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Accessible Version
December 20, 2018
The Honorable Bill Shuster
Chairman
Committee on Transportation and Infrastructure
House of Representatives
The Honorable Frank A. LoBiondo
Chairman
Subcommittee on Aviation
Committee on Transportation and Infrastructure
House of Representatives

Airport Funding: Alternative Methods for Collecting Airports’ Passenger Facility Charges and Implementation Factors to Consider

Since 1992, Passenger Facility Charges (PFC) have been collected from airline passengers, as part of the airline ticket purchase, to help commercial service airports pay for capital development projects such as construction or improvement of runways, terminals, and roadways, among other things.¹ The Federal Aviation Administration (FAA) of the Department of Transportation (DOT) is responsible for approving airports’ requests to impose PFCs and the respective infrastructure projects to be funded by such fees. By law, PFCs cannot currently exceed \$4.50 per flight segment and must be collected as part of the airline ticket purchase—typically, along with other taxes and fees.² Airlines must remit the PFCs to the appropriate airport recipients on a monthly basis.³

In 2013 and 2014, we reported on alternatives to the current method of collecting PFCs as part of the airline ticket purchase.⁴ We identified three basic alternative methods—kiosk or counter, Internet or online payment, or emerging technologies—noting that these alternatives were not mutually exclusive. We also reported on examples of passenger fees collected by non-U.S. airports that are not included in ticket prices and factors to consider in any proposal to change the ticket-based collection method currently used in the United States.⁵

¹PFCs are to be used to (1) preserve or enhance airports’ safety, security, or capacity; (2) reduce noise generated by airport activities; or (3) enhance airline competition. Other countries may also require passengers to pay fees for airport improvement and other purposes.

²There is a maximum of two PFC charges on a one-way trip or four PFC charges on a round trip, for a maximum of \$18 total. Congress has not increased the \$4.50 cap since 2000. Most commercial service U.S. airports collect the maximum level of PFCs. 49 U.S.C. § 40117. In 2017 about \$3.3 billion in PFCs were collected.

³Airlines retain 11 cents from each PFC collected in order to cover administrative expenses. 14 C.F.R. § 158.53(a)(1). Airlines are also permitted to keep the interest accumulated on the fees between the time they are collected and remitted. 14 C.F.R. § 158.53(a)(2). Airlines that annually collect at least 50,000 PFCs are required to have annual independent audits of their PFC collections, and airports can request and receive the audit results. 14 C.F.R. § 158.69(b), (c). According to FAA, \$53.4 billion in PFCs were collected from 1992 through 2017.

⁴GAO, *Alternative Methods for Collecting Airport Passenger Facility Charges*, [GAO-13-262R](#) (Washington, D.C.: Feb. 14, 2013) and GAO, *Commercial Aviation: Raising Passenger Facility Charges Would Increase Airport Funding, but Other Effects Less Certain*, [GAO-15-107](#) (Washington, D.C.: Dec. 11, 2014).

⁵In this report, we refer to fees that airports in other countries collect for airport improvement and other purposes as “passenger fees.”

Given advances in technology and increasing consumer adoption since we previously reported on this topic, you asked us to provide an update on alternative methods to the ticket-based collection method for PFCs. This report updates our prior work and provides information on

- alternative methods that could be used to collect PFCs,
- how airports worldwide are currently using these alternative methods to collect passenger fees, and
- whether the factors to consider prior to implementing alternative methods for collecting PFCs have changed since our previous work.

To identify alternative methods that could be used to collect PFCs, we conducted a literature review to determine whether there were any substantive changes in methods to collect passenger fees and their corresponding technologies. Specifically, we used sources from our prior work as well as FAA documents and several databases, including ProQuest, to identify any updated information on airport-passenger-fee collection methods from various sources including government agencies, aviation trade publications, academic aviation research and publications, and industry articles, where available. We also interviewed FAA officials, as well as aviation stakeholders who currently have roles in PFC collection and whom we interviewed for our previous work, including representatives of airport and airline associations, consumer groups, and the aviation technology sector.⁶ The views of these stakeholders are not generalizable to all aviation stakeholders.

To determine how airports worldwide are currently using these methods to collect passenger fees, we consulted aviation associations with knowledge of airport fee collection. We also searched research databases for industry, government, and academic publications to identify information on how airports collect passenger fees. We determined that there is no consolidated, comprehensive, and reliable data source on non-U.S. airports that collect passenger fees. However, aviation industry officials we spoke with provided examples of airports using non-ticket-based methods, and we found other examples through searches of airport websites. We confirmed information obtained from airport websites through follow-up emails to airport staff. Our results do not comprehensively identify all airports worldwide that use non-ticket-based fee collection methods.

To determine whether the factors to consider prior to implementing alternative methods for collecting PFCs have changed since our previous work, we interviewed aviation stakeholders with whom we previously spoke for their updated assessment. The views of these stakeholders are not generalizable to all aviation stakeholders. We also reviewed data from three sources to determine changes in airport information technology and consumers' use of and perspectives on computer and mobile technology:

1. 2017 information technology survey of select airports conducted for the Société Internationale de Télécommunications Aéronautiques (SITA)⁷
2. 2017 National Telecommunications and Information Administration's (NTIA) data on Americans' Internet and mobile technology use
3. 2016 Federal Reserve data on consumers' use of mobile financial services

We interviewed SITA officials about survey methodology, data collection, and reporting, and determined that the data were reliable for reporting general trends in airport information

⁶They include Airlines for America, Airports Council International-North America, Airports Council International-World, American Association of Airport Executives, International Air Transport Association, Société Internationale de Télécommunications Aéronautiques (SITA), Consumers Travelers Alliance, Consumers Union, several aviation technology firms and consultants, and two mid-sized U.S. airports that are actively using technology to enhance passenger experience in their airports.

⁷The survey was sponsored by SITA, a multinational company that provides information technology services to the air transport industry. For the survey, see <https://www.sita.aero/resources/type/surveys-reports/it-trends-insights-2017>.

technology. For the NTIA data, we reviewed and inspected the raw data for missing data, outliers, and errors and reviewed NTIA's data reliability assessments. We determined that the NTIA data were reliable for reporting percentages on Americans' Internet and mobile-technology use. We reviewed the survey methodology and sample design for the Federal Reserve data and determined the data were reliable for reporting trends in mobile payments.

We conducted this performance audit from March 2018 to December 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Results in Brief

Based on interviews and reviews of industry, government, and academic publications, we found that the non-ticket-based methods for collecting PFCs are the same as those we identified previously and include

- Internet-based systems such as websites and mobile phone apps,
- self-service kiosks that can be designed to accept multiple forms of payment, and
- payment counters, where customer service representatives could collect payment from passengers.

Airports currently use these payment methods to process other payment transactions, such as for parking reservations. Aviation stakeholders we spoke with and our other research did not identify any technological advances since our previous work that would create new methods of fee collection or substantially alter the methods we previously reported on.

We identified, through consultation with aviation associations and searches of airports websites, seven airports in the Caribbean, South America, Southeast Asia, and Western Europe that use non-ticket-based methods to collect passenger fees. The airports we identified that collect fees directly from passengers use kiosks, payment counters, online payments, or a combination of kiosk and online payment. According to officials from an organization that represents airlines worldwide, airports that use payment counters to collect passenger fees directly from passengers tend to be small airports in developing countries, and the airports choose this approach to fee collection in order to have immediate access to the funds. One of the airports we identified is transitioning from non-ticket-based collection to ticket-based collection to conform to the method used by most other airports and to improve passenger processing. Neither the stakeholders we spoke with nor our research identified any airports that are transitioning away from the ticket-based fee collection method.

According to aviation stakeholders we interviewed, the factors to consider prior to implementation of a non-ticket-based collection method for PFCs have not changed since our previous report. Similarly to what we reported in 2014, stakeholders noted that alternative collection methods are feasible from a technology standpoint. Stakeholders' overriding concern, however, was how implementation of alternative collection methods would affect the passenger experience and pricing transparency; other concerns included additional administrative costs and processes, as well as legal implications. Stakeholders told us that any non-ticket-based collection method would add extra steps to the passenger fee collection process and agreed that the current ticket-based collection method is efficient. Some stakeholders said that passenger fee collections should comply with the International Civil Aviation Organization (ICAO) policy that lines and delays should not be imposed on passengers in order to collect fees.

Existing Payment Methods Could Be Used to Collect PFCs

As we noted in our 2014 report, aviation stakeholders stated that existing payment methods could be used to collect PFCs. Methods we discussed in our previous report include Internet-based systems such as websites and mobile smartphone apps; kiosks that can be designed to accept a variety of forms of payment including mobile smartphone payments; and payment

counters, where customer service representatives collect payments from passengers. These payment methods can be used independently or in combination with each other. Airports are currently using these payment methods for other purposes and transactions, such as for processing parking reservations, and there has been an increased use of some of these technologies since our previous report. Aviation stakeholders we spoke with said that some technologies, such as biometric identification, could be adapted for payment collections in the future.⁸ However, through our research and interviews with stakeholders, we did not identify any other emerging technological advances since our previous work that would create new methods for PFC collection or substantially alter the methods on which we previously reported.

Online Payments through Websites or Mobile Apps

Airports could still operate or contract with a third-party provider to manage a website or mobile device app to collect PFCs directly from the passenger. Payment transactions could be made through any Internet-connected device that supports web browsing or a mobile app. Such devices include smart phones, tablets, or desktop computers.

We identified some airports that already have websites and mobile apps that customers can use for a variety of purposes, such as checking airport and flight status and navigating through the airport. Functionality of these websites and apps could be expanded to include payment of PFCs. According to a 2017 SITA survey of select airports, those airports that are developing mobile apps are doing so with the intention of increasing passengers' ability to pay fees for additional services.

Self-Service Kiosks

Airports could still use self-service kiosks to collect PFCs, as we previously reported. Kiosks are currently a widely used method for processing transactions; for instance, self-service kiosks at which passengers can check in, print boarding passes and bag tags, and pay fees for additional services such as seat upgrades are present at many airports. These kiosks are typically operated by individual airlines. However, according to a SITA survey of select airports, some airports are moving toward common-use kiosks that can be used for transactions with a number of airlines. Airports could also purchase kiosks for the exclusive use of collecting PFCs.

According to the SITA survey, an increasing number of airports rely on self-service kiosks for customer transactions previously handled by customer service agents at counters. In addition to accepting credit or debit payment, these kiosks can be designed to integrate with a number of forms of payment. For example, passengers could scan their mobile device at a self-service kiosk to make a payment using near field communications (NFC) or "cloud-based" mobile payments.⁹ Kiosks could also be placed at non-airport locations for collecting PFCs. Airports are already exploring the use of kiosks at non-airport locations, such as hotels, for services such as checking baggage and allowing passengers to check in, according to the SITA survey.

Payment Counters

Airports could still collect PFCs at payment counters located at airport terminals. Currently, at counters in airport terminals, airlines' customer service representatives help passengers check in, receive boarding passes and bag tags, and pay for additional services such as seat upgrades. Airports could operate separate payment counters specifically for the purpose of

⁸For example, biometric technology could potentially be used in the future for collecting fees at airports. U.S. Customs and Border Protection (CBP) is currently piloting biometric identification technology at over a dozen major U.S. airports to enhance security while processing passengers. In June 2018, CBP and Orlando International Airport announced a commitment to begin processing all international travelers with biometric facial recognition technology.

⁹NFC is a form of short-wave wireless communication that can enable mobile devices like smartphones to make payments using "mobile wallet" apps such as Google Pay that store payment information. Cloud-based mobile apps such as Pay Pal or Square Wallet store payment information online but can be used to generate a barcode on the screen that can be scanned to render payment.

collecting PFCs. Airports' customer service representatives could also use handheld point-of-sale scanners to collect payments from passengers in queue.

We Identified Few Airports That Use Non-Ticket-Based Methods to Collect Passenger Fees

We identified, through consultation with aviation associations and searches of literature and websites, seven airports in the Caribbean, South America, Southeast Asia, and Western Europe that use non-ticket-based methods to collect passenger fees.¹⁰ These airports collect fees directly from passengers using kiosks, payment counters, online payments, or a combination of kiosk and online payments.¹¹ According to officials from an organization that represents airlines worldwide, airports that use payment counters to collect fees directly from passengers tend to be small airports in developing countries and use this method to have immediate access to the funds. When the ticket-based method of collecting passenger fees is used, airlines typically remit passengers fees collected through the ticket purchase to airports on a monthly basis, whereas, if airports collect the fees themselves, the airport can immediately access the funds. According to these officials, small airports that use non-ticket-based methods to collect passenger fees are able to collect payments from passengers without the large lines or delays that would occur at a busier airport.

We found evidence that some of the airports we identified only collect passenger fees using the non-ticket-based method in select circumstances or are transitioning from non-ticket-based collection to ticket-based collection. For example, Aeropuerto de Carrasco in Uruguay only uses a payment counter to collect passenger fees from connecting passengers who leave the boarding area and then re-enter to board the connecting flight. Airline customer service representatives at John A. Osborne Airport in Montserrat, West Indies, currently collect fees from passengers at a payment counter at the airport, but airport officials are working to incorporate the fees into the airline ticket purchase. An official with this airport told us that the airport is transitioning to ticket-based collection in order to conform to the method used by most other airports and to improve passenger experience by eliminating the extra step. Neither the stakeholders we spoke with nor our literature searches identified any airports that are transitioning to a non-ticket-based collection method.

Diminished Passenger Experience and Additional Administrative Processes Continue to Be Factors to Consider in Implementing Non-Ticket-Based PFC Collection Methods

The factors that we identified in our previous reports to consider prior to implementing non-ticket-based methods for collecting PFCs are still relevant today: technology readiness, legal considerations, administrative considerations, passenger experience, and pricing transparency for the customer. Many of these factors relate to changing the collector of the fees from the airlines to the airports. Stakeholders we spoke with said that airlines already have a seamless and efficient infrastructure for collecting and distributing PFC payments. Several of them further noted that most airports do not have the necessary infrastructure or processes for collecting PFCs directly from passengers.

Technology Readiness

Stakeholders we spoke with stated that technology exists for airports to set up the non-ticket-based PFC collection methods we described above, including online and mobile systems, kiosks, and payment counters. This observation is consistent with our 2014 finding that moving

¹⁰The following airports use non-ticket-based methods to collect passenger fees: John A. Osborne Airport in the West Indies; Jorge Chavez International Airport in Peru, Aeropuerto de Carrasco in Uruguay, Clark International Airport in the Philippines, Durham Tees Valley Airport and Norwich Airport in England, and Ireland West Airport in Ireland. We did not comprehensively identify all airports worldwide that use non-ticket-based fee collection methods.

¹¹In our search, we did not distinguish between passenger fees collected directly by airports and those collected by government entities at airports, such as departure and tourist taxes and fees.

to an alternative PFC collection method was not constrained by technology.¹² At that time, online payment methods were widely used in sectors such as retail and for other modes of transportation, and their range of uses has steadily expanded since then. Internet and mobile device use in the United States has also increased, according to data from NTIA and the Federal Reserve, although many users appear to have concerns about the security of mobile payments.¹³ For instance:

- According to November 2017 data from NTIA, nearly 78 percent of Americans use the Internet and approximately 64 percent use mobile devices—which is up from 71 percent and 45 percent, respectively, in July 2013.
- NTIA data also noted that 69 percent of Americans age 15 and older who use the Internet also shop, make reservations, and use consumer services online.
- However, the Federal Reserve’s March 2016 study of mobile banking and payment users found that some users have concerns about using their mobile devices to make payments. According to the study, fewer than half of mobile device users had used their phone to make a mobile payment. Those mobile device users cited concerns about payment security as a common reason for not making mobile payments.

Legal Considerations

We identified several legal considerations associated with changing the current PFC collection method, all of which are the same as those we previously reported on. First, current federal law requires that only airlines can collect PFCs. Therefore, any transition to a non-ticket-based collection method would require legal modifications to authorize airports to collect PFCs directly. Second, without amending the PFC statute and associated regulations,¹⁴ implementation of any non-ticket-based collection methods would violate the Anti-Head Tax Act (AHTA),¹⁵ which prohibits state and local government entities and airport authorities from levying certain taxes, charges, and fees on air travelers.¹⁶ Changing to an airport-operated, non-ticket-based collection method could also have implications for airlines’ compliance with DOT’s full-price advertising rule.¹⁷ This rule requires airlines to include passenger fees and all other taxes and mandatory fees in the full listed price for air transportation, in order to make the full cost of travel transparent to the passenger.

Administrative Considerations

The aviation stakeholders we spoke with noted that the current system is efficient and widely used and that its cost to administer is relatively minimal. Airlines receive 11 cents per flight segment to process and distribute PFC payments. New collection methods would require new infrastructure for the collection and distribution of PFCs, resulting in cost and operational considerations for airports, according to these stakeholders. Based on stakeholder interviews, we identified the same administrative considerations when we previously reported on this issue.

Cost Considerations

¹²[GAO-15-107](#).

¹³U.S. Department of Commerce, National Telecommunications and Information Administration (NTIA), Digital Nation Data Explorer, June 6, 2018, [ntia-analyze-table.csv](#). The Board of Governors of the Federal Reserve System, *Consumers and Mobile Financial Services 2016* (Washington, D.C.: March 2016).

¹⁴49 U.S.C. § 40117 and 14 C.F.R. Part 158.

¹⁵49 U.S.C. § 40116.

¹⁶ PFCs imposed in accordance with the PFC statute and associated regulations comply with the AHTA. 49 U.S.C. § 40116(b).

¹⁷14 C.F.R. § 399.84(a).

- As noted, most airports do not have the infrastructure or processes necessary to collect fees directly from passengers. If using online and mobile payments, including use of NFC, airports would need to purchase the technology, develop websites, set up new systems to collect payments, and develop new accounting systems for the payments. Alternatively, airports could pay third-party providers to collect and process PFCs.
- If using kiosks, airports would need to purchase, operate, and maintain the equipment, or adapt kiosks that they already owned to accept PFCs.
- Additional airport staff may be necessary to oversee new systems, collect PFC payments, and coordinate with airlines to confirm passengers' payments.
- Airports may have to pay additional costs to establish alternate methods for collecting and processing PFC payments when their primary payment systems are unavailable, such as during a loss of power or system break-down.

Operational Considerations

- If using kiosks, airports would need to determine where to place them, how they would affect passenger flow and crowding, and what other services could be affected by the space taken up by the new equipment. One stakeholder noted that use of kiosks for fee collection may not be suitable for airports with space constraints and a large volume of passengers, such as LaGuardia Airport.
- New administrative procedures for payment processes would be necessary.
- Airports may need to set up multiple payment methods to accommodate customers with varying levels of access to and comfort with different technologies.
- Coordination with airlines may be required to verify that all passengers, especially connecting ones, have paid the PFC. For example, if confirmation of payment occurred at the gate, the airport would need to work with airlines at the boarding gate. Airports and the validating party will have to agree on steps to be taken if a passenger has not paid the required PFC as well as ensure that connecting passengers do not end up paying for more than the maximum PFC.

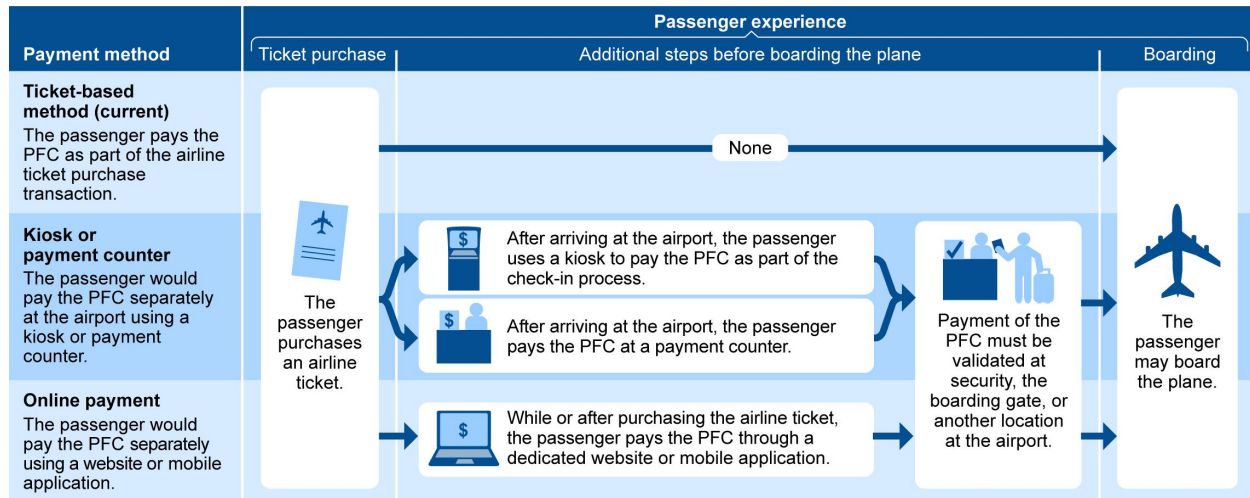
Passenger Experience

According to all of the aviation stakeholders we spoke with, the current ticket-based fee collection method is efficient for the passenger. Further, officials from an organization that represents airlines worldwide told us that it is used by most airports throughout the world and adheres to the ICAO standard that passenger fees should be collected in the most efficient way to avoid lines and delays at airports. Most stakeholders we spoke with believe that non-ticket-based methods for collecting PFCs would diminish the passenger experience by adding one or more steps to the ticketing process and could create a lack of consistency in collection methods among airports, as shown in figure 1. This is consistent with our previously reported findings on this matter. For example:

- Online collection methods could require customers to click into a separate website operated by the airport or by a third party to pay PFCs, and then return to the airline website to complete the ticket purchase, a lengthier and more complicated process. Mobile payment methods, while potentially convenient for owners of mobile devices, would still require the extra step of paying for PFCs separately from the airline ticket.
- Collection and confirmation of paid PFCs at airport kiosks could increase the check-in time for passengers and result in delays or missed connections, especially at airports with large volumes of passengers.

- The total cost of flying could increase, depending on if or how airlines adjust their base fares. For example, as we found in September 2017,¹⁸ when baggage fees were removed from base fares airlines did not reduce the base fares commensurately, resulting in a higher total cost.

Figure 1: Comparison of Current Ticket-Based and Potential Non-Ticket-Based Processes for Collecting Airport Passenger Facility Charges (PFC)



Source: GAO analysis. | GAO-19-238R

Further, our previous work found that negative passenger experiences could lead potential passengers to use other modes of transportation, thereby reducing the demand for air travel.¹⁹ This potential reduction could have an unintentional effect on the Airport and Airway Trust Fund (AATF), which is used to finance aviation programs. Most AATF revenues come from other taxes and fees that are also collected on the airline ticket. As we have previously reported, any decrease in passenger demand for flying could result in lower AATF revenues.

Pricing Transparency for the Customer

Separation of the PFC from the airline ticket would be beneficial, according to some stakeholders, including airline representatives, because it would make consumers more aware of the amount of the fee and to whom the fee is being paid. These stakeholders further noted that if airports also publicized their PFC projects in the terminals, passengers would know how their payments were being used for airport projects. However, other stakeholders that we spoke with believed that non-ticket-based collection methods could create a lack of clarity about total cost of a flight. One consumer representative told us that by having to pay a fee separately from the ticket, it may not be readily apparent at the time of purchasing the ticket what additional fees must be paid and how much. As we have previously reported, all taxes and fees (including the PFC) are automatically calculated and included in the ticketing process through the computerized reservation networks. If the PFC were removed from the ticket, advertised airfares may not reflect the total cost of travel if passengers subsequently must pay a PFC to the airport.

Agency Comments

We provided a draft of this report to DOT for review and comment. DOT provided technical comments, which we incorporated into the draft as appropriate.

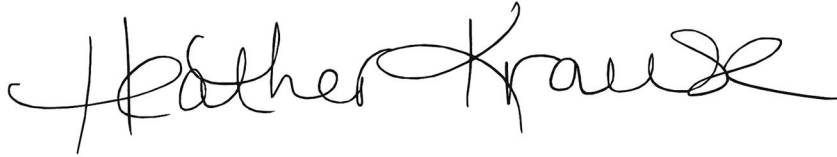
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We are sending copies of this report to the Secretary of Transportation. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

¹⁸GAO, *Commercial Aviation: Information on Airline Fees for Optional Services*, GAO-17-756 (Washington, D.C.: Sept. 20, 2017).

¹⁹GAO-15-107.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or krauseh@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report include Heather Halliwell (Assistant Director), Martha Chow (Analyst in Charge), Joshua Parr, Namita Bhatia Sabharwal, Dave Hooper, Madhav Panwar, Josh Ormond, Kelly Rubin, Pamela Snedden, James Sweetman, Jr, and Laurel Voloder.

A handwritten signature in black ink that reads "Heather Krause". The signature is written in a cursive style with a large, prominent initial 'H'.

Heather Krause, Director
Physical Infrastructure Issues
(102675)