Airport and Airway Trust Fund: Less Than Half of Noncommercial Jet Fuel Tax Receipts Are Transferred

Information Presented to

Senate Committee on Commerce, Science, and Transportation and

House Committee on Transportation and Infrastructure

Introduction: Jet Fuel Fraud and Diversion Questions

- In the early 2000s, federal officials reported that the $0.025 per gallon difference between the federal excise tax for diesel fuel ($0.244 per gallon) and for jet fuel used in noncommercial aviation[1] ($0.219 per gallon), combined with the substitutability of the two fuels, could be encouraging diversion of jet fuel from aviation to truck usage.
  - Federal officials cited a 2001 KPMG Consulting, Inc. (KPMG) study that reported that more gallons of jet fuel were being produced than consumed by the aviation industry. KPMG estimated that over a ten-year period, this gap would result in approximately 39 billion gallons of jet fuel diverted to nonaviation use and approximately $8.3 billion in revenue loss for highway projects if truck operators were purchasing fuel that had been taxed at the noncommercial jet fuel tax rate.
  - In 2002 and 2003, Internal Revenue Service (IRS) officials testified that they were addressing areas of excise tax non-compliance, including the diversion of jet fuel to motor vehicles to illegally evade diesel fuel taxes.
  - In 2002, Federal Highway Administration (FHWA) officials testified that the potential for jet fuel diversion into the highway system results in financial losses to the Highway Trust Fund (HTF).

[1]The IRS defines noncommercial aviation as any use of aircraft other than in a business of transporting persons or property for compensation or hire by air. It also includes any use of an aircraft for a business use that is properly allocable to any transportation exempt from taxes. 26 C.F.R. § 48.4041-8(j). For the purposes of this report, noncommercial aviation refers to taxable noncommercial aviation activities.

Introduction: Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Jet Fuel Tax Changes

To address fuel diversion concerns, beginning in fiscal year 2006, Congress:

1) Equalized tax rates for jet fuel and diesel fuel purchased at the terminal rack[2] at $0.244 per gallon, and
2) Directed that initial tax receipts for sales of jet fuel taxed at $0.244 per gallon be deposited into the HTF.[3]

In addition, Congress established a process that maintained the pre-2006 effective tax rate of $0.219 per gallon on noncommercial jet fuel, whereby companies selling this fuel could:

1) Register with the IRS as "ultimate vendors" of jet fuel, and
2) Claim a $0.025 per gallon credit or refund for each sale of jet fuel used in noncommercial aviation.[4]

[2]The terminal rack refers to the mechanism used to dispense fuel products from the terminal into tank trucks or rail cars.
[3]Pub.L.No. 109-59 § 11161(c). Tax receipts from jet fuel put directly into the fuel tank of a noncommercial aircraft are deposited directly into the Airport and Airway Trust Fund.
[4]Pub.L.No. 109-59 § 11161(c). SAFETEA-LU also provides for a tax rate of $0.219 per gallon for jet fuel removed from an airport terminal into any aircraft. 26 USC 4081(a)(2)(C). Special rules and rates also apply for removals of jet fuel at secure airport terminals for commercial use and foreign trade.

Introduction: Tax Change Implications

- Once a credit or refund is provided to the ultimate vendor, the Treasury Department (Treasury) is required to transfer the remainder of the tax receipts from the sale from the HTF to the Airport and Airway Trust Fund (AATF).

- In cases where the vendor does not apply for a credit or refund or no credit or refund is provided to a vendor for the sale of jet fuel used in noncommercial aviation, the jet fuel tax receipts from the sale are not transferred from the HTF to the AATF.

- The Federal Aviation Administration (FAA) and aviation industry stakeholders have raised questions as to whether the AATF is receiving all taxes paid by noncommercial aviation users.

Mandate

The Fixing America's Surface Transportation (FAST) Act included a provision for us, within 180 days of enactment, to conduct a study of jet fuel used in noncommercial aviation and include estimates of:

- The number of vendors of jet fuel used in noncommercial aviation that are registered as an ultimate vendor;
- The number of vendors of jet fuel used in noncommercial aviation;
- The total amount of refund payments paid to registered ultimate vendors of jet fuel used in noncommercial aviation;
- The total amount of refund payments that would be made if all noncommercial aviation fuel vendors were registered as ultimate vendors and filed for refunds for all fuel sold to noncommercial buyers and the difference between this amount and the amount of refunds paid; and
- The number of diesel truck operators fraudulently using jet fuel taxed for use in aviation.[5]

[5]*See* Pub. L. No. 114-94, §42001, 129 Stat. 1312, 1762 (2015)

Research Questions

This briefing provides information on the following questions:

1) What is known about ultimate vendors of jet fuel used in noncommercial aviation?

2) What is known about the extent to which the Airport and Airway Trust Fund has been credited for sales of jet fuel used for noncommercial aviation?

3) What is known about the extent to which jet fuel has been diverted for nonaviation purposes?

Scope and Methodology

- To determine what is known about ultimate vendors, we analyzed IRS data on ultimate vendors, refunds and credits from fiscal years 2006–2015 and analyzed data on jet fuel vendors from the Aircraft Owners and Pilots Association (AOPA) for 2015. We also interviewed 17 industry stakeholders, including national aviation organizations and a non-generalizable sample of 4 vendors of jet fuel used in noncommercial aviation. The jet fuel vendors were selected based on size, whether the vendor was registered as an ultimate vendor of jet fuel, and whether they had applied for a refund on the sale on noncommercial jet fuel in the last 2 years. These interviews provided a sampling of views on topics related to our review and are not generalizable to all jet fuel vendors.

- To determine what is known about the extent to which the AATF has been credited for sales of jet fuel used in noncommercial aviation, we analyzed IRS data on transportation trust fund transfers from fiscal years 2000–2015; the most recent IRS data on fuel taxes from fiscal years 2006–2015; and FAA data on aviation fuel consumption from fiscal years 2006–2015.

Scope and Methodology (continued)

- To determine what is known about jet fuel used for nonaviation purposes, we reviewed relevant federal statutes and regulations, analyzed the most recent ARGUS International, Inc.[6] data on jet fuel prices and Energy Information Administration (EIA) data on diesel fuel prices from 2002–2015, and interviewed FAA, FHWA, and IRS officials and industry stakeholders.

- To assess the reliability of the data used for these research questions, we reviewed prior GAO reports, IRS, FAA and EIA documents, and interviewed officials from these agencies, as well as staff from AOPA and ARGUS International, Inc. We determined that the data were sufficiently reliable for the purposes of our research questions.

[6]ARGUS International, Inc. is an aviation services company that provides data and research services.

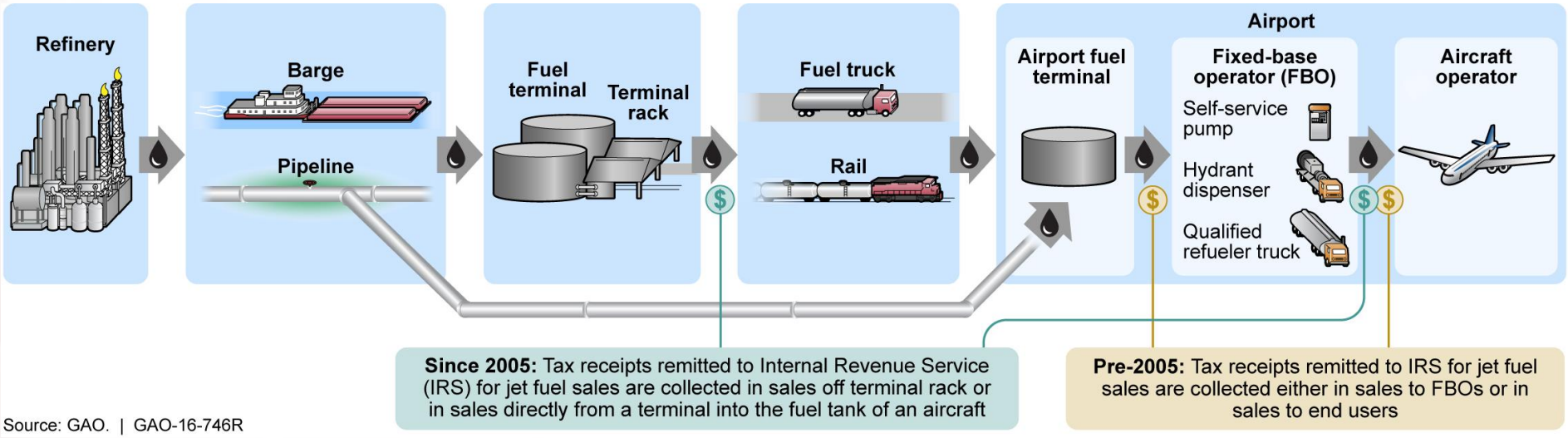
Background: Distribution of Jet Fuel

- Jet fuel is generally distributed to aircraft via fuel terminals located at airports by way of:
  - Pipeline, either from the refinery or from another fuel terminal, or
  - Ground transport, such as fuel truck or rail, where fuel is generally distributed from a terminal rack.
- Fixed-base operators (FBOs) often operate fuel terminals located at airports. FBOs are commercial businesses that operate at airports and provide aviation services to multiple types of customers, such as commercial and noncommercial aviation customers.

Background: Noncommercial Jet Fuel Taxation

- Prior to fiscal year 2005, the tax on jet fuel was applied at the point of sale either (1) to the FBO or (2) to the aircraft operator. Since fiscal year 2005, as part of efforts to combat jet fuel diversion, the jet fuel tax is applied when jet fuel is either (1) removed from the terminal rack or (2) removed directly from a terminal into the fuel tank of an aircraft.[7]

Figure 1: Noncommercial Jet Fuel Distribution Process and Point of Taxation



Source: GAO. | GAO-16-746R

[7]See Pub.L.No. 108-357.

Background: Ultimate Vendors of Jet Fuel

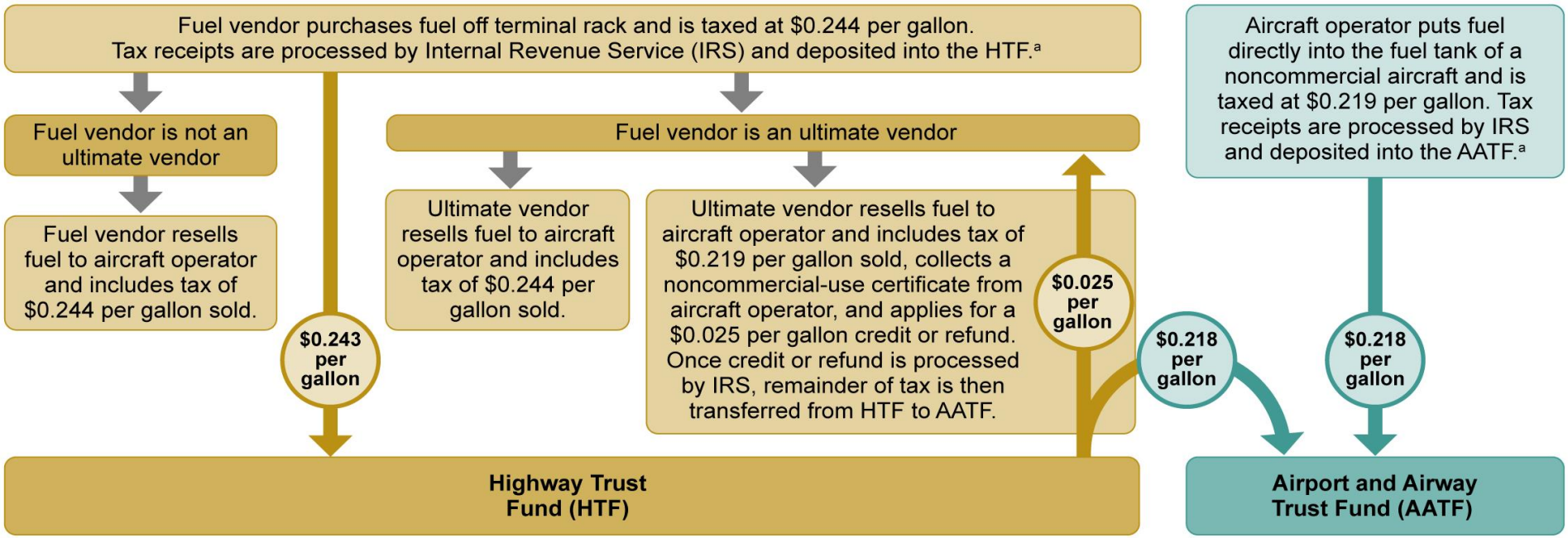
- As previously discussed, beginning in fiscal year 2006, Congress established a process for jet fuel vendors to obtain credits and refunds for jet fuel used in noncommercial aviation.[8]
- For jet fuel initially taxed at the rate of $0.244 per gallon, to become eligible to claim credits or refunds for jet fuel used in noncommercial aviation, companies need to
  1) be registered as an ultimate vendor of jet fuel with the IRS;
  2) not include the $0.025 per gallon claim amount in the sale price of jet fuel to an aircraft operator; and
  3) collect a signed certificate from the aircraft operator stating that the fuel is for noncommercial use.
- Ultimate vendors may include FBOs, refineries, and wholesalers.
- Not all ultimate vendors sell jet fuel used in noncommercial aviation.
  - For example, IRS also permits companies to register as ultimate vendors of jet fuel to claim refunds for jet fuel used in commercial or nontaxable aviation.

[8]Pub.L.No. 109-59 § 11161, 119 Stat. 114, 1969 (2005).

Background: Noncommercial Jet Fuel Tax Receipt Trust Fund Deposits and Transfers

- Biweekly, Treasury allocates excise tax receipts to the Airport and Airway Trust Fund (AATF) for noncommercial jet fuel usage based on estimates of tax liability, taking into account the expected credit and refund claims that will ultimately transfer money out of the Highway Trust Fund (HTF) and into the AATF. Then, on a quarterly basis, Treasury makes adjustments to the estimates based on actual tax liability and credit and refunds claims certified by IRS. Depending on the accuracy of the initial estimates, the actual transfers from the HTF to the AATF could be either positive or negative.

Figure 2: Process of Depositing and Transferring Noncommercial Jet Fuel Tax Receipts into Transportation Trust Funds



Source: GAO analysis of Internal Revenue Service data. | GAO-16-746R

[a]For each gallon of jet fuel sold for domestic use, $.001 is transferred to the Leaking Underground Storage Tank Fund.

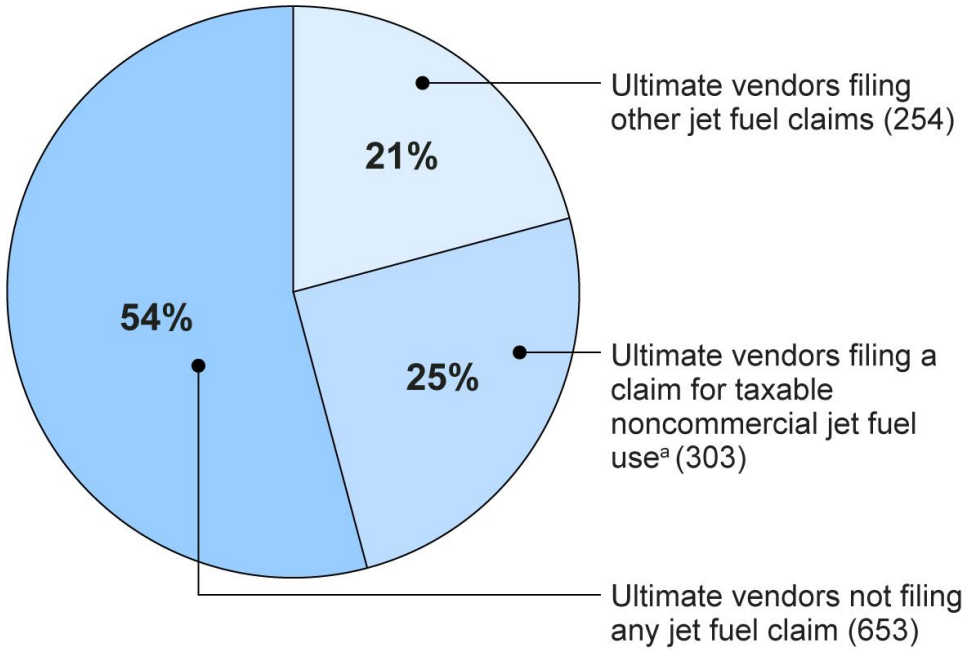
Objective 1 Summary: Ultimate Vendors of Jet Fuel Used in Noncommercial Aviation

- In fiscal year 2015, only a quarter of registered ultimate vendors filed a credit or refund claim for jet fuel used in noncommercial aviation.
- Following the new requirements imposed in 2006, ultimate vendor registrations increased. In addition, credits, and refunds provided to ultimate vendors of noncommercial jet fuel increased.
- The number of ultimate vendors of jet fuel used in noncommercial aviation is unclear, making the number of potential registrants unclear.
- IRS has issued approximately $97 million in noncommercial jet fuel refunds and credits since 2006, according to our analysis of IRS data.
- FBOs and other stakeholders identified challenges with the refund and registration process.

Objective 1: Claim Activity by Ultimate Vendors of Jet Fuel

- In fiscal year 2015, only a quarter of registered ultimate vendors filed a credit or refund claim for jet fuel used in noncommercial aviation.

Figure 3: Number and Percentage of Registered Ultimate Vendors of Jet Fuel Used in Aviation Filing Various Jet Fuel Tax Claims, Fiscal Year 2015



Source: GAO analysis of Internal Revenue Service data. | GAO-16-746R

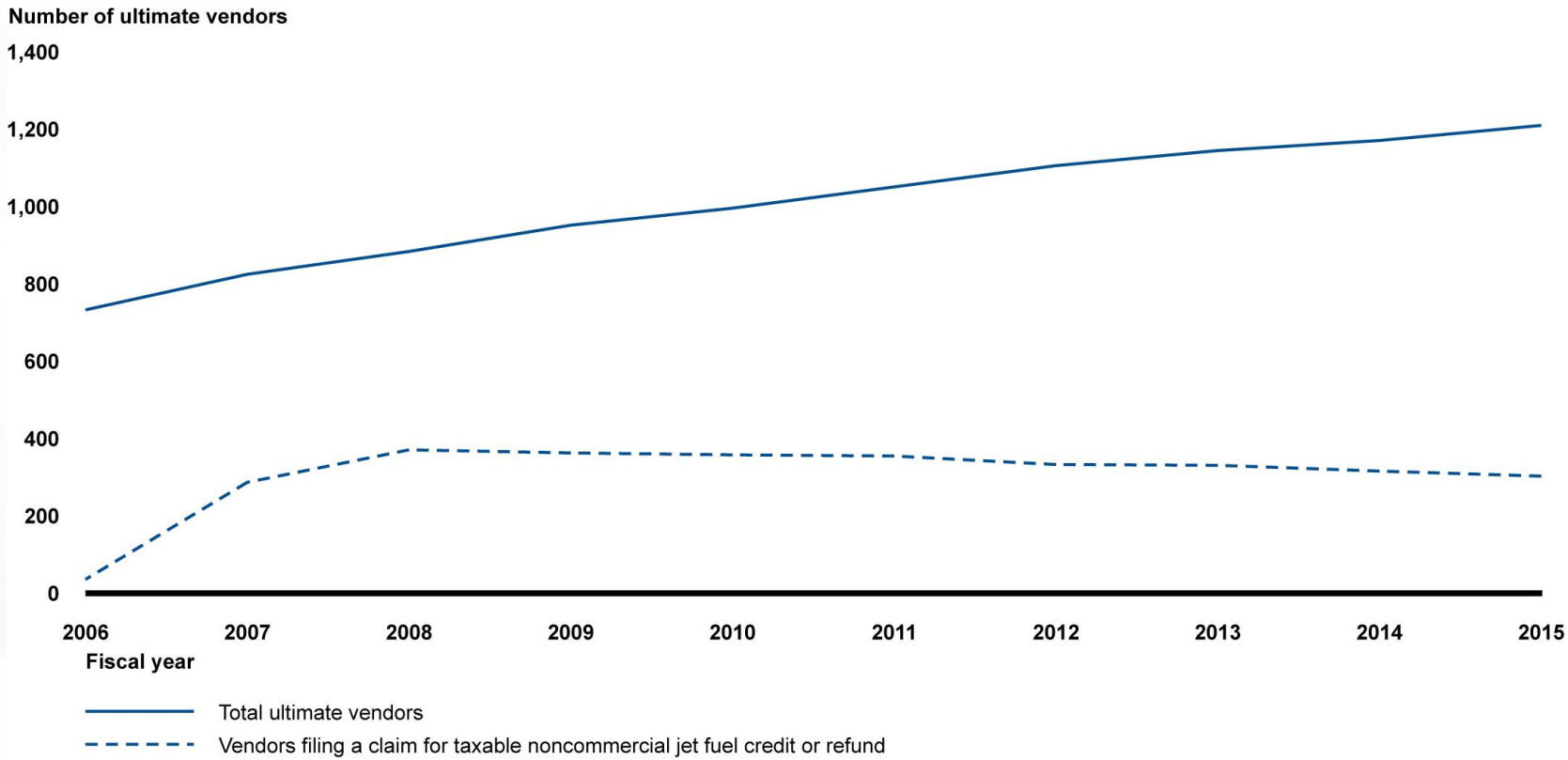
[a]Includes ultimate vendors that also filed credit or refund claims for jet fuel used in commercial or nontaxable aviation activities in addition to filing a claim for a credit or refund for jet fuel used in noncommercial aviation.

Data Table for Figure 3: Number and Percentage of Registered Ultimate Vendors of Jet Fuel Used in Aviation Filing Various Jet Fuel Tax Claims, Fiscal Year 2015

Category	Number	Percent	Category
Ultimate vendors filing other jet fuel claims	254	21	Ultimate vendors filing other jet fuel claims
Ultimate vendors filing a claim for taxable noncommercial jet fuel use (303)	303	25	Ultimate vendors filing a claim for taxable noncommercial jet fuel use (303)
Ultimate vendors not filing any jet fuel claim (653)	653	54	Ultimate vendors not filing any jet fuel claim (653)

Objective 1: Registrations of Ultimate Vendors and Claims for Credits or Refunds for the Sale of Noncommercial Jet Fuel

Figure 4: Ultimate Vendors Filing Claims for Credits and Refunds for Sale of Jet Fuel Used in Taxable Noncommercial Aviation and Total Ultimate Vendors, Fiscal Years 2006–2015



Source: GAO analysis of Internal Revenue Service data. | GAO-16-746R

Note: Prior to fiscal year 2006, ultimate vendors could claim refunds or credits for jet fuel used in commercial or nontaxable aviation activities, but not noncommercial activities.

Data Table for Figure 4: Ultimate Vendors Filing Claims for Credits and Refunds for Sale of Jet Fuel Used in Taxable Noncommercial Aviation and Total Ultimate Vendors, Fiscal Years 2006–2015

Fiscal year	Vendors filing a claim for taxable noncommercial jet fuel credit or refund	Total ultimate vendors
2006	36	733
2007	287	825
2008	371	884
2009	363	952
2010	358	996
2011	355	1051
2012	333	1106
2013	331	1145
2014	316	1171
2015	303	1210

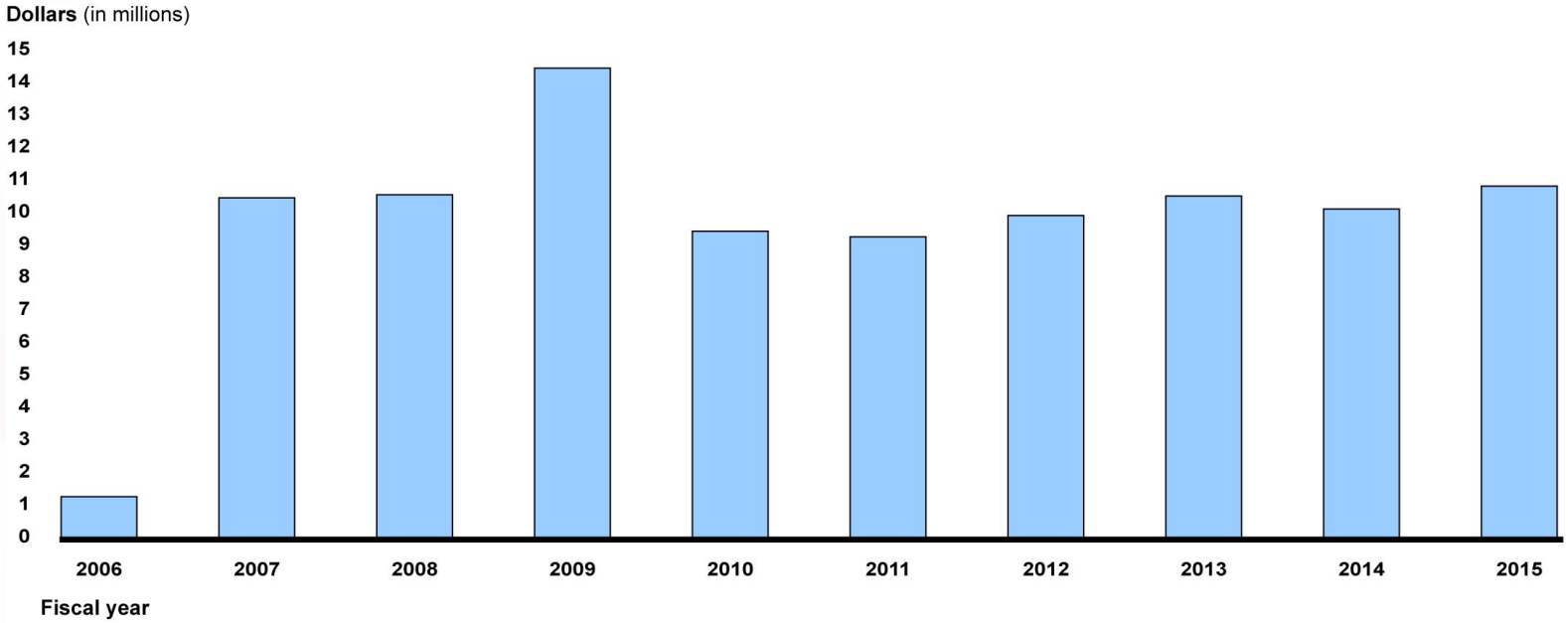
Objective 1: Potential Number of Ultimate Vendors is Unclear

- We identified 2,440 FBOs that provide jet fuel at airports in the United States, but could not determine how many of these vendors sell jet fuel to noncommercial operators.
- Neither the Department of Transportation (DOT) nor IRS track the number of noncommercial jet fuel vendors.
- We did not request access to tax information for this review and therefore could not get IRS data on the identity of each registered ultimate vendor. IRS provided us with aggregate information on registered ultimate vendors and the type of claims filed, so we were unable to determine how many of these 2,440 FBOs were registered with the IRS as an ultimate vendor.

Objective 1: IRS Credits and Refunds on Sales of Noncommercial Jet Fuel

- IRS has issued approximately $97 million in noncommercial jet fuel credits and refunds since 2006, according to our analysis of IRS data.
- The average refund or credit for the sale of jet fuel used in noncommercial aviation for ultimate vendors filling such a claim in fiscal year 2015 was approximately $36,000.

Figure 5: Internal Revenue Service Credits and Refunds on Sales of Taxable Noncommercial Jet Fuel, Fiscal Years 2006–2015



Source: GAO analysis of Internal Revenue Service data. | GAO-16-746R

Data Table for Figure 5: Internal Revenue Service Credits and Refunds on Sales of Taxable Noncommercial Jet Fuel, Fiscal Years 2006–2015

Fiscal year	Dollars in millions
2006	1.33395
2007	10.532
2008	10.627
2009	14.52
2010	9.49954
2011	9.32775
2012	9.98582
2013	10.5845
2014	10.1871
2015	10.8915

Objective 1: Views on Ultimate Vendor Registration and Refund Process

FBOs and other stakeholders we spoke to provided varying views on the registration and refund process, including:

- Ultimate vendor registration is challenging.
  - IRS notes that registering to become an ultimate vendor may take, on average, 13.5 hours; credit and refund claims may take, on average, up to 2 hours to prepare and submit and include between 15 to 54 hours of recordkeeping activities, depending on individual returns.
- Refund payments occur months after the sale.
  - IRS officials stated that refund payments are processed by the end of the quarter after the sale was reported to the IRS.
- The small refund amount ($0.025 per gallon) may limit the incentive to file a claim for some vendors.
- Noncommercial aircraft operators can't apply for a refund.
- Documentation that certifies the fuel is used in noncommercial aviation may be difficult to obtain from an aircraft operator or for any self-fueling sales.

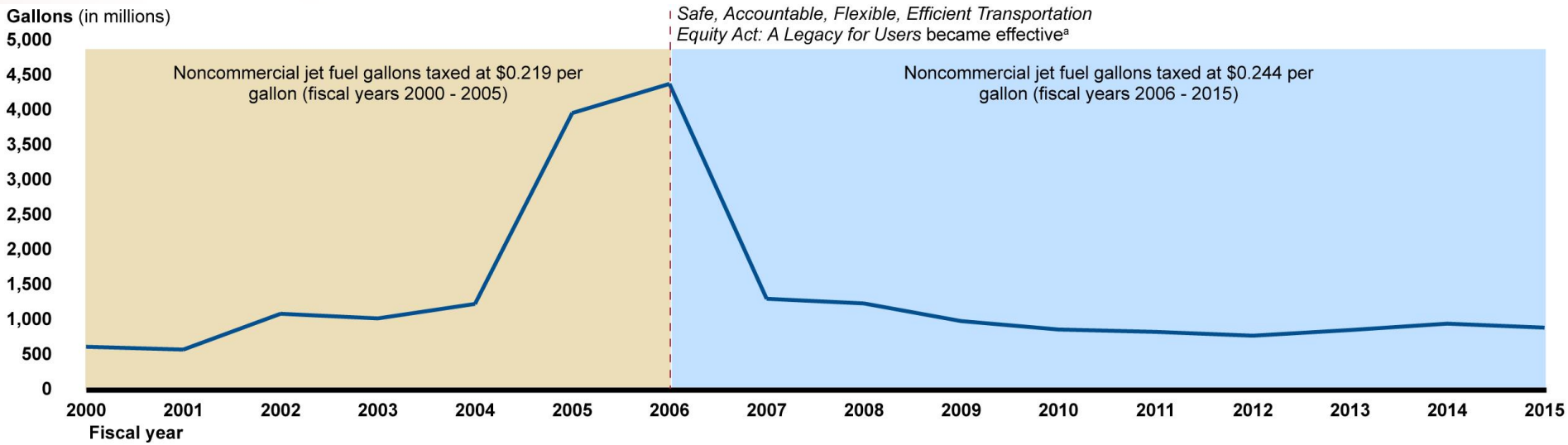
Objective 2 Summary: Noncommercial Jet Fuel Sales Credited to the AATF

- Noncommercial jet fuel consumption has been relatively constant from fiscal years 2000 through 2015; however, the number of jet fuel gallons taxed at the effective rate of $0.219 per gallon (noncommercial rate) decreased significantly in the years following the SAFETEA-LU tax changes in 2006.
- Using FAA and IRS data, we estimate that, since fiscal year 2006, about $850 million in noncommercial jet fuel tax receipts were transferred into the AATF from the HTF, compared with an estimated $1.9 billion to $2.9 billion in taxes paid on that fuel over the same time.
- Using FAA and IRS data, we estimate that, since fiscal year 2006, $120 million to $230 million in potential credits or refunds available for the sale of noncommercial jet fuel have been unclaimed by jet fuel vendors.
- Using FAA and IRS data, we estimate that, since fiscal year 2006, $1 billion to $2 billion in tax receipts have not been transferred into the AATF from the HTF for sales of noncommercial jet fuel.

Objective 2: Estimate of Noncommercial Jet Fuel Consumption

- Our analysis suggests that noncommercial jet fuel consumption has been relatively constant from fiscal year 2000 through fiscal year 2015, excluding fiscal year 2006, the year SAFETEA-LU tax changes became effective. IRS officials attributed the increases in 2005 and 2006 to legislative changes and potential delayed claims for credits and refunds.

Figure 6: Estimate of Noncommercial Jet Fuel Gallons Sold, Fiscal Years 2000–2015



Source: GAO analysis of Internal Revenue Service data. | GAO-16-746R

Note: This analysis assumes that from fiscal years 2000–2005, certain credits and refunds claimed for sales of jet fuel (IRS No. 69) were attributable to taxable commercial aviation activities. This estimate assumes that the following amounts from fiscal years 2006 - 2015 are all minimal and therefore have little effect on the analysis: the number of noncommercial gallons of jet fuel initially taxed at $0.219 per gallon; the number of gallons of both kerosene and jet fuel taxed at $0.244 per gallon for nontaxable or commercial purposes and left unclaimed for credits or refunds; and the number of gallons of kerosene used for taxable purposes and taxed at $0.244 per gallon.

[a]Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) required that fuel sold for noncommercial use off the terminal rack would be taxed at $0.244 per gallon and eligible vendors could apply for a $0.025 per gallon credit or refund. SAFETEA-LU also provides for a tax rate of $0.219 per gallon for jet fuel removed from an airport terminal into any aircraft. Special rules and rates also apply for removals of jet fuel at secure airport terminals for commercial use and foreign trade.

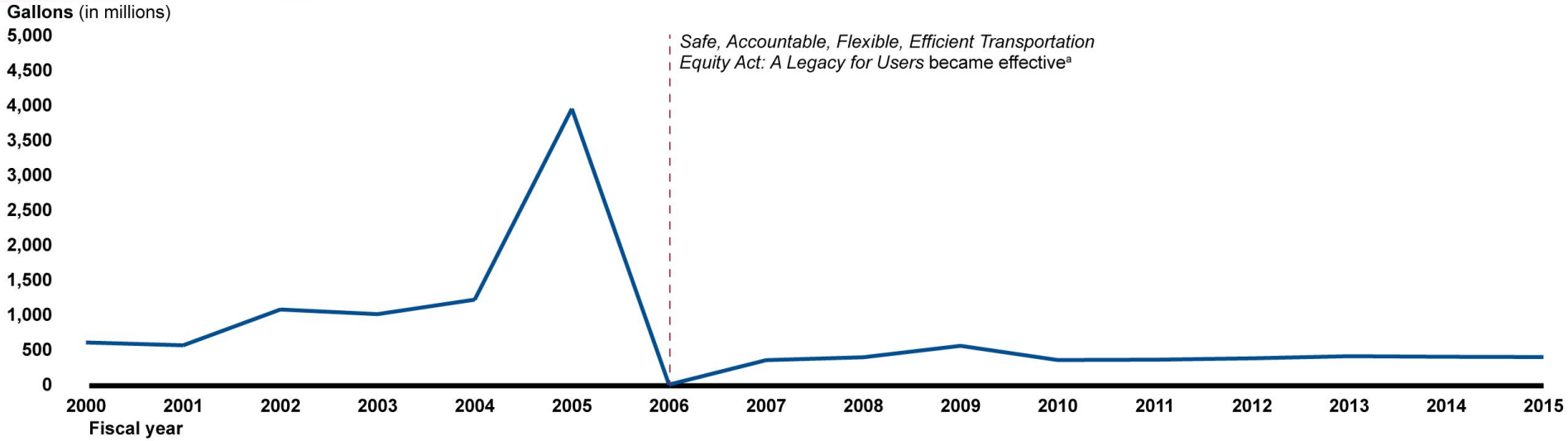
Data Table for Figure 6: Estimate of Noncommercial Jet Fuel Gallons Sold, Fiscal Years 2000–2015

Fiscal year	Gallons in millions
2000	620.798
2001	580.346
2002	1092.85
2003	1026.41
2004	1233.79
2005	3966.06
2006	4383.53
2007	1307.35
2008	1240.82
2009	988.099
2010	867.792
2011	833.687
2012	778.99
2013	860.043
2014	951.38
2015	894.206

Objective 2: Jet Fuel Sales of Gallons Effectively Taxed at Noncommercial Rate, Fiscal Years 2000–2015

- The average number of jet fuel gallons taxed at an effective rate of $0.219 per gallon (noncommercial rate) from fiscal years 2006–2015 was approximately three-quarters less than the average number of jet fuel gallons taxed at that rate during the six years prior to SAFETEA-LU.

Figure 7: Estimated Jet Fuel Sales of Gallons Taxed at Effective Rate of $0.219 per Gallon, Fiscal Years 2000–2015



Source: GAO analysis of Internal Revenue Service data. | GAO-16-746R

Note: Excluding data from fiscal years 2005 and 2006, the average number of jet fuel gallons taxed at an effective rate of $0.219 per gallon (noncommercial rate) after SAFETEA-LU was approximately fifty percent less than the average number of jet fuel gallons taxed at that rate prior to SAFETEA-LU. This analysis assumes that from fiscal years 2000–2005 certain credits and refunds claimed for sales of jet fuel (IRS No. 69) were attributable to taxable commercial aviation activities. This analysis also assumes that from fiscal years 2006–2015, the number of gallons of both kerosene and jet fuel sold for nontaxable or commercial purposes and taxed at $0.219 per gallon and left unclaimed for credits or refunds are minimal, and thus have little effect on the analysis.

[a]Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) required that fuel sold for noncommercial use off the terminal rack would be taxed at $0.244 per gallon and eligible vendors could apply for a $0.025 per gallon credit or refund. SAFETEA-LU also provides for a tax rate of $0.219 per gallon for jet fuel removed from an airport terminal into any aircraft. Special rules and rates also apply for removals of jet fuel at secure airport terminals for commercial use and foreign trade.

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2014	951.38
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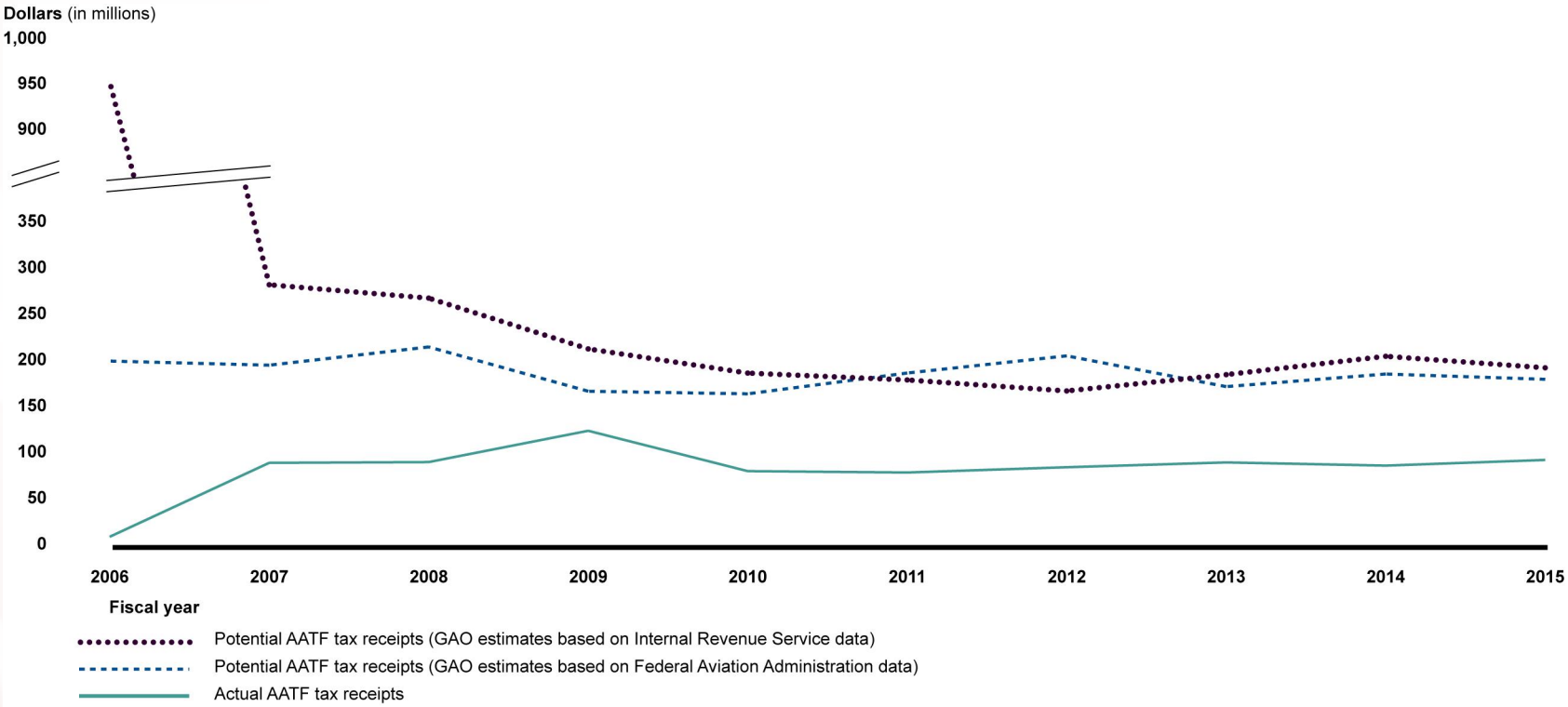
Objective 2: Actual and Estimated Potential Tax Receipts for Noncommercial Jet Fuel Deposited in the AATF

Figure 8: Actual and Estimated Potential Tax Receipts for Taxable Noncommercial Jet Fuel Sales Deposited into the Highway Trust Fund and Transferred to the Airport and Airway Trust Fund (AATF), Fiscal Years 2006–2015



Source: GAO analysis of Internal Revenue Service data. | GAO-16-746R

Note: This estimate assumes that the following amounts are all minimal and therefore have little effect on the analysis: the number of noncommercial gallons of jet fuel initially taxed at $0.219 per gallon; the number of gallons of both kerosene and jet fuel taxed at $0.244 per gallon for nontaxable or commercial purposes and left unclaimed for credits or refunds; and the number of gallons of kerosene used for taxable purposes and taxed at $0.244 per gallon. In addition, the data from the Federal Aviation Administration's General Aviation survey presented here reflects only taxable noncommercial activities.

Data Table for Figure 8: Actual and Estimated Potential Tax Receipts for Taxable Noncommercial Jet Fuel Sales Deposited into the Highway Trust Fund and Transferred to the Airport and Airway Trust Fund (AATF), Fiscal Years 2006–2015

Fiscal Year	Potential AATF Tax Receipts (IRS Data)	Actual AATF Tax Receipts	Potential AATF Tax Receipts (FAA General Aviation Survey Data)
2006	955.609	11.632	202.213
2007	285.002	91.839	197.753
2008	270.5	92.667	217.523
2009	215.405	126.614	169.5
2010	189.179	82.836	166.673
2011	181.744	81.338	189.238
2012	169.82	87.0764	207.875
2013	187.49	92.2964	174.509
2014	207.401	88.8315	188.162
2015	194.937	94.9736	182.46

Objective 2: Actual and Estimated Potential Tax Receipts, and Credits and Refunds for Noncommercial Jet Fuel

Table 1: Difference Between Actual and Estimated Potential Tax Receipts Transferred into the Airport and Airway Trust Fund from the Highway Trust Fund, and Credits and Refunds Claimed for Taxable Noncommercial Jet Fuel Sales, Fiscal Years 2006–2015

	Fiscal Years 2006–2015		Fiscal Year 2015	
	Analysis of FAA Data	Analysis of IRS Data	Analysis of FAA Data	Analysis of IRS Data
Estimated Potential Noncommercial Jet Fuel Tax Receipts	$1.9 billion	$2.9 billion	$182 million	$195 million
Actual Noncommercial Jet Fuel Tax Receipts Transferred into the Airport and Airway Trust Fund from the Highway Trust Fund	$850 million	$850 million	$95 million	$95 million
Estimated Percentage of Noncommercial Tax Receipts Transferred into Airport and Airway Trust Fund from the Highway Trust Fund	45 percent	30 percent	52 percent	49 percent
Estimated Noncommercial Jet Fuel Tax Receipts Not Transferred into the Airport and Airway Trust Fund from the Highway Trust Fund	$1 billion	$2 billion	$87 million	$100 million
Estimated Amount of Unclaimed Credits and Refunds for Jet Fuel Used in Taxable Noncommercial Aviation	$120 million	$230 million	$10 million	$11 million

Source: GAO analysis of Internal Revenue Service (IRS) and Federal Aviation Administration (FAA) data. | GAO-16-746R

Note: This estimate assumes that the following amounts are all minimal and therefore have little effect on the analysis: the number of noncommercial gallons of jet fuel initially taxed at $0.219 per gallon; the number of gallons of both kerosene and jet fuel taxed at $0.244 per gallon for nontaxable or commercial purposes and left unclaimed for credits or refunds; and the number of gallons of kerosene used for taxable purposes and taxed at $0.244 per gallon. In addition, the data from the FAA General Aviation survey data presented here reflect only taxable noncommercial activities. Differences in the estimated amount of tax receipts and refunds between the analysis of FAA and IRS data are primarily due to differences in the estimated consumption of jet fuel used in taxable noncommercial aviation in fiscal year 2006.

Objective 3 Summary: Jet Fuel Diverted for Nonaviation Purposes

- Stakeholders reported that jet fuel diversion for nonaviation purposes is possible but evidence of it occurring is rare.
- Economic incentives for jet fuel diversion are limited, while disincentives, such as tax penalties, are higher.
- Engine technology improvements and fuel composition changes since 2007 limit incentives for jet fuel diversion.

Objective 3: Jet Fuel Diversion for Nonaviation Purposes

- IRS officials stated that they confirmed that one taxpayer was charged with civil fraud related to the sale of jet fuel used in commercial aviation in the late 1980s.
  - IRS officials stated that some instances of jet fuel diversion and fraud occurred prior to the passage of the SAFETEA-LU provisions and virtually ceased following the passage of the law. However, IRS officials noted that they are not required to retain records for longer than seven years, and as a result, could not provide documentation of such occurrences prior to the passage of SAFETEA-LU.

- DOT officials and industry stakeholders we spoke to stated that instances of jet fuel diverted or used for nonaviation purposes are rare.
  - DOT officials stated they were not aware of any jet fuel diversion taking place while a majority of the industry stakeholders we spoke to stated that jet fuel diversion was nonexistent.
  - A few industry stakeholders told us that jet fuel may have been blended with diesel fuel to lower the freezing point of diesel fuel during the winter months.
  - A few industry stakeholders stated that jet fuel may be used as fuel in off-highway vehicles that operate only on the airport property.

Objective 3: Economic Incentives for Jet Fuel Diversion

- On average, between 2002 and 2015, the average retail price of jet fuel was $2.00 per gallon (75 percent) higher than the retail price of highway diesel.
  - This analysis was based on a survey of retail prices for jet fuel reported by FBOs to ARGUS International, Inc. and published in *Business and Commercial Aviation* over that time and retail prices for diesel fuel collected by the Energy Information Administration (EIA).
- The average refinery price of diesel and jet fuel has been roughly comparable since 2002, according to the EIA.
- In addition, efforts to avoid paying the federal excise tax on motor fuel or jet fuel can result in financial penalties or jail.[9]

[9] 26 U.S.C. § 7201

Objective 3: Differences in Engine Technology and Fuel Composition

- Beginning with model year 2007 vehicles, the Environmental Protection Agency (EPA) adopted new emission standards for diesel engines.[10] These standards were based on the adoption of high-efficiency emission-reducing technologies that require diesel fuel with reduced sulfur content.
- As a result, EPA introduced requirements for the use of ultra low sulfur diesel fuel that reduced the maximum amount of sulfur in diesel fuel from 500 to 15 parts per million.
  - In contrast, jet fuel may contain up to 200 times as much sulfur (3,000 parts per million).
- Use of higher sulfur jet fuel in newer diesel engines may damage these emission-reducing technologies and inhibit their ability to reduce emissions.

[10] *See* 66 Fed. Reg 5002 (Jan. 18, 2001).

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