility leases and revenues • Other non-aeronautical fees • Parking • Rental car • Terminal services and other • Terminal: food and beverage • Terminal: retail stores and duty free
Other Funding Sources	
Non-operating revenue	• Capital contributions • Interest revenue • Other non-operating • Special non-operating items
AIP and state grants	• AIP and state grants
PFCs	• PFCs

Source: Multiple FAA Orders, Advisory Circulars, and reports

Airports and Capital Markets

Bond Market

The municipal bond market offers short and long-term financing that typically does not exceed 30 years.[28] According to the aforementioned RAND study, four major types of bonds are used to finance airport infrastructure: GARBs, PFC bonds, general obligation (GO) bonds, and special facility bonds. RAND also stated that "Airport bonds are usually considered investment-grade bonds by the major credit rating agencies. This means that the airports are at low risk of defaulting on their bonds and thus produce a safe and stable return on investment for bond buyers."[29] Larger airports are typically able to issue GARBs; "double-barrel" PFC bonds backed by both PFCs and airport revenues; and PFC-backed bonds. Smaller airports with capital projects often have difficulty issuing bonds directly, and must sometimes go through their local jurisdictions to issue GO bonds on their behalf.[30] The GO bond is then issued for the entire jurisdiction, with some portion of bond proceeds funding the airport development project.

GAO's analysis of FAA financial reporting data found that, from 2013 to 2017, airports carried an annual average of $84.6 billion in total bond debt. This aggregate indebtedness does not differentiate between types of bonds, nor does it indicate whether bonds are existing, new issues, or refinancing. Therefore, the data does not indicate how much capital airports raised by issuing bonds for new projects in those years, or whether the amount of newly raised capital changed over that period. The expected timeline for airports to repay bond debt is also unknown because FAA does not collect that data. As of the end of fiscal year (FY) 2018, the aggregate level of airport bond debt had reached $99 billion (excluding the airports operated by the Port Authority of New York & New Jersey).[31]

Large and Medium hub airports[32] are the primary issuers of bonds. These airports account for an estimated 95 percent of the total airport bond proceeds in FY 2013-2017 (Figure 2). Generally, Large and Medium hub airports generate stable revenue in greater amounts than their Small and Nonhub counterparts. Typically, airports with larger amounts of stable revenue issue GARBs, which pledge future airport revenues as debt repayment.

[28] The vast majority of debt issued by airports is in the form of tax-exempt debt, because most of the facilities being financed are for public use. (e.g., public-use areas of passenger terminals, access and circulation roads, etc.). Typically, less than 15-20 percent of airport debt is in the form of taxable bonds, which may be required for private-activity facilities such as corporate hangars, consolidated rental-car facilities, spaces that are exclusively for the use of a particular airline, etc.

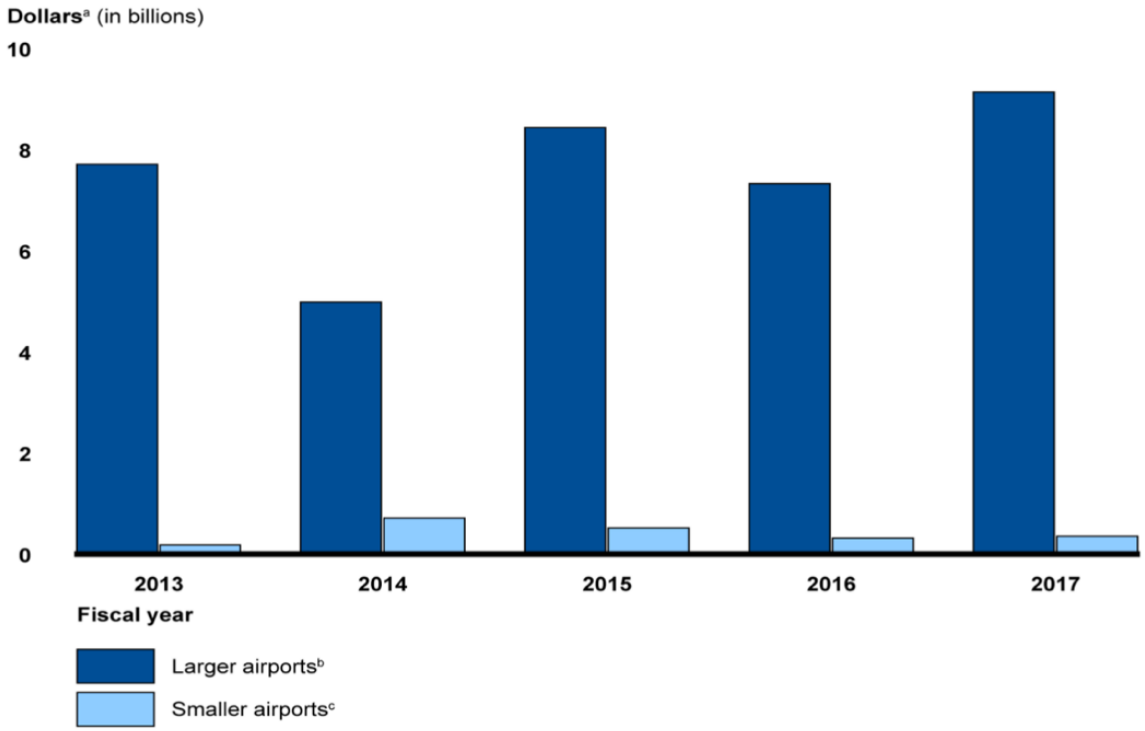
[29] RAND Corporation, "U.S. Airport Infrastructure Funding and Financing," January 2020, page 33.

[30] Depending upon ownership and governance structure, legal authorities to incur debt and pledge revenues, and/or to rely upon taxing authority of the county or municipality that owns the airport.

[31] The Port Authority of New York & New Jersey (PANYNJ) takes a somewhat unique approach to issuance of debt in support of its consolidated capital funding needs. The PANYNJ issues consolidated bonds for its various facilities, and has not historically been able to identify the debt service specifically associated with its airport projects. The FAA has been working with the PANYNJ to improve their ability to report their levels of debt service and indebtedness specifically associated with their aviation infrastructure.

[32] See footnote #19 on page 9.

Figure 2: U.S. Airports' Bond Proceeds for Fiscal Years 2013 through 2017



Source: GAO analysis of Federal Aviation Administration (FAA) Certification Activity Tracking System (CATS) data. GAO-20-298

[a] Dollar amounts are in adjusted 2017 dollars.

[b] Larger airports include Large and Medium hubs. For fiscal years 2013 through 2017, the number of larger airports reporting annual financial data to FAA ranged from 55 to 60.

[c] Smaller airports include predominantly Small hubs, Nonhubs, and non-primary commercial service airports, as well as a few reliever airports, and general aviation airports. For fiscal years 2013 through 2017, the number of smaller airports reporting data to FAA ranged from to 1,323 to 1,392.

The cost of securing debt from the traditional municipal bond market depends on the credit spread between the Treasury rate and what the market is willing to offer. The wider the spread between those two rates, the costlier it is for borrowers. Interest accrual and bond repayment typically begin at issuance, before a project has been completed.[33] Because financing arrangements need to be in place before proceeding with a project, airports often begin repaying interest on a project's bonds before any construction costs are incurred. In other words, the borrowing airport either has to begin paying debt service before the project has even incurred expenses (let alone generated revenue) or else capitalize the interest (borrow additional principal in order to cover the cost of interest during construction).

Bonds issued in the municipal bond markets typically require a number of reserve accounts to defray the risk of default. The combination of establishing a reserve account and beginning debt service immediately requires the airport to borrow enough funds to cover the costs of the actual project, the costs of a reserve

[33] Some larger airports can minimize these costs by drawing upon revolving lines of credit or commercial paper programs during construction, but that engenders some risk of longer-term borrowing rates being higher when the time comes to pay off those interim funding sources with longer-term bonds.

account, and the costs of at least the first few years of debt service or capitalized interest (i.e., the interest for the period of time between bond issuance and beneficial occupancy, when revenues begin to be sufficient to begin paying debt service).

Additionally, bonds issued in municipal bond markets are often issued with prepayment penalties, which can be restrictive. Such penalties can present additional costs that create challenges for borrowers who would otherwise want to retire higher interest debt and reduce financing costs when market rates shift lower. It also impacts borrowers who want to restructure their debt in order to reduce costs in the short term or to create capacity for additional capital expenditures.

Commercial Loans and Interim Financing

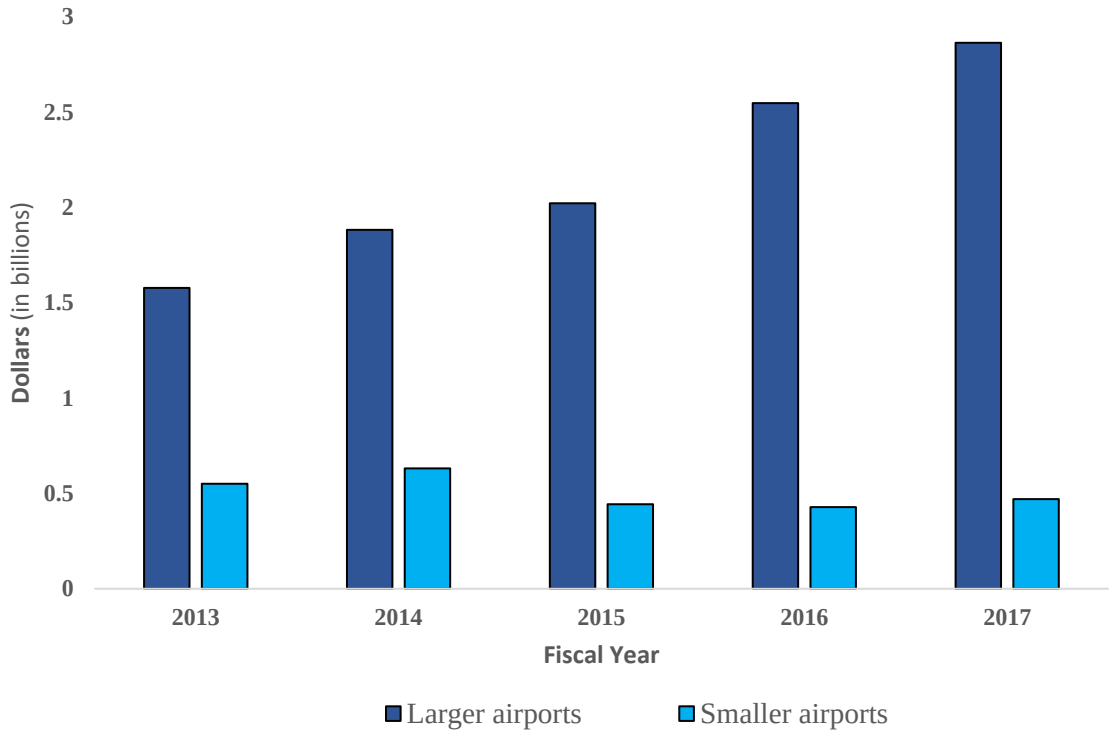
Commercial bank loans and/or construction financing from a project's contractor offer airports shorter-term financing options—which some airports use for both capital and operating costs. Lenders in this market are often more local than lenders in the bond market, allowing more flexible terms for the airport borrower. For example, these instruments typically do not require a reserve account. However, these loans do not benefit from the lower interest rates associated with municipal bonds.

Interim financing instruments typically mature within five to seven years, at which point the borrowing airport generally seeks long-term debt, presumably in the bond market described above but without having to pay the premium associated with construction risk. Short term financing allows the airport to defer repayment until a project has entered service and can begin generating the anticipated revenue needed to support bond debt service. While more flexible than bond issuance, short term financing necessitates an eventual second financing transaction upon maturity, which increases the airport's project costs and returns the airport to a less flexible market.

Fixed rate commercial loans typically do have prepayment penalties (a.k.a. 'make-whole' provisions). However, with variable interest rate loans, borrowers can enter an interest rate swap to lock-in the interest rate and fix the payment amount. While there are no prepayment penalties on a variable (floating) rate loan, the borrower must pay a swap termination fee for terminating the fixed rate swap agreement early. Variable rate loans are generally used more frequently than the fixed rate alternative.

The FAA CATS data shows airports averaging roughly $2.6 billion in loans and other interim financing per year from 2013 to 2017. Here again, larger airports account for a clear majority of funds borrowed with approximately 81 percent from 2013-2017 (Figure 3).

Figure 3: U.S. Airports' Loans and Interim Financing Proceeds for Fiscal Years 2013 to 2017



Source: Build America Bureau analysis of Federal Aviation Administration's (FAA) Certification Activity Tracking System data

Larger airports include Large and Medium hubs. For fiscal years 2013 through 2017, the number of larger airports reporting annual financial data to FAA ranged from 55 to 60.

Smaller airports include predominantly Small hubs, Nonhubs, and non-primary commercial service airports. For fiscal years 2013 through 2017, these numbered from 1,323 to 1,392.

Findings: Federal Credit Programs Can Offer Borrowers a Lower Cost Debt Option

This review has found no evidence of any shortage of capital available to finance airports in U.S. debt markets. However, in some instances, airport borrowers may be unable to secure debt from traditional municipal bond markets and commercial loans at acceptable costs and terms.

Airport projects, like other transportation projects, typically require an initial period of capital-intensive activity when the asset is not yet in revenue service. As discussed above, short term loans can cover that period, but they necessitate a later round of borrowing – and its associated costs – to repay the initial debt.

Airports can borrow in the bond market, but they may need to borrow funds that exceed a project's estimated costs in order to fund both the first few years of debt service and a reserve account. The municipal bond market provides tax-exempt interest earnings, but it may not offer borrowers a patient, flexible lender ready to sculpt borrowing and repayment terms similar to the TIFIA and RRIF programs.

The difference in cost between debt instruments that commercial loans and traditional municipal bond markets offer airports (both taxable and tax-exempt) and the subsidized-debt instruments that the Federal government could offer airports may be significant. The cost savings for airports could be used for other projects or services benefiting airport users and other key stakeholders in the airport environment.

In addition, to the extent the Federal debt obligation was authorized to be subordinate to other debt, the Federal government could further reduce financial risk (and therefore costs) for the borrower, which would help certain types of projects get financed and implemented faster. This may be particularly helpful for projects that are otherwise financially marginal, because traditional sources of capital cost more when the risk is higher. Therefore, the ability of the Federal government to take a subordinate position would further boost confidence and enable the borrower to reassure other lenders that their interests would be protected first in the event of a financial crisis. The result would be that a project that might not have been built (or at least not so quickly) would have a greater chance of being implemented and potentially much sooner.

A new credit instrument for airports could possess the following attributes:

- Long-term debt (e.g. 30 years or more) to cover the service life of project assets
- Extended disbursement period to make funds available as needed to avoid unnecessary interest accrual
- Principal payment deferral for a defined period after substantial completion to allow revenue ramp-up
- Reduced interest-only payments in early years and capitalization/deferral of interest payments.
- No prepayment penalty
- Ability to take a subordinate lien position

The current TIFIA and RRIF credit programs offer highway, transit, rail, and intermodal project sponsors borrowing and repayment flexibilities, like those above, that the municipal bond markets, to date, have not adopted. Those features proved to be crucial for delivery of certain infrastructure projects under these programs.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

The TIFIA program offers flexible credit assistance with the following features:

- Long-term repayment period
  - Up to earlier of 35 years or end of asset service-life
- Repayment may be deferred for five years following substantial project completion
- Financing up to 49 percent of eligible project costs by statute
  - 33 percent by DOT practice
  - 80 percent federal funding and financing cap by statute
- Funds can be drawn as needed
  - Interest accrues only on drawn funds as of draw date
  - Interest can be capitalized until repayment begins
- No pre-payment penalty
- Highly customized to meet borrower needs
- Interest rate comparable to similar term Treasury instruments
  - For rural projects, one-half of the corresponding Treasury instrument
- Rate and risk subsidized by the Bureau through Congressional appropriations.

Railroad Rehabilitation and Improvement Financing (RRIF)

The RRIF program offers flexible credit assistance with the following features:

- Long-term repayment period
  - Up to earlier of 35 years or end of asset service-life
- Repayment may be deferred for five years following substantial project completion
- Financing up to 100 percent of eligible project costs by statute
- Funds can be drawn as needed
  - Interest accrues only on drawn funds
  - Interest can be capitalized until repayment begins
- No pre-payment penalty
- Highly customized to meet borrower needs
- Interest rate comparable to similar term Treasury instruments

The benefits of both programs include lower overall financing costs, flexible draws, and flexible financing terms (including the ability to sculpt repayment, defer repayment, and incur no prepayment penalties).

One benefit that separates RRIF from TIFIA is that an RRIF loan is permitted by statute to finance as much as 100 percent of a project's eligible costs.

Another distinction between RRIF and TIFIA is that the TIFIA program receives subsidy appropriations to cover the long-term cost to the Government of a loan. The RRIF program has only received a subsidy appropriation once in its history. Therefore, RRIF borrowers have been required to pay a credit risk premium to cover the long-term cost to the Government of a loan, or to provide collateral appraised at equivalent value to offset the long-term cost to the Government of a loan.

Congress would need to decide which way to lean regarding allowable financing percentages and subsidy appropriations for any future Federal credit program explicitly serving airport-related projects.

Findings: Potential Financial Benefits of Extending Federal Credit Assistance to Airports[34]

In January 1998, the Searching for Solutions Policy Discussion Series, Number 18, documented the conclusions of a USDOT-hosted conference to examine "Federal Credit Concepts for Surface Transportation." The desired benefits identified in the 1998 conference summary are embodied today in the TIFIA and RRIF programs, even as the two programs have been modified over several surface transportation reauthorization acts.

[34] The societal benefits of developing and maintaining safe, efficient airport infrastructure are well-documented elsewhere, including the FAA's authorizing legislation (49 U.S.C. Chapter 471) and the FAA's biennial report on the National Plan of Integrated Airport Systems (NPIAS). By contrast, this report focuses on the potential financial benefits of Federal credit assistance programs for airport-related projects, rather than on the functional benefits of particular types of capital projects. Any such financial benefits would depend upon whether and how Congress decides to establish something beyond the current statutory provisions.

As part of this Section 570 report, the Bureau reviewed the conclusions of the 1998 study, and found that the benefits are still relevant today and are equally relevant to airports.

As the 1998 conference concluded, Federal credit assistance has the potential to:

1) Generate additional tax receipts from the economic benefits[35] generated by a project receiving Federal credit assistance (in cases where the project may not otherwise happen);
2) Offer flexible financing terms to borrowers
    a. Lien subordination
    b. Proceeds drawn as needed
    c. Amortization sculpted
    d. Repayment deferrable
    e. No prepayment penalties;
3) Address the needs of state and local governments with limited resources;
4) Be a source of contingent revenues during a project's ramp up phase;
5) Help advance important projects that might otherwise be delayed or postponed due to funding constraints or costs of capital;
6) Reduce the cost of capital, and thus reduce the volume of tax-exempt debt issued for transportation infrastructure;
7) Substitute for grants or supplement grant-in-aid funding, enabling grant money to flow more effectively to projects with greatest need;
8) Produce other non-quantifiable benefits such as mobility or air quality benefits of a project; and
9) Promote private investment in infrastructure.

Findings: Airport Demand for Federal Credit Assistance

We evaluated and estimated the level of interest in a Federal credit assistance program for airport-related projects primarily based on four sources of information:

- Top-down review of airport capital needs;
- Expressions of interest from airports in the TIFIA program;
- Percentage of total Federal-aid highway project costs financed through TIFIA; and
- Extrapolation of an informal survey undertaken by ACI-NA.

In addition, key industry associations such as ACI, the American Association of Airport Executives (AAAE) and Airlines for America (A4A) have been very clear about the fact that any program that can help reduce the cost of capital, whether through more favorable lending rates, greater flexibility in repayment terms, is beneficial.

[35] Economic benefits refers to the additional activity that is generated around a project that can potentially increase tax revenues; e.g., property taxes and sales taxes.

There is no single report or analysis that can provide a definitive projection of future airport capital needs. There are several reports and analyses that provide projections, but each of them has a specific purpose and parameters that make it difficult to point to a single figure (or even a range). However, this report estimates a range of average annual loan volume for a Federal credit assistance program for airport-related projects under section 40117(a) of title 49, based on the TIFIA program's share of the total amount Federal-aid highway program project costs. The following bullets summarize this methodology and results:

- The biennial NPIAS report (published by the FAA) focuses solely on AIP-eligible projects. The report published in September 2018 showed an estimated need of $35.1 billion over a five-year period, which translates to approximately $7.02 billion annually (on average).[36]

- The authorized amount for AIP has been stable at $3.35 billion annually, which results in approximately $3.2 billion in grant funds available annually. The difference between the anticipated annual grant level for AIP and the estimated NPIAS annual average is $3.82 billion.

- Any project that is AIP-eligible is also PFC-eligible. Therefore, we can reasonably assume that $3.82 billion is the lower end of the range of annual project costs that would be eligible for a Federal airport credit assistance program—regardless of whether such loans would be repaid with PFC revenues or other types of airport revenue.

- Over the 10-year period from FY2008 through FY2018, the total amount of TIFIA credit assistance for highway projects receiving any type of Federal funding was equal to about 3 percent of the total cost of all Federal-aid highway program projects.

- Multiplying the NPIAS estimate of annual project costs that may be eligible for Federal credit assistance ($3.82 billion in residual need assuming $3.2 billion in AIP funding), by 3 percent (the TIFIA program's share of the total cost of Federal-aid highway program projects over 10 years), yields a lower bound estimate of annual average loan volume of **$115 million**[37] (or less if Congress continues to appropriate additional supplemental discretionary AIP funding).

- Using the ACI report estimate of annual project costs that may be eligible for Federal credit assistance ($22.4 billion in residual need assuming $3.2 billion in AIP funding), and multiplying this estimate by 3 percent, yields an upper bound estimate of annual average loan volume of **$672 million** (assuming no further supplemental discretionary AIP funding).

- Due to the lack of directly relevant data, there is significant uncertainty in this range estimate of annual loan volume. Actual loan volume may be larger or smaller and would likely fluctuate from year to year. For example, airport-related project sponsors may finance a larger amount of their

[36] Please see footnote #22 on page 10 for discussion of subsequent updates.
[37] Please also see footnote #22 on page 10 for further explanation for explanation of why this figure is based on the 2019-2023 NPIAS estimate, rather than the more recently published 2021-2025 NPIAS estimate.

projects with debt than highway project sponsors, which could suggest a larger average loan volume; however, airport-related project sponsors may have less available revenue to pledge than highway project sponsors, which could suggest a smaller average loan volume.

The details supporting these calculations are shown in Appendix III.

Since the 2015 Fixing America's Surface Transportation (FAST) Act[38] changes to the TIFIA statute, there have been expressions of interest from a handful of airports that would like to participate in the TIFIA program. However, it has been a relatively small number of airports (15 out of the approximately 3,300 NPIAS airports; see below for more detail on these expressions of interest). This relatively low level of prior interest may be for a combination of several possible reasons, including:

- Perceived limitations on whether and how airport terminals may meet TIFIA's "Transit-Oriented Development" eligibility (see further discussion below).

- Concerns about the costs of complying with Federal requirements associated with AIP grants and TIFIA loans.

- Concerns about administrative requirements and complexities of blending federal financing with traditional financing mechanisms.

However, airports (in virtually all size categories) may become more interested in the prospect of Federal credit assistance, for the following reasons:

- Many airports have already committed their PFC revenues far into the future, and therefore anything that helps reduce the total cost of borrowing may help ease financial pressures.

- Likewise, the airline industry is likely to increase pressure on airports to minimize financing costs or even to defer capital projects unless capital costs can be minimized.

The U.S. Department of Transportation's Build America Bureau has received interest from about 15 airports seeking credit assistance through the TIFIA program, and other industry stakeholders have expressed interest as well (most notably, the major associations representing both airlines and commercial services airports).

Although the original TIFIA legislation and all subsequent TIFIA reauthorizations make no explicit mention of airport projects, the FAST Act, the credit program's most recent reauthorization, expanded the statutory definition of an eligible "project" to include:

(E) a project to improve or construct public infrastructure that is located within walking distance of, and accessible to, a fixed guideway transit facility, passenger rail station, intercity bus station, or

[38] P.L. 114-94.

> intermodal facility, including a transportation, public utility, or capital project described in section 5302(3)(G)(v) of title 49, and related infrastructure[39]

This passage is often referred to as the "TIFIA T.O.D." provision (TOD) because of a widespread understanding that the statute refers to Transit-Oriented Development projects.

Airport infrastructure projects that include "public infrastructure" elements, such as terminal improvements, at airports with transit, rail, intercity bus service, or intermodal facilities on site or "within walking distance," would be eligible for TIFIA credit assistance under this provision.

It is worth noting that AIP grant funding, as discussed above, focuses on safety and capacity efforts, and is substantially less likely to help fund terminal-related projects, particularly at larger airports. Only AIP entitlement funds can be used for terminal projects at Large, Medium and Small hub airports, and even then, only when all higher-priority projects have already been funded. As a result, it is very unusual for AIP funds to be used on terminal projects at these airports. Among Primary airports, AIP discretionary funds can support terminal projects only at Nonhub airports, and even in those cases there is a statutory limit of $20 million (aggregate cost, even if spread over multiple years).

In addition to "Terminally Challenged," ACI-NA also conducted an informal, TIFIA-specific survey of some of its member airports. They received 35 responses (representing 9 percent of the 380 primary commercial service airports operating as of the survey dates (May-June 2019)). The survey findings indicate some level of demand for additional sources of accessible and lower-cost financing, though some airports might forego the opportunity if it triggers Federal requirements.

Average Subsidy Rate

To project an average subsidy rate of a pool of airport loans, this review considers the existing portfolio of airport-related TIFIA loans backed by user fees, airport revenues, or other revenue pledges. The Metropolitan Washington Airports Authority (MWAA), for instance, pledged Dulles Toll Road revenues for the repayment of their TIFIA loan for the Metrorail Silver Line Extension transit project. The Loudoun and Fairfax County loan portions of the Silver Line project were backed by county appropriations[40].

Loan subsidy rates were estimated using the TIFIA subsidy model and methodology approved for use in FY 2020. Notional loan cash flows were also assumed consistent with those used for the President's Budget for the TIFIA program, representing a typical TIFIA borrower's amortization profile. Projects are assumed to require five years to construct on average, with TIFIA loan disbursements equal to 10 percent of the loan in each of the first four years after loan closing, and 60 percent in the fifth year. The loan repayment schedule assumes a borrower defers all payments, capitalizing unpaid interest, for the five years that the project is under construction, as well as for five additional years after construction is completed. Interest-only payments occur for 10 years thereafter, with mortgage-style principal amortization on the outstanding principal balance for the final 20 years to loan maturity.

Cumulative loan default rates are based on average ratings on TIFIA loans issued prior to closing by Nationally Recognized Statistical Ratings Organizations, as required by statute, as well as default curves

[39] 23 U.S.C. § 601(a)(12)(E).
[40] https://www.transportation.gov/buildamerica/projects/dulles-corridor-metrorail-project

derived from S&P US Corporate Defaults that are incorporated into the TIFIA subsidy model. Loan recovery rates are based on Moody's data for municipal (i.e., non-project revenue) default frequencies, adjusted by the lien level of the TIFIA loan (i.e., Senior, Springing (Subordinate) Lien, Structurally Subordinate). Recovery rates for senior or springing liens are approximately 81 percent; those for subordinate liens are approximately 37 percent.

In general, until a loan is underwritten, estimates of the subsidy rate must be based on the credit rating of the proposed revenue source. The structure of loan repayment cash flows may impact this calculation significantly. So, to estimate subsidy rates, several assumptions in addition to average credit rating must be made.

The Department used this analysis to estimate the average subsidy rate for a Federal airport credit assistance program. Based on the assumptions described above, the Department estimates that the subsidy cost for an investment grade-rated (BBB- or higher) airport loan, regardless of size, would be between approximately 1 percent and 3 percent of the loan amount. This means that, for a loan of $10 million, the cost to the Federal government would typically be between $100,000 and $300,000.

In addition, if a Federal airport credit assistance program incorporated a similar subsidized interest rate for rural projects like that in the TIFIA program[41], with rural interest rates equal to one-half the prevailing Treasury rate, the subsidy cost for a BBB (slightly higher than minimally-investment grade) rated rural airport loan would be approximately 30 percent to 40 percent. The subsidized interest rate contributes to the higher subsidy cost for these loans.

Because airports have demonstrated that their revenue streams for GARBs are stable over time, estimated subsidy rates for airports are low relative to TIFIA projects in other modes of transportation.[42] Historically, GARBs score among the lowest default rates in the tax-exempt municipal market. Since at least 1983, no airport has defaulted on a GARB.[43]

The value inherent in such low subsidy rates lies in the multiplier effect of how many airport infrastructure project dollars that every dollar of subsidy can support. The Department currently estimates that $1 of TIFIA program funds can support a TIFIA airport loan of $35 to $40, on average. Multiple scenarios were run based on a range of assumptions about participation rates by the various airport hub sizes, which then went into calculating the weighted average subsidy range. As an illustrative example, a loan credit subsidy cost of 2.5 percent would equal $40 in loan value per $1 in subsidy costs. A credit subsidy appropriation of $10 million could support up to $400 million in Federal airport-related project loans.

[41] It is important to note that the concept of "rural" may not be easily applicable to airport projects, particularly if eligibility depends upon the TIFIA requirement that the public infrastructure be within walking distance of a rail, transit or intercity bus station.
[42] This assumes that a TIFIA loan would be backed by the full revenues of the airport, comparable to a traditional GARB.
[43] See footnote #12 on page 2.

Findings: Federal Airport Credit Program Options

The following section identifies several options the U.S. Congress could take regarding airport financing. The implementation of each option is entirely feasible, though each has its advantages and disadvantages. It is not in the scope of this review to recommend an action.

Several options either expand an existing credit program or create an entirely new one. If any of these options are to be pursued, it is important to note that a pilot program could be created first. This pilot program could gauge demand and identify areas to further develop before implementing any option permanently.

Option 1: Take no action[44]

As with any opportunity for intervention, one option is to choose non-intervention. This option introduces no new costs, no new externalities, and no new benefits.

As established above, traditional commercial financing (whether municipal bonds, commercial bank financing or interim loans) is available to airports, and airports have access to tax-exempt municipal bonds.

As noted above, the TIFIA program's expanded authority for "public infrastructure projects" under the 2015 FAST Act could include certain airport projects. However, because the provision depends upon the project being proximate to certain types of transportation facilities, such as rail or intercity bus, this generally favors the larger airports and generally excludes smaller airports (which might otherwise be more likely to pursue Federal credit assistance).

Option 2: Modify TIFIA eligibility to specifically exclude airport projects[45]

If Congress determines airport projects are inconsistent with the intent of the "public infrastructure" project eligibility, or the TIFIA program more generally, it could enact language to stipulate that airport projects are not TIFIA-eligible.

If Congress wants to exclude airport projects from TIFIA eligibility, section 601(a)(12)(E) of title 23, United States Code, could be amended to expressly exclude airport projects. This option adds no new Government costs, ensures airport projects' credit risk costs are not borne by taxpayers, and would be easily implemented. The Bureau has no full-time equivalents (FTEs) devoted to airport loans, so there would be little administrative cost-savings to the Government. However, this option would remove a benefit that some stakeholders have interpreted in the statute as being available to airport projects.

Option 3: Expand current TIFIA eligibility to explicitly include airport-related projects

[44] Under this option, DOT would continue to administer the existing, limited TIFIA "Transit-Oriented Development" authority under which some airport-related projects could be eligible.
[45] By amending 23 U.S.C. § 601(a)(12)(E).

Congress could expand eligibility for airport-related projects within the existing TIFIA program administered by the Bureau. This option would explicitly provide a Federal benefit for airport-related projects that is available for surface transportation projects. The TIFIA program has unobligated credit subsidy balances that Congress could make available for airport-related projects. However, those balances were provided from the Highway Trust Fund, as described in more detail below.

An expansion of the TIFIA program to include airport-related projects could be implemented easily with appropriate changes to the Bureau's Credit Programs Guide, other Bureau guidance, marketing materials, and associated staff training. Two personnel would need to be trained to support the Bureau to handle loans to these additional borrowers.

This option would transfer a portion of airport-related project credit risk costs to Federal taxpayers. In addition, note that funding for TIFIA is authorized by Congress from the Highway Trust Fund, which is primarily funded through Federal taxes on gasoline and diesel fuel. Consequently, surface transportation advocates have expressed concern over expanding the use of TIFIA beyond surface transportation projects.

Other statutory eligibility requirements would also need to be clear. For example, TIFIA highway and transit projects must meet requirements under Title 23 and Title 49, respectively, and their associated grant-in-aid programs.[46] Some stakeholders have raised questions about the applicability of Federal requirements (*e.g.*, procurement requirements related to domestic manufacturing and disadvantaged business enterprises and labor requirements to pay prevailing wage rates, etc.) for airport-related projects where TIFIA financing would be the only Federal trigger. However, the Bureau has historically relied upon the statutory requirements associated with the primary grant program for each transportation mode. To the extent section 601(a)(12) of title 23 is amended to include airport-related projects as defined in section 40117(a) of title 49, Congress should also consider amending section 602 of title 23 to clarify which Federal requirements would be applicable to such projects. By way of an example, the requirements applicable to AIP grants include the socioeconomic Federal requirements common among Federal-aid and grant programs discussed above,[47] whereas the requirements applicable to non-Federal funding do not include most of these requirements.

Currently, TIFIA projects must be included in their state's Transportation Improvement Program (STIP) and metropolitan Transportation Improvement Program (TIP).[48] This ensures that a project seeking Federal credit assistance has been thoroughly vetted by appropriate non-Federal decision-makers and other interested stakeholders. Because airports are not included in state and local DOT disbursements of Federal-aid highway funds or formula transit funds, a STIP or TIP typically does not include airports. Any extension of TIFIA to airports would need to address this discrepancy. The FAA strongly encourages airports to maintain master plans, and requires that such plans be coordinated with other local transportation stakeholders. The FAA also solicits input from airports regarding their capital improvement plans, particularly for projects for which the airport may seek AIP funding. However, this is not a mandatory process and does not necessarily result in comprehensive information being made available to

[46] *See* 23 U.S.C. § 602(c)(1).
[47] *See* chapter 471 of title 49, United States Code, and related regulations and guidance, including the FAA's AIP grant assurances (available at https://www.faa.gov/airports/aip/grant_assurances/).
[48] 23 U.S.C. 602(a)(3).

the public. Congress would need to consider whether this is sufficient in comparison to the STIP and TIP inclusion requirement for surface transportation projects.

The administrative costs and associated personnel changes of this option would be minimal. To properly support airport borrowers, the Bureau would need a dedicated project development lead for airports and an additional underwriter. The estimated additional administrative costs would be between $300,000 and $500,000 annually.

Option 4: Expand RRIF eligibility to include airport-related projects

An expansion of RRIF program eligibility to include airport-related projects would be implemented similarly to an expansion of TIFIA program eligibility and is mutually inclusive with Option 3. It would require the same changes to the Bureau's Credit Program Guide, guidance documents, marketing materials, and internal staff training. And it would also require two additional staff members. This would go a long way toward achieving the same benefits for airports that RRIF brings to railroad projects.

If Congress were to appropriate credit subsidy budget authority to the RRIF program for airport-related projects, then Federal taxpayers would assume greater credit risk of loans for those projects.[49] If Congress were to not appropriate credit subsidy budget authority for airport-related projects under the RRIF program, the benefit to airports would fall somewhat short of those generated by Option 3 (expanding TIFIA). Even though an RRIF extension would achieve its benefits without using any appropriated budget authority (unlike an expansion of TIFIA in Option 3 above, which would use appropriated TIFIA credit subsidy), it would do so by keeping the expected credit risk costs with airport borrowers and non-Federal lenders.

The credit risk premium paid by RRIF borrowers would likely remain low for larger U.S. airports, because they are typically highly rated and would generate low credit risk premiums. For smaller airports with lower rated projects, the credit risk premium would be a disincentive, possibly prohibiting the airports that most need Federal credit assistance from leveraging that assistance.

The administrative costs and personnel changes would again be minimal: a dedicated project development lead and an additional underwriter. Estimated additional administrative costs would be between $300,000 and $500,000 annually.

If this option is implemented, it would be beneficial to clarify the applicable Federal requirements for airport-related projects as defined in section 40117(a) of title 49 (as noted above in Option 3).

Option 5: Create a new airport credit assistance program modeled after TIFIA

A new airport credit program modeled on TIFIA could support roughly $120 of airport infrastructure investment for every dollar of credit subsidy appropriated. If situated within the Bureau, the startup and operating costs would be minimized. The full range of benefits achieved by flexible and customizable

[49] Even if no credit subsidy budget authority were appropriated and airport borrowers were required to pay the credit risk premium for their loans, Federal taxpayers would still assume credit risk of loans for these projects. The credit risk premium represents the Government's expected credit risk; losses could exceed expected credit risk.

TIFIA loans would be facilitated, and municipal bond and commercial loan markets would be minimally displaced.[50]

The subsidy cost of a Federal airport credit program modeled on TIFIA would depend on Congress's airport financing goals. As an illustrative example, a $10 million credit subsidy appropriation could support $400 million in loan financings for airport-related projects. If the Federal loan could be no larger than 33 percent of project costs, such a program could contribute to $1.2 billion in annual airport infrastructure investment.

Congress could fund appropriations for this new program from the General Fund, instead of appropriating from the Highway Trust Fund, which is the funding source for the TIFIA program. While the Airport and Airway Trust Fund is currently the primary source of funding for airport grants (as well as other critical programs), the reduced revenues flowing into the AATF resulting from Coronavirus Disease 2019 (COVID-19) impacts make it an unsuitable choice for a new program of this nature.[51]

Like TIFIA, such a program might operate under a statutory limit of providing loan proceeds that constitute no more than 49 percent of eligible project costs. A limit on the percentage of a project's cost that the program can finance, coupled with a limit on the amount of total Federal financial assistance that can support a project, would ensure that projects are funded with some amount of non-Federal sources.

Furthermore, one practical effect of a Federal credit program for airport-related projects would be to enhance the credibility of certain projects. Federal participation could have the effect of providing a project with the imprimatur of the U.S. Government and thus enhancing perceived creditworthiness for projects that might otherwise be viewed as higher-risk. This could improve a project's standing in municipal bond markets and lead to more favorable terms.

As with TIFIA, any new program could require some minimum percentage of non-Federal contribution to eligible project costs. This ensures that project sponsors or some other state or local entity has a significant enough investment in a project to incur real consequences should a project fail[52], thereby increasing the sponsor's incentive for project success.

A program designed specifically for US airports could include parameters aligning with existing airport capital improvement planning processes well established and understood by NPIAS airports. In lieu of the STIP requirement, a Federal airport financing program could require that projects seeking Federal credit assistance be included on an approved Airport Layout Plan or on the airport's Capital Improvement Plan.

Airports and airlines have expressed concern about the Federal requirements applicable to the TIFIA program as currently authorized. For consistency, the Bureau has required adherence to the grant

[50] See, for example, "The TIFIA federal credit program is today a crucial financing tool for large capital projects. It has been the 'make or break' source of financing for virtually every P3 project successfully brought to market since its authorization." Fred Kessler, Nossaman LLC, 2011.

[51] For many years, the AATF funded nearly all of the FAA's Operations account; the Facilities & Equipment budget; the AIP grant program; and the Research, Engineering & Development account. With the COVID-19 impacts to both aviation activity levels and the temporary suspension of tax revenues flowing into the AATF, it will clearly be some time (likely measured in years) before the AATF could support any new programs.

[52] For example, if a new facility such as a passenger terminal were unable to generate sufficient revenues to cover the capital and operating costs.

requirements applicable to the mode of transportation's respective Operating Administration. Thus, for airports, the FAA's AIP has been the source referenced when discussing the Federal requirements applicable for TIFIA loans to airports. Stakeholders argue that this administrative consistency is inappropriately applied to a project loan when an airport is not also applying AIP grant funds toward the same project. These stakeholders, particularly larger airports (and the airlines serving them) rely far more heavily on non-Federal funds than AIP for major terminal and landside projects. In fact, AIP provides only about 15 percent of all capital funding for the 61 Large and Medium hub airports.

Most public-use airports already accept AIP funding for other types of projects, and are therefore already required to comply with the associated assurances (some of which are project-specific, and some of which affect broader aspects of airport operations and finance).

Option 6: Create a new airport credit assistance program modeled after RRIF

Modeling a new program on RRIF –whether established within the Bureau, FAA, another existing program office, or an entirely new program office— would incur many of the same startup and operational costs and achieve many of the same benefits to airports and their stakeholders as Option 5. As with the differences between Options 3 and 4 above, two primary differences between a new TIFIA-modeled airport credit assistance program and a new RRIF-modeled program are the absence of any budget authority to pay for credit subsidy costs, and the transfer of the costs associated with the expected credit risk from the program to the borrower.

Because an RRIF-modeled program requires borrowers to pay a credit risk premium (or supply the equivalent amount in appraised collateral, an option that airports—like other public entities—cannot implement), such a program would require no authorization or appropriation of funds to pay for credit subsidy costs.

For larger airports with stronger credit profiles, greater reserves, and ample revenue streams, the premium is less burdensome than for smaller airports. For larger airports, then, the credit risk premium is less of a disincentive. Still, the credit risk estimates, on page **Error! Bookmark not defined.**, demonstrate that, even for Small and Nonhub airports, the premium is likely to be small.

Creating an RRIF-modeled program would require Congress to face the same choices enumerated above regarding the Federal requirements that would be applicable to such loans, capping a loan at a designated percent of eligible project costs, and establishing a minimum percentage of non-Federal contribution to a project's eligible costs.

Option 7: Create a new airport credit assistance program modeled on both RRIF and TIFIA

A hybrid option for a new Federal airport credit assistance program might borrow from both RRIF and TIFIA to achieve more benefits than Option 6 at lower costs than Option 5.

This hybrid would adopt the credit risk premium requirement of the RRIF program for larger airports. For borrowers with less robust credit profiles, but nonetheless investment-grade credit ratings, the hybrid program could replace the credit risk premium with a credit subsidy. More qualified borrowers would still benefit from flexible, customizable credit instruments. Smaller borrowers would benefit further from

subsidized risk. Although complicated, such a hybrid program could even implement a sliding scale whereby some combination of credit risk premium and credit subsidy is available based on a borrower's credit profile.

The credit subsidy cost of this option could be significantly less than that of Option 5. Opening the benefit of subsidized credit to some (but not all) borrowers would increase the benefits offered by Option 6. Administrative costs would be increased marginally, due to the extra layer of complexity introduced by the hybrid approach.

One variation of this option might be to establish an RRIF-modeled Federal airport credit assistance program that incorporates a small TIFIA-modeled pilot program for smaller borrowers. This would require only a small credit subsidy authorization and appropriation. For example, a pilot program with $25 million in credit subsidy could support $1 billion in loans, which in turn could finance $3 billion in Small and Nonhub airport investment. As capital projects at these airports are generally less costly than those at larger airports, this small pilot project could provide credit assistance to more than 30 airports for every $25 million allocated.

Budgetary Impacts

Each of the seven options above has different Federal budgetary impacts. Option 1 has no impact on the Budget. Option 2 could reduce use of TIFIA credit subsidy, and ensure no Federal revenue losses from any defaults involving airport projects. Options 3 and 4 would require no additional budgetary resources for credit subsidy. Option 5 would have a budgetary cost for credit subsidy . Option 6 would require no budgetary resources for credit subsidy. Likewise, Option 7 would have budgetary costs for credit subsidy for smaller airports, while larger airports would be required to pay credit risk premiums. Options 5 through 7 could be implemented with minimal budgetary costs for administration if such a program were situated in the Bureau.

Exercising any option that requires a new program office rather than leveraging the existing staff and resources in the Build America Bureau will generate additional costs, and would require significantly more time to establish service delivery. Congress could also consider offsetting administrative costs by allowing the program to collect user fees to cover all or a portion of its administrative costs.[53]

Situating a new airport-specific credit program in the Build America Bureau would leverage the Bureau's existing program infrastructure; its experience administering RRIF and TIFIA; and its personnel's familiarity with loan financing, underwriting, portfolio management, and transportation project development. Scaling the Bureau to begin administering a new program offers the most efficient and expedient avenue to deliver a new program into service. The Bureau would consult extensively with the FAA in order to leverage their expertise in airport development. The initial additional personnel needed would be equivalent to those needed in Options 2 and 3 above. Once operational and growing, the program could draw on existing employees otherwise assigned within the Bureau, or add FTEs as required. The Bureau already has both the office infrastructure and the administrative staff to manage the requirements of a new program.[54]

[53] Please also see page 28 for discussion of the Airport and Airway Trust Fund.
[54] Depending upon the level of project implementation oversight that may be required, it is possible that additional resources may be necessary. Neither the Bureau nor the FAA have surplus resources available to provide such oversight.

An entirely new office performing this function could require as many as 10 to 15 new FTEs (e.g. program management, transportation planning, financial analysis, portfolio management, legal, administrative support, etc.) in addition to the project development and underwriting support cited for previous options.

Loss of Federal Revenue

Due to a lack of directly relevant data, this review is unable to definitively estimate the amount of Federal revenue that would be lost from establishing a Federal credit program for airports. However, while the default rates for the TIFIA and RRIF programs are relatively low, there have been some defaults in both programs.

The statutory requirements for TIFIA loans, such as limiting TIFIA loan size to 49 percent of project costs, requiring senior debt to obtain an investment-grade rating, ensuring that, in most cases, TIFIA debt is treated equally with senior debt upon the occurrence of a bankruptcy related event, and requiring a dedicated revenue stream for TIFIA loan repayment, serve to limit taxpayer exposure and ensured adequate portfolio performance. Out of 80 active loans, 77 are performing normally, and three are performing below expectations.[55] Performance is based on the project's ability to meet construction timelines and generate cash flows necessary to service TIFIA debt and pay other obligations as needed.

Historically, TIFIA has had three loans out of 89 default. The Bureau has recovered 100 percent on one, 33 percent on another, and the recovery on the final one is still being resolved. RRIF has had two loans out of 39 default. The final recovery of those loans is still being resolved.

Naturally, past performance is not a guarantee of future results, but given the extremely low historical occurrence of airport-related defaults, compared with some other types of projects, we expect that the amount of Federal revenue loss from providing Federal credit assistance to airport-related projects would be very small relative to expected loan volume. That said, during the COVID public health emergency and uncertain aviation industry conditions, it is likely that some parts of the airport sector will see downgrades. The Bureau would work closely with the FAA to develop the necessary provisions to protect the Federal interest in the unlikely event of a default, including clear provisions regarding recovery of funds and disposition of assets (to minimize Federal costs and risk exposure).

Impact on Existing Programs

We have considered potential impacts on existing programs, and concluded that they are unlikely in the current environment—on the contrary, a credit assistance program would benefit the existing programs by helping airports finance unmet capital needs. It is possible for demand to get to a point at which Federal loans become competitive, similar to grant programs. If this of concern, then Congress could put limitations in place to mitigate any unwanted impacts, or DOT could establish evaluation criteria.

Airports will certainly continue to seek grant funds wherever possible, but most airport operators recognize that AIP grant funds will never be sufficient to support the full scope of their overall capital needs. The highest priority for AIP grants is typically for airside projects such as runways, taxiways, drainage improvements, and other supporting infrastructure.

[55] As of September 30, 2020.

PFC funding is more flexible than AIP funds (particularly because airports can often issue bonds backed by future PFC revenues), but this program has limitations as well—most notably the fact that so many airports have already committed future PFC revenues for 5, 10, 15, 20 years and even further into the future.[56]

An airport credit assistance program would not impact these programs. Rather, it would simply offer another mechanism in the portfolio of debt financing for airports to consider.

Conclusion

Airport project sponsors have indicated that they would pursue Federal credit assistance for capital projects if explicitly available. They are already pursuing TIFIA loans for airport projects even though the TIFIA statute does not expressly mention airport improvements as eligible projects. There is a high degree of interest from both airlines and airports because anything that reduces the cost of capital will help enhance the finances of the aviation industry.

In addition to the lower rates offered by Federal loans, the flexibility of those credit instruments supports greater investment by lowering the non-interest-rate-related cost of borrowing. Access to better credit terms, even for a loan that covers no more than 33 percent of a project's eligible costs, means that borrowers can deliver more infrastructure improvements earlier, which helps avoid the construction cost escalation associated with project deferment. Lower capital and financing costs offers benefits to stakeholders who rely upon airport infrastructure.

Existing municipal bond market stakeholder support for the existing RRIF and TIFIA programs suggests that the commercial underwriting community would not be concerned about a Federal airport credit assistance program. In fact, there may be growing recognition that some airport projects might not proceed at all unless they can reduce their overall cost of capital by including lower-cost, flexible Federal credit assistance (in combination with more traditional borrowing).

Federal credit assistance is not without associated costs. Some of these costs are administrative and will vary depending on (1) whether a new program would be created or an existing program expanded and (2) whether such a program would be administered by an existing office or a new office. However, there are significant leveraging benefits resulting from those costs.

Any TIFIA-like program would require appropriations for credit subsidy costs. However, because of the low subsidy rates that airports would be assigned, each airport credit subsidy dollar could support $35 to $40 in loan proceeds, which then would support $120 in capital investments.

As outlined in this report, Congress has at least seven options regarding Federal airport credit assistance to achieve a range of policy goals.[57] If Congress wants to explore alternatives, then Options 3 through 7

[56] Due to the massive decrease in demand (more than 90 percent in most locations) resulting from the COVID-19 public health emergency, virtually all airports have seen corresponding reductions in their PFC revenues as well. Depending upon the length of the recovery, this will further extend the period of time necessary for airports to collect amounts already approved.

[57] As noted on page 4, Congress would need to consider the scope of airports that could be eligible for credit assistance under any of these options. The language requiring this report referred only to the project eligibility provisions in Section 40117(a)

could be tested and evaluated through a pilot program, which could also help inform the design and implementation of a full, long-term program.

Prior to any decision, further analyses may be warranted on feasibility and whether any option is net beneficial. This report did not involve such detailed analyses and, therefore, does not make a recommendation on a preferred option. The Department is prepared to support further efforts and provide any technical assistance requested by Congress.

of Title 49. Such projects are often needed even at airports that do not qualify for a PFC program. Therefore, Congress may want to consider the scope of airports to include in any credit assistance program.

APPENDIX I: FAA NPIAS vs. ACI-NA "Terminally Challenged"

The ACI-NA estimate of $128.1 billion is greater than the FAA NPIAS estimate of $35.1 billion for several reasons:

- FAA gathered data from 3,321 existing and 7 proposed airports. ACI-NA's data is composed of survey responses from 86 of the 133 Large, Medium, Small hubs and combines it with NPIAS estimates.
- FAA's staff identify and validate needs in accordance with guidance.
- ACI-NA's estimate includes all future projects, while the FAA estimate includes only future AIP-eligible projects. Thus, the ACI-NA estimate captures projects not included in the NPIAS report, such as:
    - Development eligible under the PFC program but ineligible under the AIP grant program, such as terminal areas related to the movement of passengers and their baggage, but leased by airlines (hold rooms, baggage claim, baggage makeup, etc.);
    - AIP-ineligible projects, including parking facilities, hangars, cargo buildings, the revenue producing portions of passenger terminals, and certain improvements to highway and transit airport access systems;
    - AIP-eligible projects that airports did not report to the FAA because the airport believes there is a low probability of obtaining additional AIP discretionary grants; and
    - Airport-funded air traffic control facilities and airport or TSA-funded security projects such as the in-line checked baggage screening system;
- FAA's estimate includes only those projects that do not yet have an identified funding source, whereas the ACI-NA estimate includes all projects, whether or not they have an identified funding source. This means that ACI-NA's figures include projects with approved PFC collections, which are not included in the NPIAS report;
- ACI-NA's estimate uses more recent data than that used by the FAA. NPIAS gathered their data in December 2017 via meetings with sponsors, planning documents, site inspections, etc. ACI-NA distributed their survey in Q4 of 2018;
- ACI-NA's estimate is adjusted for inflation, while the FAA's estimate is not;
- ACI-NA's estimate includes contingency costs (the common practice of provisioning for increases in costs based on changes in design or construction uncertainty) while the FAA's estimate does not.

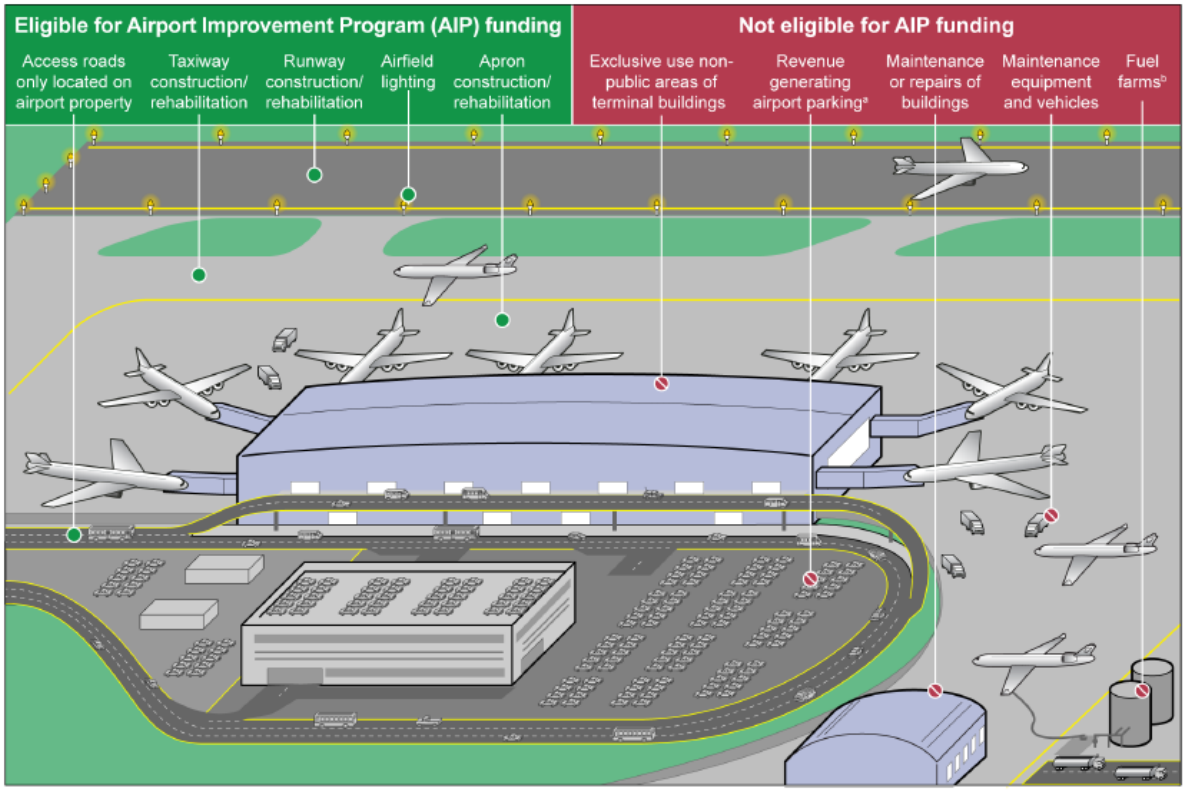
For example, the cost for projects at Large hub airports in the NPIAS totals $8.3 billion while the ACI-NA estimate totals $81.1 billion. Within this category, the NPIAS totals $1.4 billion for terminal building type projects while the ACI-NA estimate totals $37.4 billion. The difference in this case is because the NPIAS generally does not include gates and related areas, or the revenue generating portions of terminals such as development of facilities for non-aeronautical revenue. Additionally, even though FAA estimates that about 50 to 60 percent of the overall costs of terminal projects are eligible for AIP grants, airports do not typically report terminal projects to FAA due to the low probability of getting federal grants for such projects. [58]

[58] "Terminally Challenged: Addressing the Infrastructure Funding Shortfall of America's Airports." ACI-NA. 2019.

	FAA Report	ACI Survey
Total 2019-2023 Development	$35.1 billion[59]	$128 billion
Number of Airports	3,321 existing & 7 proposed airports	86 of 133 Large, Medium, Small hubs and NPIAS estimates for rest
Methodology	FAA Staff identify and validate needs in accordance with guidance	Airports estimate their infrastructure with ACI assistance
AIP-eligible and Ineligible Projects	No - only AIP-eligible	Yes - all projects
• PFC-eligible projects, not eligible under AIP (baggage claim, hold rooms, etc.)	No	Yes
• Airport funded ATCT or TSA security projects	No	Yes
Includes Funded Projects	No	Yes
Data Source (10 months difference)	December 2017–needs collected via meeting with sponsors, planning documents, site inspections, etc.	Winter 2018–survey distributed to members
Adjusted for Inflation	No	Yes
Contingency Costs Included	No	Yes

[59] See footnote #22 on page 10 for additional information.

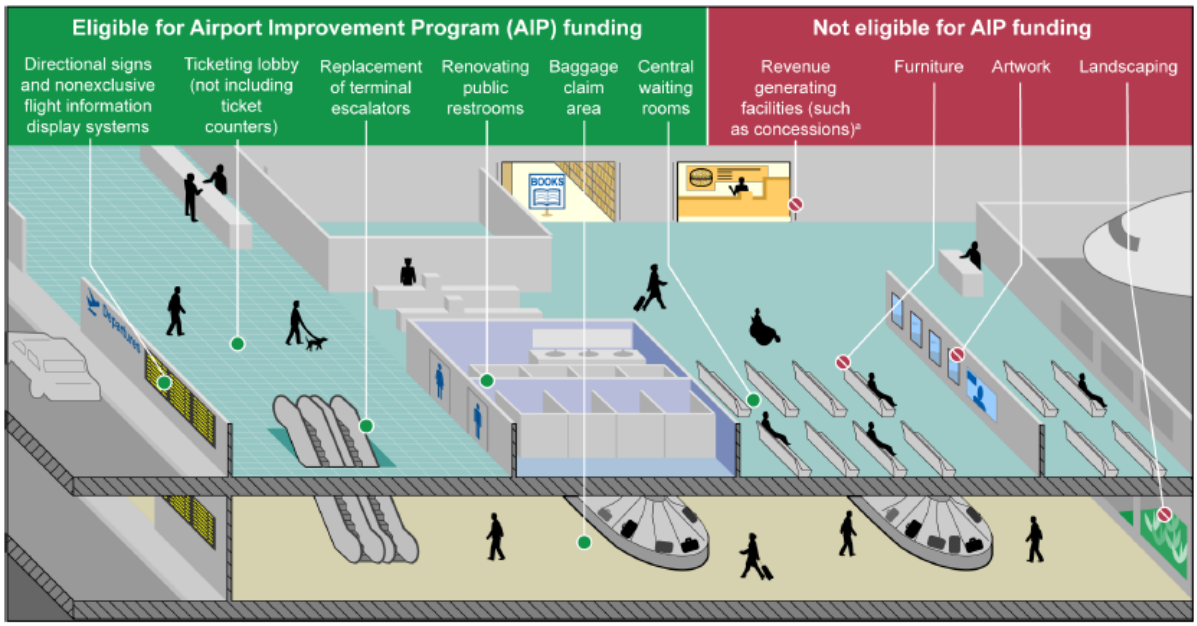
APPENDIX II: Examples of Projects Eligible and Not Eligible for AIP Funding



Source: GAO presentation of Federal Aviation Administration (FAA) information. | GAO-20-298

[a]Airport parking is eligible for nonrevenue parking lots at non-hub primary and non-primary airports.

[b]Fuel farms may be conditionally eligible at non-primary airports.



Source: GAO presentation of Federal Aviation Administration (FAA) information. | GAO-20-298

[a]Revenue-producing areas are ineligible at large, medium, or small hub airports. However, these projects may be eligible at all other commercial service airports that are public use per 49 USC § 47119(a)(1) and where a sponsor has certified that any needed airport development project affecting safety, security, or capacity will not be deferred due to the revenue-producing project.

APPENDIX III: Estimated Annual Average Loan Volumes

Historical TIFIA highway participation

Historical TIFIA funding as percentage of Federally-funded highway projects →|← see note below*

Figures in $ billions

	2008	2009	2010	2011	2012	2013	2014	2017	2018	Totals
TIFIA loan amounts	$1.019	$1.506	$1.841	$0.472	$0.572	$1.651	$5.098	$1.779	$1.870	**$15.808**
Total project costs**	$51.794	$70.541	$62.033	$57.752	$59.030	$64.085	$57.559	$42.206	$67.111	**$532.112**
TIFIA as % of total	**2.0%**	**2.1%**	**3.0%**	**0.8%**	**1.0%**	**2.6%**	**8.9%**	**4.2%**	**2.8%**	**3.0%**

* Comparable data not available for 2015-2016

** For Federally funded highway projects from FHWA Highway Statistic Series

Using historical TIFIA percentage to calculate estimated average annual loan volumes for airports

Calculating estimated annual loan volume for airport projects

Figures in $ billions

Data source	Five-year estimated need	Average annual need	Minus base AIP funding	AIP Supplemental Discretionary	Residual annual need	Assumed % of project costs	Estimated loan volume
NPIAS*	$35.1	$7.0	$3.2	$0.0	$3.8	3.0%	$0.115
ACI	$128.0	$25.6	$3.2	$0.0	$22.4	3.0%	$0.672

* Reflects the FY 2019-2023 NPIAS Report. See footnote #17 on page 12 for further information. Based on the more recent FY 2021-2025 figure of $43.6 billion, the lower end of the range of annual average loan volume would be closer to $166 million. However, this table continues to reflect the $35.1 billion figure for consistency, because the ACI estimate relies upon the NPIAS estimate for smaller categories of airports.

APPENDIX IV: ACI-NA TIFIA Survey

Survey Data Findings:

Between May and June 2019, Airports Council International distributed a survey (at its own initiative) to members through their Airport Finance Committee, with 35 airports responding to the survey. The following summarizes the survey results:

- Hub size breakdown –
  Nonhub: 6 airports
  Small hub: 9 airports
  Medium hub: 12 airports
  Large hub: 8 airports

- Breakdown of how many have airside/landside/terminal projects – where is the capital need?
  Airside: 34 airports
  Landside: 30 airports
  Terminal: 28 airports

- Total extent of capital spend over 5-year period 2020-2025 and distribution among hub airport classes for airports indicating a funding gap
  Nonhub: 5 airports, 83 percent of respondent Nonhubs, planned spend of $0.29 billion
  Small: 7 airports, 78 percent of respondent Small hubs, planned spend of $1.85 billion
  Medium: 7 airports, 58 percent of respondent Medium hubs, planned spend of $5.12 billion
  Large: 1 airport, 12 percent of respondent Large hubs, planned spend of $2.83 billion

- What percent of airports indicated that their capital programs are funded versus percent indicating a gap in funding?
  57 percent of the respondents indicated an anticipated funding gap
  Net planned spend for the 20 airports (of 35 respondents) is $10.1 billion.
  Extrapolating from our 35 respondents to the 533 commercial airports (sample rate of 6.7 percent), 298 airports with a planned 5-yr spend of approximately $150 billion are challenged by a funding/financing gap.

  Among respondents, the key factor in determining their potential interest in TIFIA as a financing tool would be the interest rate (77 percent indicated the interest rate was a very likely determinant, 23 percent indicated it was a likely determinant).

  Among Nonhub and Small hub respondents, the greatest resistance to TIFIA was generated by the potential DBE requirements.

Among Medium and Large hub airports, the greatest resistance to TIFIA came from the potential Buy American requirements.

Factors influencing financing approach – how important is:

- Interest rate –
  Among respondents, 77 percent indicated that interest rate was very important, 23 percent indicated important, 0 percent said not important, and 0 percent said neither important nor very important.

- Length of loan –
  Among respondents, 40 percent indicated that length of loan was very important, 54 percent indicated important, 0 percent said not important, and 6 percent said neither important nor very important.

- Flexible repayment terms –
  Among respondents, 40 percent indicated that flexible terms were very important, 49 percent indicated important, 0 percent said not important, and 11 percent said neither important nor very important.

- Application processing time
  Among respondents, 31 percent indicated that application processing time was very important, 49 percent indicated important, 3 percent said not important, and 17 percent said neither important nor very important.

- Oversight, including reporting requirements
  Among respondents, 37 percent indicated that the oversight burden was very important, 49 percent indicated important, 3 percent said not important, and 11 percent said neither important nor very important.

- The features of the current TIFIA program were described to survey participants (including loan sizing based on 33 percent of eligible project costs for nonrural and 49 percent for rural, interest rate based on US Treasury rates, flexible terms and no-prepayment penalty) and respondents were asked how likely would they be to pursue credit assistance like TIFIA if they had to comply with Buy American, Davis Bacon prevailing wage requirements, and Disadvantaged Business Enterprise requirements.

  - Buy American -
    34 percent of respondents were very likely, 40 percent likely, 9 percent unlikely, and 17 percent neither likely nor unlikely

Of the Nonhub and Small hub airports, 36 percent indicated they were very likely, 50 percent likely, 0 percent unlikely, and 14 percent neither likely nor unlikely.

Of the Medium hub and Large hub airports, 33 percent indicated they were very likely, 34 likely, 14 unlikely, and 19 neither likely nor unlikely.

- Davis Bacon prevailing wage requirements
  43 percent of respondents were very likely, 31 percent likely, 6 percent unlikely, and 20 percent neither likely nor unlikely

  Of the Nonhub and Small hub airports, 43 percent indicated they were very likely, 36 likely, 7 unlikely, and 14 neither likely nor unlikely.

  Of the Medium hub and Large hub airports, 43 percent indicated they were very likely, 28 likely, 5 unlikely, and 24 neither likely nor unlikely.

- DBE requirements
  34 percent of respondents were very likely, 40 percent likely, 6 percent unlikely, and 20 percent neither likely nor unlikely.

  Of the Nonhub and Small hub airports, 29 percent indicated they were very likely, 36 likely, 14 unlikely, and 21 neither likely nor unlikely.

  Of the Medium hub and Large hub airports, 38 percent indicated they were very likely, 43 likely, 0 unlikely, and 19 neither likely nor unlikely.

APPENDIX V: Statutory text from 49 U.S.C. § 40117(a)

The following excerpted text highlights "airport-related projects as defined in section 40117(a) of title 49, United States Code":

(A) A project for airport development or airport planning under subchapter I of chapter 471.

(B) A project for terminal development described in section 47119(a).

(C) A project for costs of terminal development referred to in subparagraph (B) incurred after August 1, 1986, at an airport that did not have more than .25 percent of the total annual passenger boardings in the United States in the most recent calendar year for which data is available, and at which total passenger boardings declined by at least 16 percent between calendar year 1989 and calendar year 1997.

(D) A project for airport noise capability planning under section 47505.

(E) A project to carry out noise compatibility measures eligible for assistance under section 47504, whether or not a program for those measures has been approved under section 47504.

(F) A project for constructing gates and related areas at which passengers board or exit aircraft. In the case of a project required to enable additional air service by an air carrier with less than 50 percent of the annual passenger boardings at an airport, the project for constructing gates and related areas may include structural foundations and floor systems, exterior building walls and load-bearing interior columns or walls, windows, door and roof systems, building utilities (including heating, air conditioning, ventilation, plumbing, and electrical service), and aircraft fueling facilities adjacent to the gate.

(G) A project for converting vehicles and ground support equipment used at a commercial service airport to low-emission technology (as defined in section 47102) or to use cleaner burning conventional fuels, retrofitting of any such vehicles or equipment that are powered by a diesel or gasoline engine with emission control technologies certified or verified by the Environmental Protection Agency (EPA) to reduce emissions, or acquiring for use at a commercial service airport vehicles and ground support equipment that include low-emission technology or use cleaner burning fuels if the airport is located in an air quality nonattainment area (as defined in section 171(2) of the Clean Air Act (42 U.S.C. 7501(2))) or a maintenance area referred to in section 175A of such Act (42 U.S.C. 7505a) and if such project will result in an airport receiving appropriate emission credits as described in section 47139.