

IATA ECONOMIC BRIEFING

INFRASTRUCTURE COSTS

MARCH 2013

SUMMARY

- Airlines and passengers are estimated to have paid at least US\$92.3 billion for the use of airport and air navigation infrastructure globally in 2011, equivalent to 14.4% of the cost of transport¹.
- This represents a 1.1% point rise in the proportion of transport costs associated with infrastructure charges since 2007. On a per passenger basis, charges rose 9% between 2007 and 2011 and by over a fifth on a per flight basis. These are significantly higher rates than airline yield growth.
- The total includes airport aeronautical revenues reported by the Airports Council International (ACI) as well as air traffic management (ATM) revenues reported by major air navigation service providers, where available. Levies collected to fund air navigation and security infrastructure in the United States have also been included.
- Passengers directly pay 47% of the total cost (\$43.3 billion) and airlines 53% (\$49.1 billion).
- This analysis incorporates available financial data covering a large proportion of global air transport operations but not all charges are reflected due to data limitations. The total is a conservative estimate of actual charges.

2011 USER CHARGES ESTIMATE

- In 2011 airlines and passengers are estimated to have paid at least US\$92.3 billion for the use of aviation infrastructure globally. Chart 1 shows the major components of this total and further explanation of how they have been derived follows later in this note. Almost two-thirds of the total relates to provision of aeronautical services by airports worldwide, including landing charges and passenger handling fees. A further 19% relates to the provision of air navigation services outside of the US. The remaining 16% relates to funding of air navigation, airport development and homeland security infrastructure in the United States – the largest aviation market.

Chart 1: User charges 2007 vs 2011

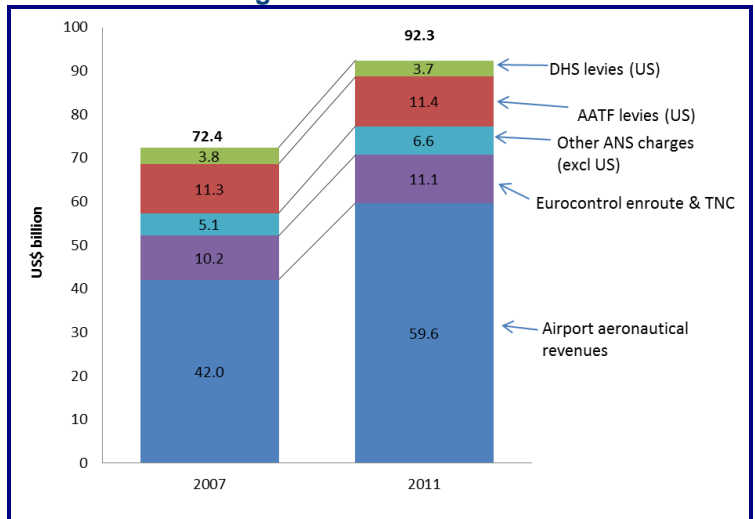


Table 1: User charges % of transport costs

	2007	2011
Total user charges, \$b	72.4	92.3
Levied on airlines, \$b	37.0	49.1
Levied on pax, \$b	35.4	43.3
Total airline revenues, \$b	509.9	597.3
Plus user charges levied on pax, \$b	35.4	43.3
Total cost of transport for users, \$b	545.2	640.5
User charges proportion of total cost	13.3%	14.4%

Table 2: Development in user charges

	2007	2011	% change
Total user charges, \$b	72.4	92.3	
Scheduled pax, m	2,418	2,830	
average user charge - pax basis, \$	29.9	32.6	9.0%
Flights, thousands	26,656	27,661	
average user charge - flight basis, \$	2,716	3,338	22.9%
Total airline revenues, \$b	509.9	597.3	
average airline revenue - pax basis, \$	210.9	211.1	0.1%
OECD CPI, index	105.2	115.0	9.3%

Sources: ICAO/IATA (traffic & revenues), OECD (CPI), IATA analysis (user charges)

¹ Total cost of transport is calculated as commercial aviation revenues plus portion of user charges levied via passenger ticket in addition to the fare. It excludes passenger taxes levied by governments.

- As outlined in Table 1 these user charges are equivalent to 14.4% of the total cost of air transport for users in 2011. The average user charge per passenger journey has risen 9% over the period 2007 to 2011 and by over a fifth on a per flight basis, as shown in Table 2. Conversely, growth in airline revenue per passenger has not even kept pace with inflation. In 2011 user charges represent a larger portion of the total cost of transport, up 1.1% points compared to the 2007 level prior to the financial crisis.

USER CHARGES COMPONENTS

- Aeronautical charges** at airports made up two-thirds of total user charges paid by passengers and airlines in 2011. These are reported as aeronautical revenues in airport accounts and ACI publish annual figures for the industry. The latest data from ACI shows that airports generated \$59.6 billion in aeronautical revenues in 2011².
- Charges relating to the provision of en-route and terminal area (TNC) **air navigation services by Eurocontrol** for flights in 2011 are estimated at \$11.1 billion³. Flights arriving or departing Eurocontrol member states represent around a quarter of scheduled flight movements globally.
- ATM related revenues for major **ANSP operators outside of Europe and the US** amounted to \$6.6 billion in 2011, as shown in Table 3. These revenue figures are as reported by CANSO⁴ where available, else in operator or government reports. Revenues not directly associated with the provision of navigation services have been excluded as far as possible. About a third of the world's scheduled flights operate in the airspaces controlled by these ANSPs, implying an average charge per movement around half that levied in Europe.
- The **US Airport and Airway Trust Fund (AATF) levies** on commercial passenger tickets, cargo and jet fuel totalled \$11.4 billion in 2011⁵. The AATF provides the bulk of the funding for operating US air navigation services which handle about 30% of worldwide scheduled traffic. Several billion dollars per year are also allocated to improving airport infrastructure across the country⁶. This funding for airports is additional to the aeronautical revenues noted above.
- A number of **charges related to security and border control** in the US are levied on users by the Department of Homeland Security (DHS) and related agencies such as the Transportation Security Administration (TSA). In 2011 these levies amounted to \$3.7 billion. Of this total \$2.25 billion relates to September 11th Security Fee and Aviation Security Infrastructure Fee (ASIF) collections⁷. The remaining amount relates to funding operations of immigration, customs and border control infrastructure, including the Animal and Plant Health Inspection Service (APHIS)⁸.
- The components described above are based on available data sources covering a large proportion of global air transport operations. However there are additional charges, particularly for ANS provision, which have not been

Table 3: ATM revenues for major ANSPs

2011 ATM revenues	USD billion	% of scheduled flights worldwide
US	via AATF	30%
Eurocontrol enroute & TNC	11.1	23%
Other major ANSPs:	6.57	33%
<i>China</i>	0.09	
<i>Canada</i>	1.16	
<i>Brazil</i>	0.50	
<i>Japan</i>	1.45	
<i>India</i>	0.44	
<i>Australia</i>	0.75	
<i>Russian Federation</i>	1.26	
<i>Indonesia</i>	0.10	
<i>Mexico</i>	0.16	
<i>South Korea</i>	0.03	
<i>Thailand</i>	0.18	
<i>New Zealand</i>	0.13	
<i>United Arab Emirates</i>	0.05	
<i>South Africa</i>	0.15	
<i>Taiwan</i>	0.09	
<i>Hong Kong</i>	0.04	

Source: CANSO, company/government reports (ATM revenues); SRSanalyser (scheduled flights)

² ACI Economics Report 2012. In this IATA analysis it is assumed that the \$2.7 billion of Passenger Facility Charges (PFC) collected during 2011 to partially fund airport operations in the United States are included in aeronautical revenues as reported by ACI. Data on PFC receipts at http://www.faa.gov/airports/pfc/monthly_reports/

³ In 2010 enroute and TNC charges levied directly on users by Eurocontrol amounted to \$10 billion (see 2010 ATM Cost-Effectiveness Benchmarking report, p18). Estimate for 2011 assumes continuation of historic trends in proportion of charges levied directly on users by Eurocontrol.

⁴ ATM Report and Directory 2012, CANSO, May 2012

⁵ FAA, http://www.faa.gov/about/office_org/headquarters_offices/apl/aatf/historical_data/

⁶ FAA, http://www.faa.gov/airports/aip/grant_histories/

⁷ TSA, <https://www.tsa.gov/stakeholders/historical-fee-collection-data>

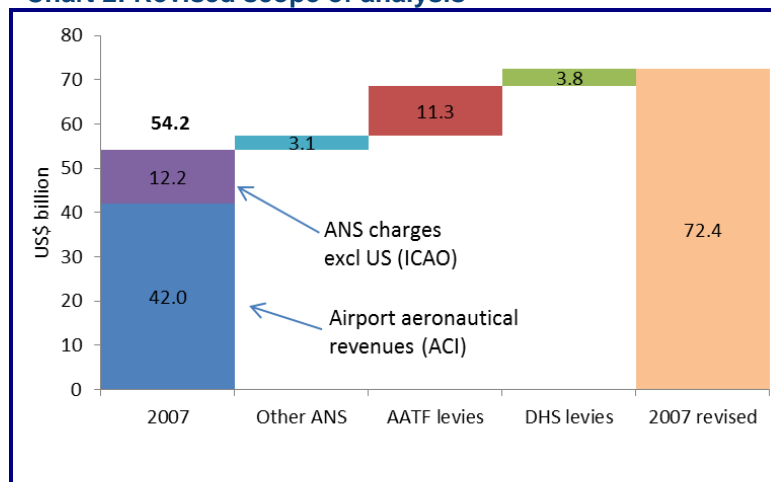
⁸ Airlines for America (A4A) analysis <http://airlines.org/Pages/A4A-Presentation-Industry-Review-and-Outlook.aspx>

captured here due to data limitations. As such, the overall estimate for total user charges presented here should be considered conservative.

REVISED SCOPE OF ESTIMATE

- This analysis updates and extends previous research estimating how much users pay for aviation infrastructure⁹. The earlier analysis showed that users paid at least \$54.2 billion for the use of infrastructure in 2007. That estimate included contributions by passengers and airlines to airport aeronautical revenues (as reported by ACI) as well as payments by airlines to ANSPs for use of navigation services (as reported by ICAO).
- Excluded from the earlier analysis were payments from passengers via taxes on tickets and by airlines via taxes on jet fuel into the US Airport and Airway Trust Fund (AATF) which is used to fund airport and air navigation services in the United States. In 2007 contributions to the AATF totalled \$11.3 billion. Also excluded were levies on airlines and passengers related to provision of security, immigration and customs services by the US Department of Homeland Security which totalled \$3.8 billion in 2007.
- Further investigation into global ANS charges suggests that total charges outside of the US are likely to be somewhat higher than the ICAO historic reported total for 2007. Eurocontrol en-route and TNC charges alone amounted to \$10.2 billion in 2007. A survey of reported ATM-related revenues from major ANSPs (excluding US and Eurocontrol members) totals another \$5.1 billion. On this basis our previous analysis is likely to have underestimated total ANS charges (excluding the US) by around \$3.1 billion.
- As illustrated in Chart 2, adding these components to the ACI aeronautical revenues and ICAO assessment of navigation charges outside of the US drives a revised estimate for 2007 user charges of \$72.4 billion, equivalent to 13.3% of total transport costs in that year.

Chart 2: Revised scope of analysis



⁹ "Infrastructure Costs", IATA July 2009 http://www.iata.org/whatwedo/Documents/economics/Infrastructure_Costs_Jul09.pdf

GLOSSARY

- ↗ A4A – Airlines for America
- ↗ AATF – Airport and Airway Trust Fund
- ↗ ACI – Airports Council International
- ↗ ANS – air navigation services
- ↗ ANSP – air navigation service provider
- ↗ APHIS – Animal and Plant Health Inspection Service
- ↗ ASIF – Aviation Security Infrastructure Fee
- ↗ ATM – air traffic management
- ↗ CANSO – Civil Air Navigation Services Organisation
- ↗ DHS – Department of Homeland Security
- ↗ FAA – Federal Aviation Administration
- ↗ ICAO – International Civil Aviation Organisation
- ↗ TNC – terminal navigation charge
- ↗ TSA – Transportation Security Administration