

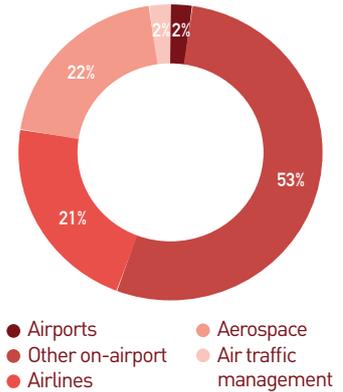


NORTH AMERICA¹⁶⁴

Air transport supports 7.6 million jobs and \$791 billion in GDP in North America



Direct jobs generated by air transport, 2014



841.8
million passengers

10,660,954
flights

1.5
trillion RPKs

1,080
commercial airports

175
airlines

7,971
aircraft in service

2
air navigation service providers

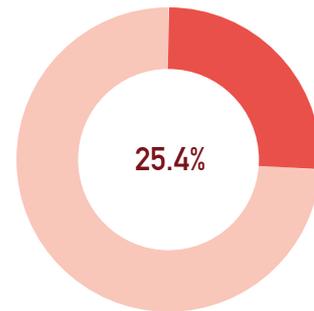
83%
Average regional load factor

The air transport industry in North America directly generated an estimated 2.4 million jobs in 2014.

- » 517,000 of those people (21% of the total) were in jobs for airlines or handling agents (for example, flight crew, check-in staff, maintenance crew, reservations and head office staff).
- » Another 41,000 people (2% of the total) worked for airport operators (for example, in airport management, maintenance, security and operations).
- » 1.3 million jobs (53%) were on-site in airports, at retail outlets, restaurants, hotels, etc.
- » A further 534,000 people (22%) were employed in the manufacture of civil aircraft (including systems, components, airframes and engines).
- » Air navigation service providers employed an additional 40,000 people (2%).

As well as this direct employment in the operations of the air transport sector itself, the sector's impact reaches further through North American economies. Including direct impacts, the effect of the sector's procurement of goods and services through its supply chain, and the benefits that arise when employees in the industry and its supply chain spend their wages in the local consumer economy, the air transport sector supported 6.2 million jobs and contributed \$654 billion to GDP in North America in 2014.

North America's share of global passenger traffic, 2014



Total jobs and GDP generated by air transport, 2014

JOB TOTAL	Category	GDP TOTAL
7.6 million	Tourism catalytic	\$791 billion
1,400,000	Induced	\$136.8 bn
1,200,000	Indirect	\$131 bn
2,500,000	Aviation direct	\$271.1 bn
2,400,000		\$252 bn

Projected annual growth rate for international traffic by region, 2014 - 2034⁴⁸

AFRICA	5.4%
ASIA-PACIFIC	5.1%
EUROPE	3.6%
LATIN AMERICA & CARIBBEAN	4.7%
MIDDLE EAST	6.0%
NORTH AMERICA	2.7%
APEC	3.9%
EUROPEAN UNION	3.6%
SMALL ISLANDS STATES	4.9%
DEVELOPING COUNTRIES	5.0%
OECD	3.5%
WORLD	4.3%

In addition, the spending by foreign tourists – most of whom arrive by air – supported an estimated 1.4 million jobs and contributed \$137 billion to GDP in North America's economies in 2014.

In total, the industry supported 7.6 million jobs and made a \$791 billion contribution to GDP in North America. This accounted for 12% of the jobs and 30% of the GDP supported by the air transport industry worldwide.

The past five years have seen growth in passenger traffic in North America. The number of revenue passenger kilometres flown has increased by 14% between 2010 and 2014, or an average of 3% per year. The continent's air travel expansion is expected to continue at the same rate over the next two decades.

This increase will, in turn, drive growth in the economic output and jobs that are supported by the air transport industry on the continent in the next 20 years. By 2034, Oxford Economics forecasts that the impact of air transport and the tourism it facilitates in North America will have grown to support 11 million jobs (43% more than in 2014) and a \$1.5 trillion contribution to GDP (a 91% increase). Much of this growth is likely to

be attributed to North America's status as a manufacturing powerhouse.

For North America, the focus needs to be on the implementation of the NextGen air traffic control system, which will move air traffic management in some of the busiest skies in the world from ground-based radar to satellite navigation. Some of the planned programmes are already in place, but more needs to be done. Once fully implemented, the Federal Aviation Administration (FAA) expects NextGen to deliver \$134 billion in direct airline, industry, and passenger benefits by 2030. The efficiency savings, especially, could be vast. CO₂ emissions are forecast to be reduced by 52.6 million tonnes by 2030.

**Note: In the United States, the FAA also collects economic impact data, with which these numbers are aligned. The FAA assessment further evaluates the much wider economic activity that is supported by air transport (including general aviation and the domestic tourism markets that this report does not include). Accordingly, with these wider catalytic impacts included, the total number of jobs supported by civil aviation in the USA alone is around 11.3 million, with a contribution to GDP of around \$807 billion⁶⁵.*



Investing in the fuel of the future



How to dispose of the vast amounts of municipal waste generated in towns and cities across the world is without doubt an environmental challenge of its own. At present, much of this non-recyclable waste is simply sent straight to landfill sites, a process which comes with a significant environmental cost.

However, change is on the horizon following a landmark partnership between United Airlines and Fulcrum BioEnergy. In June 2015, United announced a \$30 million equity investment in the fuels developer.

Fulcrum specialises in converting household waste into sustainable alternative jet fuel through a thermochemical process that converts normal waste into a synthesis gas, which is in turn converted into jet fuel through the 'Fischer-Tropsch' process.

The sustainability credentials of the Fulcrum process are impressive. Rather than burying the waste in landfill sites, allowing it to gradually emit greenhouse gases such as methane, it can be used to power a flight instead, avoiding 'doubling-up' of emissions. The Fulcrum process also tackles the land-use issues associated with non-sustainable alternative fuels and in actual fact improves land availability due to the decrease in the size of landfill sites.

United and Fulcrum's deal seeks to jointly develop up to five projects located near United's hubs, providing employment opportunities, and has the potential to produce 680 million litres of fuel per year. To ensure that momentum on this project is maintained, United has also negotiated a long-term supply agreement with Fulcrum and, subject to availability, will have the opportunity to purchase at least 90 million gallons of sustainable aviation fuel a year for a minimum of ten years.