



December 2019

AIRLINE CONSUMER PROTECTIONS

Information on Airlines' Denied Boarding Practices

Accessible Version

GAO Highlights

Highlights of [GAO-20-191](#), a report to congressional committees

View [GAO-20-191](#). For more information, contact Andrew Von Ah at (202) 512-2834 or VonahA@gao.gov.

Why GAO Did This Study

Some airlines overbook their scheduled flights (intentionally sell more seats than are available) to compensate for passenger no-shows. It is not illegal for airlines to overbook their flights. However, it can result in an “oversale” where airlines cannot accommodate all passengers on a particular flight. In response, airlines may have to deny boarding to some passengers. DOT is responsible for ensuring airlines adhere to their denied boarding practices as part of its consumer protection enforcement responsibilities.

The FAA Reauthorization Act of 2018 included a provision that GAO examine airlines’ oversales practices. This report focuses on denied boardings—the result of an oversale—and describes (1) trends in denied boardings and (2) airlines’ actions related to denied boardings and mitigating the effects on passengers. GAO analyzed data on denied boardings and related passenger complaints submitted to DOT from 2012 through 2018, and reviewed seven airlines’ publicly available documents describing their overbooking and denied boarding policies. Airlines were selected to generally include the largest airlines that GAO previously reported had varying practices on overbookings and denied boardings.

GAO also reviewed relevant statutes and DOT regulations, summarized GAO work published in 2018 describing airlines actions to reduce denied boardings, and interviewed DOT officials, one airline industry association, two consumer advocate organizations, and three airline revenue management specialists. The selection of stakeholders was non-generalizable and based on inclusion in prior GAO work and their relevance regarding denied boarding practices.

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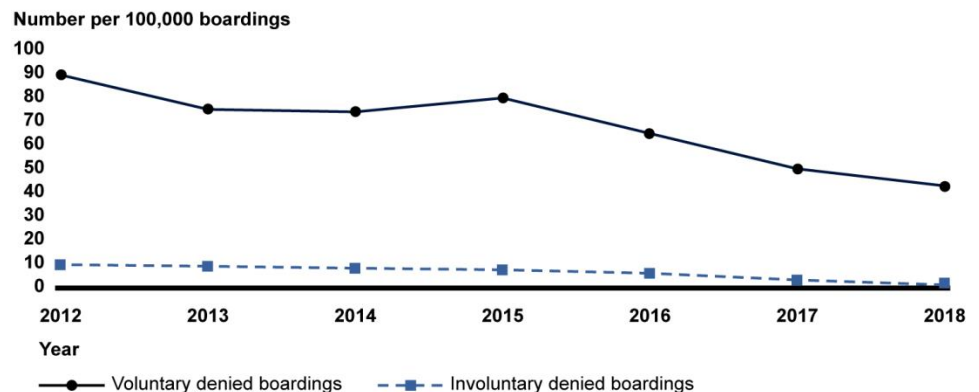
What GAO Found

The number of passengers denied boarding (not allowed to board flights they have tickets on) generally decreased in recent years, according to Department of Transportation (DOT) data. Combined, on an annual basis, voluntary and involuntary denied boardings account for less than 1 percent of actual passenger boardings.

- **Voluntary denied boardings.** As shown below, most denied boardings are passengers who “voluntarily” gave up their seat for compensation of the airline’s choosing, such as airline vouchers. Passengers can negotiate compensation amounts. For every 100,000 actual boardings in 2018, about 43 passengers were voluntarily denied boarding.
- **Involuntary denied boardings.** All other denied boardings occur “involuntarily.” These passengers may be eligible for compensation in an amount set by DOT. For every 100,000 actual boardings in 2018, about one passenger was involuntarily denied boarding.

While few denied boardings are involuntary, these passengers may encounter significant costs and travel disruptions. GAO’s review of passenger complaints submitted to DOT showed instances where passengers involuntarily denied boarding reported missing significant events—e.g., a wedding or a cruise—and incurring additional costs. Airlines can face challenges rebooking passengers, such as those flying to smaller communities, exacerbating these disruptions.

Passengers Denied Boarding Voluntarily and Involuntarily per 100,000 Actual Boardings, 2012-2018



Source: GAO analysis of Department of Transportation (DOT) data. | GAO-20-191

Data table for Passengers Denied Boarding Voluntarily and Involuntarily per 100,000 Actual Boardings, 2012-2018

	2012	2013	2014	2015	2016	2017	2018
Number of passengers denied boarding involuntarily per 100,000 boardings	9.854	9.185	8.357	7.684	6.225	3.411	1.322
Number of passengers denied boarding voluntarily per 100,000 boardings	89.703	75.208	74.165	80.014	65.063	50.185	43.014

Airlines have taken a range of actions, aimed at reducing involuntary denied boardings. Actions include reducing overbookings; requesting volunteers earlier (e.g., at check-in); and increasing compensation for volunteers. While consumer advocates GAO interviewed generally supported these actions, they advocated for an end to overbooking. Three airline revenue management specialists said if airlines were prohibited from overbooking, some airlines may offer fewer discounted fare tickets. Two of these specialists also said airlines might also slightly increase average fares across all tickets.

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Abbreviations

DOT Department of Transportation
FAA Federal Aviation Administration

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December 10, 2019

The Honorable Roger Wicker
Chairman
The Honorable Maria Cantwell
Ranking Member
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable Peter DeFazio
Chairman
The Honorable Sam Graves
Ranking Member
Committee on Transportation and Infrastructure
House of Representatives

Some airlines overbook their scheduled flights (i.e., intentionally sell more seats than are available on a flight) to compensate for passenger no-shows and to help airlines operate fuller flights, on average. It is not illegal for airlines to overbook their flights.¹ When airlines correctly predict no-show rates, all confirmed passengers are able to board their flight. However, in some circumstances, airlines can have an “oversale” situation—when all passengers with tickets cannot be accommodated on a flight. In response, airlines may have to deny boarding to some passengers, either by encouraging passengers to volunteer to not board or by denying boarding to passengers involuntarily.²

Denied boardings can also result from factors other than overbookings, such as airline maintenance issues or the need to accommodate airline crews. For example, on March 13, 2019, the Federal Aviation Administration (FAA) ordered the immediate grounding of the Boeing 737 MAX aircraft. As a result, some airlines were forced to substitute smaller aircraft on some of their flights, among other actions, resulting in a

¹Department of Transportation (DOT), *Bumping & Oversales*, accessed August 22, 2019. Though in statute, airlines are generally referred to as “air carriers,” we refer to them as “airlines” for the purpose of this report.

²Passengers are voluntarily denied boarding if they willingly accept the airline’s offer of compensation, in any amount, in exchange for relinquishing their confirmed seats. Any other passenger denied boarding is considered to have been denied boarding involuntarily, even if that passenger accepts the denied boarding compensation airlines are required to provide. See 14 C.F.R. § 250.2b(a).

significant number of passengers being denied boarding involuntarily.³ Regardless of the cause, involuntary denied boardings can be inconvenient and costly for passengers.

The Department of Transportation (DOT) is responsible for ensuring that airlines adhere to federal consumer protections afforded to passengers, including those related to airlines' denied boarding practices. The FAA Reauthorization Act of 2018 included provisions for us to examine airlines' oversales practices.⁴ Our report focuses on denied boardings, which are the resulting action of an oversale and affect both airlines and passengers. This report describes (1) trends in DOT's data on denied boardings from 2012 through 2018, and (2) airlines' actions related to denied boardings and mitigating the effects of these incidents on passengers.

To describe trends in voluntary and involuntary denied boardings, we analyzed data collected by DOT from 2012 through 2018. DOT requires larger airlines to report data on voluntary denied boardings, involuntary denied boardings, and related compensation amounts, among other things, on a quarterly basis.⁵ We also analyzed passenger complaint data on denied boardings submitted to DOT by passengers from 2012 through 2018 to identify the frequency, types, and changes in the number and types of complaints submitted to DOT over time.⁶ To assess the reliability

³DOT, Office of Aviation Enforcement and Proceedings Aviation Consumer Protection Division, Air Travel Consumer Report, (Washington, D.C.: May 2019). According to representatives from an airline industry association, if aircraft were available, some airlines also substituted larger aircraft to avoid denied boardings on certain routes.

⁴Pub. L. No. 115-254, § 425, 132 Stat. 3186, 3339.

⁵From 2012 through 2017, DOT required airlines with at least 1 percent of domestic scheduled-passenger revenues in the most recently reported 12-month period to report denied boarding data to DOT for flights to larger airports. From 2012 through 2017, all of these airlines voluntarily provided data for their entire domestic systems. Starting in 2018, DOT lowered the reporting threshold from at least 1 percent of domestic scheduled-passenger revenues to at least 0.5 percent of domestic scheduled-passenger revenues in the most recently reported 12-month period. Moreover, airlines that met the reporting threshold were also required to report all scheduled flight segments originating in the United States and operated by their regional partners on behalf of the airline. Because the reporting threshold is determined on an annual basis and changed across our review period, the number of reporting airlines varied from 12 airlines to 18 across our time period. See *14 C.F.R. § 250.10*.

⁶We also asked DOT to provide a non-generalizable sample of complaint narratives to better understand examples of the types of things that drove passengers to complain about denied boardings. DOT provided a sample of complaints from May and June 2019 for our review. These narratives were used to provide illustrative examples in the report.

of the denied boarding data, we reviewed relevant federal regulations describing airlines' reporting requirements for denied boardings and DOT technical directives, which provide additional information to airlines on the types of data they are required to report and how to report such information to DOT.⁷ For both the denied boardings and passenger complaint data, we analyzed the data and compared it to published DOT reports to search for outliers or data anomalies.⁸ We also interviewed DOT program officials to confirm that DOT had not made any changes to how either data source are collected or reported since our last review in 2018.⁹ Since we determined that no changes had been made to the processes, we also relied on our 2018 data reliability assessment.¹⁰ We determined that the data were sufficiently reliable to present trends over time.

To describe airlines' legal responsibilities regarding overbookings and denied boardings, we reviewed relevant statutes and DOT regulations and interviewed DOT officials. To identify airlines' actions to reduce denied boardings or mitigate the effect of such actions on passengers, we interviewed representatives from one airline industry association and two consumer advocate organizations, as well as three airline revenue

⁷14 C.F.R. § 250.10. DOT's technical directives also provide definitions of the data fields and descriptions for how data should be filed with DOT to help ensure that data are consistently recorded and reported across airlines to DOT.

⁸As part of this review, we identified one outlier in the data with respect to how one airline reported data to DOT on upgrades and downgrades (discussed later). Therefore, we omitted that airline's data from our analysis and followed up with DOT, which confirmed that the airline had over-reported its data. In November 2019, DOT officials informed us that they had worked with the airline to update data for 2016 through 2018. Since the airline could not update its data for quarter three of 2016, we omitted the airline from our analysis.

⁹During the prior interview where we discussed the denied boardings data, DOT officials described numerous data quality checks that are conducted on the data, in addition to manual spot checking that officials perform. According to DOT officials, these quality checks, combined with the technical directives, provide DOT officials with confidence that data are reliable.

¹⁰This assessment found that both data sources are sufficiently reliable for providing information on trends over time. See GAO, *Airline Consumer Protections: Additional Actions Could Enhance DOT's Compliance and Education Efforts*, [GAO-19-76](#) (Washington, D.C.: Nov. 20, 2018).

management specialists.¹¹ We selected these stakeholders based on the following factors: their inclusion in prior GAO reports, their relevant role regarding denied boardings or airline revenue management, and recommendations from other stakeholders or DOT. We also summarized our recent work, where we asked 11 selected airlines about their business practices on denied boardings from 2013 through 2017.¹²

We also reviewed publicly available documents on seven selected airlines' websites about their overbooking and denied boarding policies. We selected these seven airlines to include both network and low-cost airlines that boarded among the most passengers in 2018 and that we had previously reported had varying practices on overbookings and denied boardings.¹³ We reviewed each airline's publicly available customer service documents—e.g., contracts of carriage, customer service plans, and other available materials—to describe their overbooking policies, denied boarding priority rules, and denied boarding policies, among other things.¹⁴

¹¹Revenue management is the process by which airlines decide the number of seats to make available in each fare class and what prices to charge for varied types of seats on a flight. As part of its revenue management analysis, airlines also estimate the number of passengers who will not show up for a specific flight—which would include any passengers who make last minute flight changes. Estimated no-show rates, along with other characteristics of particular flights, are used to decide whether to overbook a flight and the extent to do so. See Peter Belobaba, Amedeo Odoni, and Cynthia Barnhart, *The Global Airline Industry*, Second Edition, (West Sussex: United Kingdom: Wiley, 2016) 99. Interviews with stakeholders are non-generalizable. We also conducted a literature search to identify articles that were specific to the airline industry and quantified the costs or described the effects of oversales or denied boardings for airlines or passengers, or described how these practices were used as part of an airline's business strategy. None of the articles we reviewed quantified the costs or effects of oversales or denied boardings, or addressed how oversales and denied boardings are incorporated into an airline's business strategy.

¹²[GAO-19-76](#).

¹³These airlines were American Airlines, Delta Air Lines, Frontier Airlines, JetBlue Airlines, Spirit Airlines, Southwest Airlines, and United Airlines. Network airlines support large, complex hub-and-spoke operations with thousands of employees and hundreds of aircraft. Low-cost airlines generally operate less costly point-to-point service using fewer types of aircraft.

¹⁴In this context, a contract of carriage is a contractual arrangement that defines the rights, liabilities, and duties of the airline and passenger. Boarding priority rules are the factors that airlines consider when determining which passengers to deny boarding involuntarily.

We conducted this performance audit from June 2019 to December 2019 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.

Background

Airlines commonly overbook their flights to avoid revenue losses associated with passenger no-shows as part of their revenue management strategies.¹⁵ Successfully overbooking requires that airlines accurately predict the number of passengers who will not show up for a given flight. In deciding how much to overbook flights, airlines use historical data to identify factors that make passengers more or less likely to show up for their flights; these factors can be passenger or flight specific. For example, according to representatives from an airline industry association, leisure passengers are less likely than business passengers to change their flights at the last minute, because their tickets typically have more restrictions and higher change fees. As a result, according to these representatives, airlines generally oversell fewer seats on flights heavily traveled by leisure passengers, such as flights during the holiday season or flights to common vacation destinations (e.g., Disney World). Similarly, these same representatives said that airlines are less likely to overbook the last flight of the day on a given route because passengers are more likely to show up for these flights.

A number of other factors, in addition to overbookings, can lead to airlines denying boarding to passengers. These factors can be driven by safety concerns, operational necessity, or personnel needs. For example, a passenger may be denied boarding for safety or security reasons if they are too intoxicated to fly or if they are unruly (e.g., they get into a fight).

¹⁵According to academic literature, no-shows include passengers who do not show up for their flight or who change their ticket shortly before a flight. Moreover, according to academic literature, no-show rates can average about 10 percent of final pre-departure bookings. See Peter Belobaba, Amedeo Odoni, and Cynthia Barnhart, *The Global Airline Industry*, Second Edition, (West Sussex: United Kingdom: Wiley, 2016) 104. One revenue management specialist estimated that previously, no-show rates were closer to 12 to 15 percent. According to this specialist, lower no-show rates are due in part to airlines selling more tickets with restrictions or that are non-refundable.

Passengers may also be denied boarding to accommodate flight crews that need to get to a different location or U.S. air marshals, who tend to book flights near planned departure times.

DOT does not regulate airlines' overbooking practices, aside from requiring airlines to inform passengers that a flight may be overbooked. Instead, DOT's regulations primarily focus on oversales, which can be the result of an overbooking and occur when some passengers with confirmed space on a flight cannot be accommodated (i.e., "denied boardings").¹⁶ Passengers are voluntarily denied boarding if they willingly accept the airline's offer of compensation, in any amount, in exchange for relinquishing their confirmed seat. Any other passenger denied boarding is considered to have been denied boarding involuntarily. Because of these regulations, airlines generally have a standard process for denying boarding to passengers, both voluntarily and involuntarily, and communicating denied boarding information to passengers.¹⁷

When a flight is oversold, airlines are required to solicit passengers to voluntarily give up their seats, before denying boarding to passengers involuntarily.¹⁸ To encourage passengers to volunteer to relinquish their seat, airlines may offer incentives, such as money or vouchers for future flights.¹⁹ There is no minimum or maximum amount of money or vouchers that the airline is required to offer, and passengers can negotiate compensation amounts. Federal regulation requires that airlines inform each passenger solicited to volunteer for denied boarding whether they are in danger of being involuntarily denied boarding and, if so, the compensation the airline is obligated to pay.²⁰ In cases where a flight is oversold and airlines do not get enough volunteers who are willing to

¹⁶Confirmed space means the passenger has a confirmed reservation. We have previously reported on DOT's activities to monitor and enforce airlines' compliance with established consumer protection requirements, including receiving and reviewing complaints from passengers. See [GAO-19-76](#).

¹⁷Federal regulations do not establish specific communication practices for passengers with disabilities who are denied boarding.

¹⁸14 C.F.R. § 250.2b.

¹⁹If an airline offers a voucher for a future flight to a passenger in exchange for volunteering to fly on a different flight, the airline must disclose any and all restrictions that may apply to the use of the voucher before the passenger decides whether or not to give up their confirmed reserved space on the currently oversold flight.

²⁰14 C.F.R. § 250.2b.

relinquish their seat, they will select passengers to give up their seats involuntarily—sometimes referred to as being “bumped.”

Airlines are required by regulation to establish boarding priority rules detailing the factors they consider when selecting passengers to be denied boarding involuntarily.²¹ These factors may include when the passenger checks in, the fare paid, and the passenger’s frequent flyer status. However, according to DOT’s website, the criteria cannot subject a passenger to any unjust or unreasonable prejudice or disadvantage.²² For example, an airline cannot use a passenger’s race when making decisions about denied boardings. Further, some airlines make exceptions to their boarding priority rules for passengers with disabilities, including generally not denying them boarding.²³

Airlines are required to compensate certain passengers who are denied boarding involuntarily.²⁴ Minimum compensation amounts are set in regulation and, as shown in table 1 below, vary based on the price of the ticket, the length of time the passenger is delayed reaching their destination, and whether the flight’s arrival airport is domestic or international. Airlines generally must provide compensation by cash or check when the passenger is denied boarding involuntarily, in addition to a written statement explaining the terms, conditions, and limitations of the compensation, and describing the airlines’ boarding priority rules and criteria.²⁵

²¹14 C.F.R. § 250.3.

²²DOT, *Bumping & Oversales*, accessed August 22, 2019.

²³Out of seven airlines, four explicitly state in their contracts of carriage that they make exceptions for passengers with disabilities.

²⁴14 C.F.R. § 250.5. Passengers are not eligible for involuntary denied boarding compensation in certain situations. Examples include: aircraft change; weight and balance; downgrading (i.e., a passenger is downgraded from a higher class of seating to a lower class); flights with fewer than 30 passengers or charter flights (a flight contracted for a specific trip that is not part of an airline’s regular schedule); and flights departing a foreign location.

²⁵While airlines are generally required to compensate passengers immediately after the denied boarding occurs, if the airline provides substitute transportation that leaves the airport before the airline can pay the passenger, the airline must pay the passenger within 24 hours of the bumping incident. Further, airlines are generally required to share their written statement explaining the terms, conditions, and limitations of the involuntary denied boarding compensation, as well as the airlines’ boarding priority rules and criteria at the airport to any passenger upon request. 14 C.F.R. § 250.9.

Table 1: Involuntary Denied Boarding Compensation Amounts, 2019

Domestic destination – involuntary denied boarding compensation		International destination – involuntary denied boarding compensation	
Length of delay	Compensation amount	Length of delay	Compensation amount
0 to 1 hour arrival delay	No compensation	0 to 1 hour arrival delay	No compensation
1 to 2 hour arrival delay	200% of one-way fare (but no more than \$675)	1 to 4 hour arrival delay	200% of one-way fare (but no more than \$675)
Over 2 hour arrival delay	400% of one-way fare (but no more than \$1,350)	Over 4 hour arrival delay	400% of one-way fare (but no more than \$1,350)

Source: Department of Transportation (DOT). | GAO-20-191

Notes:

Passengers are voluntarily denied boarding if they willingly accept the airline's offer of compensation, in any amount, in exchange for relinquishing their confirmed seat. Any other passenger denied boarding is considered to have been denied boarding involuntarily, even if that passenger accepts the denied boarding compensation airlines are required to provide. 14 C.F.R. § 250.2b(a)

Passengers on international flights departing foreign locations are not eligible for involuntary denied boarding compensation under DOT regulations. However, other countries may have applicable involuntary denied boarding regulations that may require airlines to provide compensation to passengers who are involuntary denied boarding.

While federal regulations require airlines to provide certain amounts for involuntary denied boarding, according to DOT, airlines are free to give passengers compensations amounts above those established in the regulation.

Denied Boardings Have Declined in Recent Years, but Some Passengers Denied Boarding Reported Significant Inconveniences

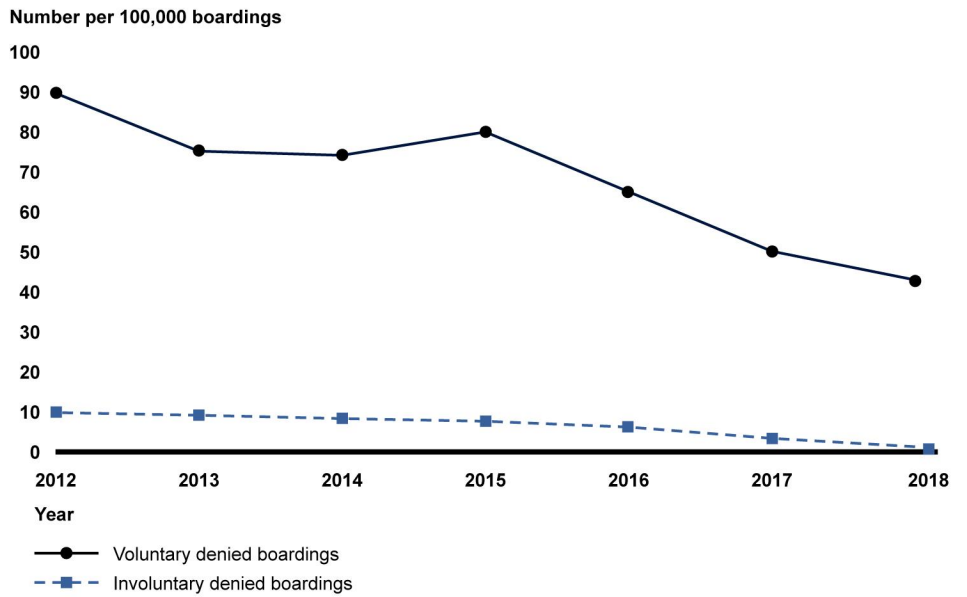
The total number of passengers denied boarding—voluntarily or involuntarily—generally decreased from 2012 to 2018.²⁶ Moreover, denied boardings represented a small percentage of the total number of passengers who boarded flights. On an annual basis, denied boardings accounted for between about 44 (in 2018) and about 100 (in 2012) passengers per 100,000 actual boardings—a rate of less than 0.1 percent of actual boardings.²⁷ As illustrated in figure 1, of these passengers denied boarding, most are voluntary. For example, in 2018, for every

²⁶From 2012 to 2018, voluntary denied boardings declined 37 percent (from about 540,000 passengers in 2012 to about 340,000 in 2018). Involuntary denied boardings declined 82 percent (from about 60,000 passengers in 2012 to about 10,000 in 2018).

²⁷From 2012 to 2018, passenger boardings for reportable flights increased about 32 percent (from about 600,000,000 passenger boardings in 2012 to about 800,000,000 in 2018).

100,000 actual boardings, about 43 passengers were voluntarily denied boarding and about one passenger was involuntarily denied boarding.

Figure 1: Number of Passengers Denied Boarding Voluntarily and Involuntarily, per 100,000 Actual Boardings, 2012–2018



Source: GAO analysis of Department of Transportation (DOT) data. | GAO-20-191

Data table for Figure 1: Number of Passengers Denied Boarding Voluntarily and Involuntarily, per 100,000 Actual Boardings, 2012–2018

	2012	2013	2014	2015	2016	2017	2018
Number of passengers denied boarding involuntarily per 100,000 boardings	9.854	9.185	8.357	7.684	6.225	3.411	1.322
Number of passengers denied boarding voluntarily per 100,000 boardings	89.703	75.208	74.165	80.014	65.063	50.185	43.014

Notes:

From 2008 to 2017, DOT required airlines with at least 1 percent of domestic scheduled-passenger revenues in the most recently reported 12-month period to report denied boarding data to DOT for reportable flights. Starting in 2018, DOT lowered the reporting threshold to 0.5 percent of domestic scheduled-passenger revenues.

Passengers are voluntarily denied boarding if they willingly accept the airline's offer of compensation, in any amount, in exchange for relinquishing their confirmed seat. Any other passenger denied boarding is considered to have been denied boarding involuntarily, even if that passenger accepts the denied boarding compensation airlines are required to provide.

Passenger complaints submitted directly to DOT about denied boardings also generally decreased from 2012 to 2018, relative to total complaints and passenger boardings. As shown in figure 2, the number of passenger complaints to DOT about denied boardings represented a small percentage of total passenger complaints from 2012 to 2018, annually accounting for less than 4 percent of all complaints.²⁸ On an annual basis, from 2012 through 2018, the number of complaints about denied boardings reported to DOT ranged from about 410 (in 2018) to about 650 (in 2015).²⁹ We have previously reported, however, that DOT's complaint data provide an incomplete picture of all passenger complaints because passengers may not be aware that they can report complaints to DOT, and DOT's complaint data do not include complaints from passengers submitted directly to airlines.³⁰ Specifically, in 2018, we reported that across all complaint categories, DOT estimated it received one complaint for every 50 complaints the airline receives.³¹

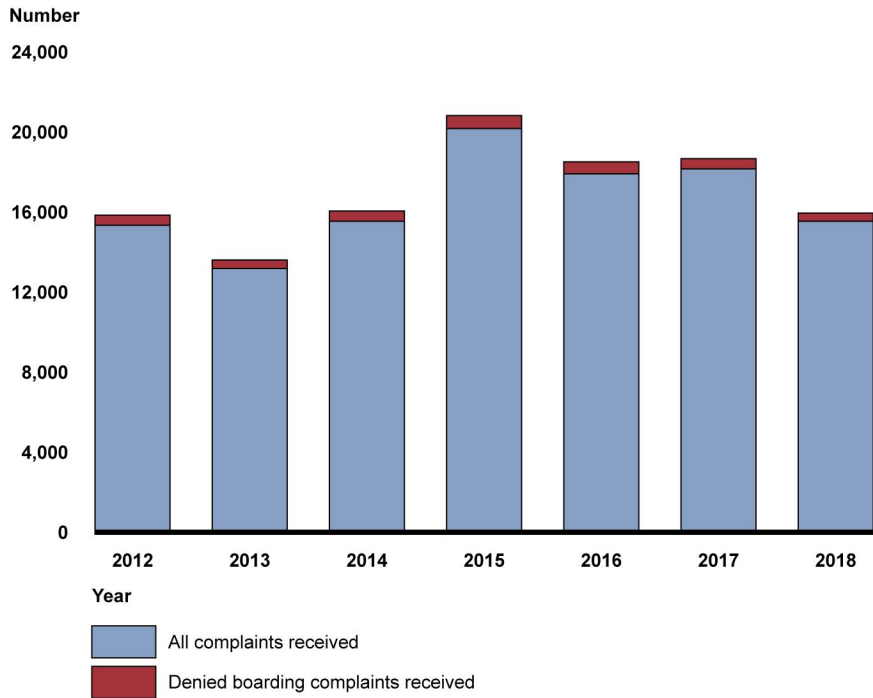
²⁸We previously reported that most passenger complaints to DOT are about "flight problems"—which include airline delays, cancellations, missed connections, and diversions, among other things. In 2018, we found that this complaint category represented about 33 percent of total complaints on average, from 2008 to 2017, for selected airlines. For more information on passenger complaints to DOT, see [GAO-19-76](#).

²⁹Denied boarding complaints are grouped into 14 categories by DOT. Some examples include failure to board, failure to solicit volunteers, and delay in providing compensation.

³⁰In 2018, we requested complaint data from selected airline representatives and they have generally declined saying that such information is business proprietary. See [GAO-19-76](#).

³¹[GAO-19-76](#).

Figure 2: Total Denied Boarding Complaints Relative to All Passenger Complaints Submitted to the Department of Transportation, 2012–2018



Source: GAO analysis of Department of Transportation (DOT) data. | GAO-20-191

Data table for Figure 2: Total Denied Boarding Complaints Relative to All Passenger Complaints Submitted to the Department of Transportation, 2012–2018

Year	Total number of all complaints received	Total number of all oversales complaints received	Total Complaints-Oversale Complaints
2012	15337	503	14834
2013	13175	426	12749
2014	15537	514	15023
2015	20169	648	19521
2016	17905	597	17308
2017	18153	510	17643
2018	15540	409	15131

In an effort to avoid denied boardings, airlines can, in some cases, accommodate passengers in a different section of the aircraft, either by upgrading or downgrading passengers. A revenue management specialist and representatives from an airline industry association we interviewed said that, with limited exceptions, airlines generally do not overbook their

premium cabins. Our review of DOT data found that in recent years, until 2018, airlines have generally upgraded fewer passengers to avoid denied boardings.³² According to representatives from an airline industry association, the decrease in the number of passengers upgraded is likely because airlines have fewer empty premium seats in their first-class cabins than in past years because they are selling more of these seats. For example, a stakeholder said that airlines are now selling upgrades on the day of departure and allowing more customers to use miles to upgrade their seat, leaving fewer available empty premium seats when flights are oversold.

DOT permits airlines to downgrade passengers, as long as the airline refunds the passenger the difference in fares.³³ In practice, representatives from an airline industry association said that when a passenger in a premium cabin is to be denied boarding, airlines generally offer the passenger the option of a premium cabin seat on another flight or to downgrade to the economy cabin along with compensation for the fare differential. In our review of seven airline's contracts of carriage, five explicitly stated that if passengers are downgraded, they will be entitled to an appropriate refund, and the other two airlines do not include information about downgrades in their documents because they do not have different cabins of service. According to representatives from an airline industry association, the refund amount is calculated based on the average difference of fare paid between the two cabins, and it is dependent on the flight's origin and destination.

Passenger Compensation for Involuntary Denied Boarding

While the average amount of compensation for passengers involuntarily denied boarding has increased in recent years, a smaller percentage of

³²From 2012 to 2017, upgrades generally declined by about 35 percent (from about 86,000 passengers in 2012 to about 55,000 in 2017). In 2018, upgrades rebounded to 2012 levels. Downgrades generally declined from 2012 to 2017 by about 27 percent (from about 45,000 passengers in 2012 to about 33,000 in 2017), with the exception of 2018, where downgrades increased. According to representatives from an airline industry association, downgrades may likely be a result of operational issues, such as airlines having to swap aircraft and having fewer first class seats available. As mentioned previously, we omitted one airline from our analysis due to data issues.

³³DOT data about involuntary denied boardings do not include passengers who are downgraded.

such passengers received compensation.³⁴ As previously mentioned, in certain situations, passengers who are denied boarding involuntarily may not be eligible for compensation. For example, airlines are not required to compensate passengers if an airline uses a smaller aircraft than originally planned for operational or safety reasons and thus cannot accommodate all confirmed passengers. Our review found that the percentage of passengers that were involuntarily denied boarding who qualified for compensation decreased from 76 percent in 2012 to 64 percent in 2018.³⁵

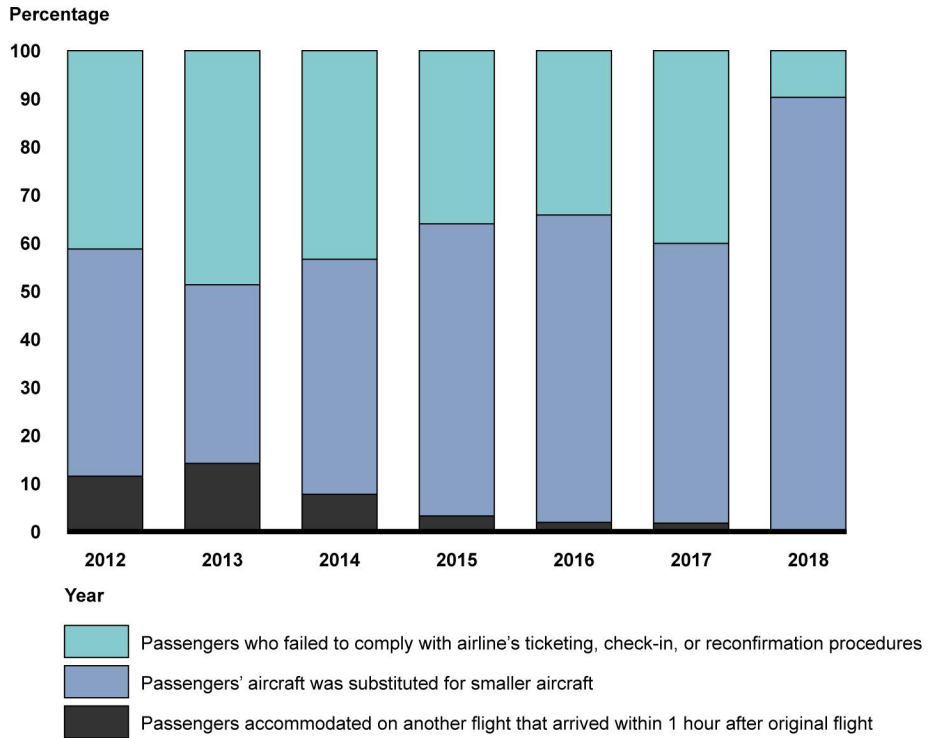
Aircraft substitution may be contributing to fewer passengers being eligible for compensation, according to DOT data. For example, one airline that does not overbook experienced a number of operational issues in 2016 and 2017 that forced it to operate many of its flights with smaller aircraft. As a result, the airline had to deny passengers boarding involuntarily, and these passengers were not eligible for compensation. As figure 3 shows, from 2015 to 2018, most of the passengers who were denied boarding involuntarily and were not eligible for compensation were ineligible due to airlines using smaller aircraft on some flights.³⁶

³⁴The average amount passengers are compensated has increased from about \$780 in 2012 to \$937 in 2018.

³⁵We are unable to report the average amount of compensation received for voluntary denied boardings because often this compensation is not a monetary amount, but is a travel voucher, which is reported to DOT as \$0 of compensation.

³⁶DOT only collected data on passengers involuntarily denied boarding who did not qualify for compensation for passengers accommodated within one hour of the originally scheduled flight, smaller aircraft substitution, and passengers' failing to comply with air carrier procedures. There are other reasons a passenger may be ineligible for compensation, as discussed previously.

Figure 3: Reasons Why Passengers Who Are Involuntarily Denied Boarding Were Not Eligible for Compensation, 2012–2018



Source: GAO analysis of Department of Transportation (DOT) data. | GAO-20-191

Data table for Figure 3: Reasons Why Passengers Who Are Involuntarily Denied Boarding Were Not Eligible for Compensation, 2012–2018

Passengers accommodated on another flight that arrived within 1 hour the after original flight							
	2012	2013	2014	2015	2016	2017	2018
For All Reporting Carriers	11.52%	14.21%	7.76%	3.25%	1.94%	1.75%	0.11%
Passengers' aircraft was substituted for smaller aircraft							
	2012	2013	2014	2015	2016	2017	2018
For All Reporting Carriers	47.24%	37.12%	48.88%	60.73%	63.88%	58.17%	90.19%

Passengers who failed to comply with the airline's ticketing, check-in, or reconfirmation procedures

	2012	2013	2014	2015	2016	2017	2018
For All Reporting Carriers	41.24%	48.67%	43.36%	36.03%	34.17%	40.08%	9.71%

Effects of Involuntary Denied Boardings on Passengers

Although the total number of involuntary denied boardings decreased from 2012 to 2018, any passenger involuntarily denied boarding could face varying levels of disruptions to their travel plans. Passengers who are rebooked on the next scheduled flight may encounter minimal inconveniences or expenses. However, other passengers may face more significant travel disruptions, according to representatives from consumer advocate organizations we interviewed. Our review of a non-generalizable sample of passenger complaints submitted to DOT in May and June 2019 also identified instances where passengers reported incurring significant costs in terms of time and money as a result of being denied boarding involuntarily.³⁷ For example, one passenger reported missing a wedding and paid about \$450 in additional hotel costs. In another instance, a passenger missed their cruise after being denied boarding involuntarily. Consumer advocates also told us that passengers may incur costs such as lodging, meals, and transportation, or might miss work as a result of being denied boarding involuntarily.

Airlines' ability to rebook passengers who are involuntarily denied boarding on the next available flight can be limited. Over the past several years, airlines have increasingly flown with fewer empty seats—particularly on certain routes—than was typical in the past, according to DOT data. With fewer open seats, airlines have limited options to rebook passengers who are denied boarding. For example, across all departing flights at Hartsfield-Jackson Atlanta International Airport in 2018, on average, 86 percent of seats were filled.³⁸ These data represent averages across all flights and stakeholders said that factors such as time of day, day of the week, season, and flight origin or destination can affect the

³⁷We previously reported that DOT collects passenger complaints and that its analysts code the complaints from the passenger's perspective. DOT generally does not investigate or validate the passenger's claim. See [GAO-19-76](#).

³⁸The percentage of seats on a flight that are occupied by a passenger is referred to as a load factor.

number of empty seats on a particular flight. For example, flights on Sunday evening tend to be fuller than flights on Tuesday. One airline revenue management specialist estimated that about 25 to 30 percent of all flights have no empty seats. Representatives from consumer advocate organizations that we interviewed said that planes are operating at record-high levels of capacity, and one advocate stated that no transportation system is designed to operate at or near capacity all of the time, which they believe some airlines are doing on certain routes.

In addition, we have previously reported that service to smaller communities is generally less frequent, providing airlines with fewer opportunities to rebook passengers than for more traveled routes.³⁹ Airlines may also not be able to rebook passengers who are denied boarding on a different airline that has seat availability if they lack commercial agreements to do so.⁴⁰ Further, according to representatives from an industry association representing airlines, while most airlines have agreements in place that allow passengers to be rebooked on a different airline, these agreements are primarily used to accommodate passengers on delayed and canceled flights. According to these representatives, passengers who are denied boarding are almost always re-accommodated on the same airline, given that the customer typically volunteers to take a later flight on the same day. Our review of seven airlines' contracts of carriage found that four of them have documented policies in place to rebook passengers who are denied boarding on a different airline.

Our review of DOT data found that fewer passengers are being rebooked on flights that arrive within an hour of their original flight. Specifically, in 2012, 11.5 percent of rebooked passengers were accommodated on such a flight, compared to 0.11 percent in 2018. While DOT collects data on passengers who are delayed less than an hour, no other information is available to measure the amount of time a passenger is delayed when they are denied boarding. However, based on our review of passenger complaints, we found instances where passengers reported having to wait until the following day to board a flight with available seats.

³⁹GAO, *Airline Passenger Protections: More Data and Analysis Needed to Understand Effects of Flight Delays*, [GAO-11-733](#) (Washington, D.C. Sept. 7, 2011).

⁴⁰These agreements are known as interline agreements, which are voluntary commercial agreements to carry passengers across multiple airlines on the same itinerary.

Airlines Have Taken a Range of Actions to Reduce Denied Boardings and Minimize Their Effects on Passengers

Decreases in involuntary denied boardings are due in part to recent airline actions. As mentioned previously, involuntary denied boardings can be costly for both passengers whose travel plans are disrupted, and airlines that have to compensate passengers for such disruptions and then face criticism for denying boarding to passengers with confirmed seats. As a result, airlines have taken a range of actions, primarily intended to reduce such incidents. Some of these actions also provide additional incentives for passengers to volunteer to be denied boarding. Moreover, stakeholders, including consumer advocates and an association representing airlines, agreed that voluntary denied boardings are preferred to involuntary denied boardings, given that airlines and passengers willingly accept the outcome.

- **Reducing the rate or eliminating overbookings.** Some airlines have reduced their rate of overbooking or eliminated them altogether in an effort to reduce voluntary and involuntary denied boardings, according to stakeholders and our prior work. In our 2018 report, representatives from three airlines told us their airline had reduced or stopped overbooking flights.⁴¹ Our review of seven airlines' customer service documents found that two airlines explicitly stated that they do not overbook their flights.⁴²
- **Improving the ability to predict no-shows or rebook passengers.** According to representatives from an industry association representing airlines, airlines have made investments to improve their software for predicting the number of passenger no-shows in an effort to reduce voluntary and involuntary denied boardings. These representatives also told us that airlines have hired additional personnel dedicated to more precisely forecasting no-show rates and proactively identifying rebooking options for passengers who are denied boarding.

⁴¹[GAO-19-76](#).

⁴²One of these airlines never overbooked their flights, and the other airline modified its policy in 2017 to reflect that it would no longer overbook their flights.

- **Improving communication with passengers.** Some airlines have taken steps to notify passengers about potential denied boardings earlier in the travel process—in some cases before travelers have left for the airport—in an effort to encourage volunteers, according to stakeholders we interviewed. These stakeholders said that providing advance notice likely further reduces any burden on passengers associated with changing their travel plans. In 2018, five of the nine airlines we interviewed told us they had begun soliciting volunteers to give up their seat earlier in the process.⁴³ More specifically, according to representatives from an industry association that represents airlines, some airlines call passengers prior to their arrival at the airport to gauge their willingness to give up their seat. Other airlines solicit volunteers at the check-in kiosk, which limits the need for airlines to identify passengers during the boarding process at the gate. None of the stakeholders we interviewed described any communication methods that were specific to passengers with disabilities. Nevertheless, as previously mentioned, four airlines (out of seven) explicitly state in their contracts of carriage that they generally do not deny boarding to passengers with disabilities.
- **Increasing and diversifying compensation for passengers.** Some airlines have offered additional incentives or increased compensation amounts to encourage passengers to voluntarily give up their seat. While airlines have historically provided passengers with travel vouchers to solicit volunteers, some have started offering alternative forms of compensation, such as gift cards for Amazon and other retailers, iPads, or travel vouchers with fewer restrictions or that also cover ancillary fees.

Our review of DOT data indicates that relative to the number of passengers denied boarding involuntarily, more passengers have volunteered to give up their seat, lessening the need to deny passengers boarding involuntarily. For example, in 2012, for every one passenger denied boarding involuntarily, about nine volunteered to be denied boarding. In contrast, in 2018, for every one passenger denied boarding involuntarily, about 33 volunteered to be denied boarding.

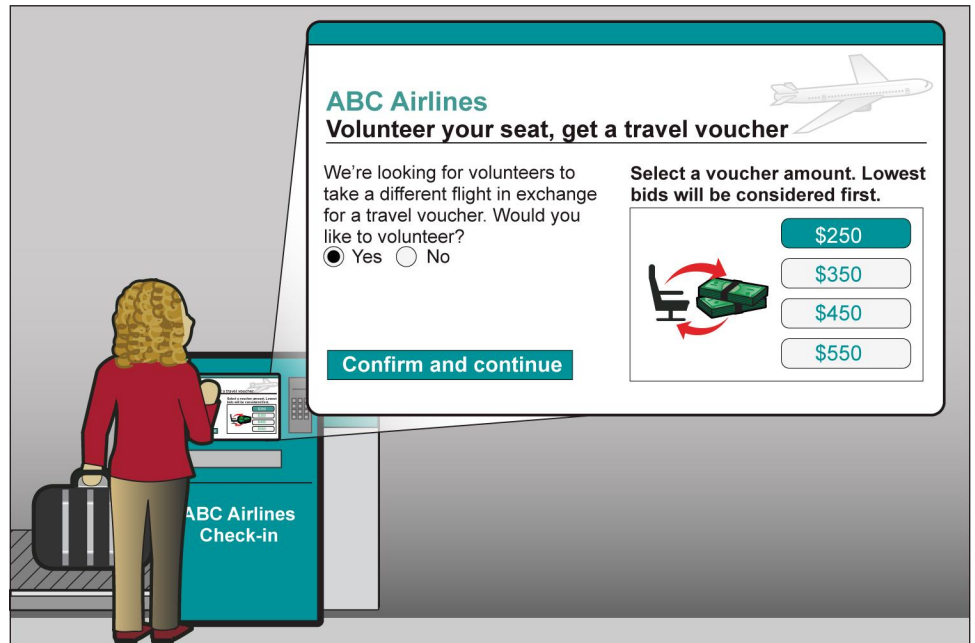
- **Providing passengers with the opportunity to propose acceptable voluntary denied boarding compensation.** Some airlines solicit passengers with flexible travel plans to identify compensation amounts they would willingly accept in exchange for

⁴³[GAO-19-76](#).

voluntarily giving up their seats and taking another flight. Once passengers submit their required compensation amount to the airline, the airline can then use that information to select passengers with the lowest amount of required compensation to accept a denied boarding.⁴⁴ This process allows airlines to, among other things, potentially avoid involuntary denied boardings, and identify which passengers require the least compensation in exchange for their travel flexibility. Airlines conduct this process on their website, via their mobile app, or at the check-in kiosk. In some cases, passengers who would consider changing their plans in exchange for compensation provide the airline with a specific dollar amount that they would be willing to accept to give up their seat. In other cases, airlines require each passenger to select a predetermined amount of compensation that they would accept to give up their seat, as illustrated in figure 4. For example, based on the figure below, an airline that oversold its flight would select a passenger who volunteered to give up their seat in exchange for \$250, assuming at least one passenger selected that amount. If no passengers selected that amount, the airline would identify a passenger with the next lowest amount—in this case, \$350. Our review identified at least three airlines that use this type of process to solicit volunteers to give up their seats.

⁴⁴This process is known as a reverse auction.

Figure 4: Example of an Airline’s Process to Identify Volunteers for Denied Boarding



Source: GAO summary of airline information. | GAO-20-191

- **Providing additional tools to employees.** According to stakeholders we interviewed, airlines have given their employees more discretion regarding the offers they can make to encourage passengers to volunteer to be denied boarding on an oversold flight, or provide training on handling such incidents.

While representatives from both consumer advocate organizations we interviewed generally supported some of the airlines’ actions to manage oversold flights, they also identified additional actions that airlines or DOT could take. Both consumer advocates we spoke to would like to see airlines increase transparency and passenger education related to denied boarding compensation. For example, these advocates believe that prior to agreeing to be voluntarily denied boarding, airlines should be required to inform passengers: (1) of the current compensation amounts for involuntary denied boardings, and (2) that compensation can be provided by cash or check (as opposed to a voucher).⁴⁵ Having such information

⁴⁵As previously mentioned, airlines are required to inform passengers who volunteer for denied boarding whether they are at risk of being involuntarily denied boarding and, if so, the compensation the airline must provide to them. See 14 C.F.R. § 250.2b (b).

would allow passengers to make more informed decisions about the compensation they would willingly accept to be voluntarily denied boarding. Additionally, one consumer advocate said explicitly that they would also like airlines to inform passengers who are involuntary denied boarding that compensation amounts set by DOT are minimum amounts.

Regarding potential additional actions, the FAA Reauthorization Act of 2018 required that DOT issue a rulemaking clarifying, among other things, that the compensation amounts set by DOT for involuntary denied boardings are the minimum compensation amounts that passengers can receive.⁴⁶ In October 2019, DOT officials indicated that DOT intends to issue its final rule in July 2020. Moreover, in November 2018, we made three recommendations to DOT to improve its passenger education efforts by, among other things, capturing feedback from passengers directly, and identifying available short- and long-term budgetary resources for these efforts.⁴⁷ DOT agreed with our recommendations and is in the process of implementing them.

More broadly, both consumer advocates we interviewed called for an end to overbookings. This could be achieved either voluntarily by airlines or in regulation by DOT. These advocates said that overbooking is an outdated practice that protected airlines from high no-show rates during a time when passengers could make multiple reservations and did not incur change fees. Given that this is no longer the case, it is not necessary for airlines to overbook their flights, according to these consumer advocates. They also pointed out that airlines have significant flexibility in their business operations, including, denying boarding when a flight is overbooked, or changing flight schedules. In contrast, passengers have little, if any, recourse if they need to change their travel plans. Most tickets have restrictions that prevent passengers from making changes to their flights without incurring high change fees. Consumer advocates believe that eliminating overbooking would have limited effects on airlines, given the restrictions on passengers' tickets.

According to three airline revenue management specialists, if airlines were prohibited from overbooking flights, they would likely end up operating aircraft with more empty seats, compared to current trends. Moreover, they also noted that if flights were less full, there could be

⁴⁶Section 425(e) of Pub. L. No. 115-254.

⁴⁷[GAO-19-76](#).

certain negative implications for airlines and passengers. For example, when fewer seats on a flight are filled with paying passengers, airlines' average costs per passenger are higher because many aspects of airlines' operational costs—such as salaries for crew, mechanic services, and airport landing fees—are generally the same, regardless of the number of passengers onboard. These same revenue management specialists also noted that a greater number of empty seats will generally decrease airline's revenue. One of them estimated that the reduced revenues could amount to tens of millions of dollars.

Some airlines would also likely change their revenue management practices, according to airline revenue management specialists. Those changes would largely focus on how airlines price their tickets. While two airlines have made a business decision not to overbook and have accepted the financial trade-off, revenue management specialists said that eliminating overbooking would be difficult for other airlines. In particular, all three revenue management specialists agreed that if airlines were prohibited from overbooking, some airlines may offer fewer discounted fare tickets.⁴⁸ Two revenue management specialists also said that it is likely that airlines would increase the average fare across all tickets slightly to account for the increased costs and potential lost revenue.⁴⁹ Finally, one revenue management specialist also said that airlines might add additional restrictions on tickets, such as by increasing penalties associated with a passenger not showing up for their flight or cancelling their ticket at the last minute. Moreover, even if airlines stopped overbooking, some passengers would still be denied boarding because factors other than overbooking—including some that are beyond the airline's control—can lead to denied boardings.

⁴⁸Airlines typically sell tickets at different fare levels on the same flight. These prices are generally set by demand for the flight, according to revenue management experts. For example, an airline may have 100 seats available at three different fare classes (\$200, \$400, and \$600). According to these experts, if prohibited from overbooking, the airline might choose to sell fewer tickets at the \$200 price; these tickets are typically the non-refundable tickets that passengers purchase early.

⁴⁹One of these representatives told us that in addition to increasing average airfares, airlines may also make changes to certain routes that no longer are profitable. This could result in airlines cutting routes or decreasing the frequency of service on certain routes, although the stakeholder told us this would only happen to a very small percentage of routes.

Agency Comments

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

We are sending copies of this report to the appropriate congressional committees, the Secretary of the Department of Transportation, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have questions concerning this report, please contact me at (202) 512-2834 or VonahA@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 key contributions to this report are listed in appendix I.



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Appendix I: GAO Contact and Staff Acknowledgments

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In addition to the individual named above, other key contributors to this report were: Ed Laughlin (Assistant Director); Amy Suntoké (Analyst-in-Charge); Amy Abramowitz; Sarah Arnett; Melissa Bodeau; Colson Campbell; Lori Fields; Dave Hooper; Mary-Catherine Overcash; Malika Rice; Pam Snedden; Melissa Swearingen; and Elizabeth Wood.

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