NextGen Performance — National Airspace System

On any given day, more than 102,000 flights are in the skies in the United States. Only one-third of those operations are commercial carriers. The remaining two-thirds include general aviation, with private planes and business jets, air taxi flights, military flights and air cargo flights. This translates into roughly 5,000 planes in the skies above the United States at any given moment. More than 14,500 federal air traffic controllers in airport traffic control towers (ATCT), terminal radar approach control (TRACON) facilities and air route traffic control centers (ARTCC) guide pilots through the system. These controllers provide air navigation services to aircraft in domestic airspace and 24.6 million square miles of international oceanic airspace delegated to the United States by the International Civil Aviation Organization (ICAO). The FAA's mission is to provide the safest, most efficient aerospace system in the world, and NextGen is the FAA's comprehensive overhaul of the National Airspace System (NAS) to make air travel more convenient and dependable.

All results are reported by Fiscal Year (FY), October 1 — September 30, or Calendar Year (CY).

NextGen Implementation Plan (PDF)

Environment and Energy

Describes enabling activities leading to the establishment and implementation of the NextGen Environmental Management System, the strategy for ensuring compliance with the National Environmental Policy Act and technologies that support NextGen environmental goals.

Scorecard

Fuel burn can be a function not only of aircraft size and flight stage length, which varies with the actual mix of flights across city pairs, but also of the weather, congestion and other operating conditions, which may vary from year to year and from one city pair to another. This metric is not a direct measure of operational fuel efficiency and should not be used as a proxy for system fuel efficiency.

The metrics are calculated based on data provided by select airlines for the 104 NAC recommended city pairs. The data does not include all operations for the select city pairs. See the Fuel Burn Reporting Carriers and Fuel Burn City Pairs sections of the NPS Reference Guide for additional information.

FuelBurn performance indicators

Performance Indicator Fiscal Year		2013	2014
Average Fuel Burn *Pounds* **Fuel Burn is defined as the actual fuel used between gate departure and gate arrival. This metric is reported as an aggregated per flight average for all key city pairs over the course of a Fiscal Year (October-September). Average fuel used per flight is influenced by the mix of flying across city pairs, aircraft size, traffic carried, aircraft performance characteristics and weather. Accordingly, as reported, this metric is not a direct measure of operational fuel efficiency and should not be used as a proxy for system fuel efficiency.**		10,364	10,457
Average Gate Weight *Pounds* **Actual aircraft gate pushback weight, averaged across the flights reported in the Fuel Burn metric.**		135,879	136,630
Average Great Circle Distance *Nautical Miles* **The shortest distance between any two points on the surface of a sphere measured along a path on the surface of the sphere. While the great circle distance between an airport pair remains consistent over time, changes in the frequency of specific airport pairs in the data set may affect this measure.**		579	589
Departure Mix by Fleet Type *Percent* **Breakdown of the types of aircraft included in the Average Fuel Burn metric data sample based on the categorizations in FAA Order JO 7340.2E.**	**Heavy**	1.8	1.7
	Large	79.7	79.4
	Medium	18.5	18.9

FuelBurn performance indicators

Performance Indicator Fiscal Quarter	2012 Q2	2012 Q3	2012 Q4	2013 Q1	2013 Q2	2013 Q3	2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2

Average Fuel Burn *Pounds* **Fuel Burn is defined as the actual fuel used between gate departure and gate arrival. This metric is reported as an aggregated per flight average for all key city pairs over the course of a Fiscal Year (October-September). Average fuel used per flight is influenced by the mix of flying across city pairs, aircraft size, traffic carried, aircraft performance characteristics and weather. Accordingly, as reported, this metric is not a direct measure of operational fuel efficiency and should not be used as a proxy for system fuel efficiency.**		10,278	10,301	10,159	10,222	10,411	10,460	10,352	10,394	10,562	10,556	10,323	10,432	10,526
Average Gate Weight *Pounds* **Actual aircraft gate pushback weight, averaged across the flights reported in the Fuel Burn metric.**		132,714	134,435	133,610	136,267	136,706	135,620	135,048	136,311	136,929	137,554	135,744	135,657	135,669
Average Great Circle Distance *Nautical Miles* **The shortest distance between any two points on the surface of a sphere measured along a path on the surface of the sphere. While the great circle distance between an airport pair remains consistent over time, changes in the frequency of specific airport pairs in the data set may affect this measure.**		574	571	564	569	582	584	581	584	592	594	586	592	596
Departure Mix by Fleet Type *Percent* **Breakdown of the types of aircraft included in the Average Fuel Burn metric data sample based on the categorizations in FAA Order JO 7340.2E.**	**Heavy**	2.1	2.3	1.9	1.9	1.9	1.7	1.6	2.0	2.0	1.6	1.2	1.5	1.2
	Large	77.5	76.1	77.7	81.1	82.0	78.4	77.9	78.5	79.0	80.2	80.1	81.5	80.3
	Medium	20.4	21.6	20.4	17.0	16.1	19.9	20.5	19.5	19.0	18.2	18.7	17.0	18.5

Environment performance indicators

Performance Indicator (CY)	2005	2006	2007	2008	2009	2010	2011	2012	2013
CO_2 Emissions *Kilograms* **Estimated quantity of carbon dioxide emissions (CO_2) emitted by commercial aircraft within the NAS.**	$1.88_{\times 10^{11}}$	$2.30_{\times 10^{11}}$	$2.34_{\times 10^{11}}$	$2.13_{\times 10^{11}}$	$2.01_{\times 10^{11}}$	$1.71_{\times 10^{11}}$	$1.76_{\times 10^{11}}$	$1.73_{\times 10^{11}}$	$1.77_{\times 10^{11}}$
NAS-Wide Energy Efficiency *Kilograms per Tonne-Kilometer* **Estimated fuel burn in kilograms per revenue tonne kilometer**	0.359	0.351	0.348	0.341	0.342	0.329	0.327	0.331	0.328

Noise Exposure *Number of People* **Number of persons exposed to significant aircraft noise (regardless of whether their houses or apartments have been sound-insulated). Significant aircraft noise levels are currently defined as values greater than or equal to Day-Night Average Sound Level (DNL) 65 decibels (dB).**	498,000	480,000	466,000	383,000	292,000	318,000	315,000	319,000	321,000

As described by ICAO: *The Air Traffic Management (ATM) system should contribute to the protection of the environment by considering noise, gaseous emissions and other environmental issues in the implementation and operation of the global ATM system.*

Access performance indicators

Performance Indicator (FY)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LPV & LP Access at GA Airports without ILS *Count of Airports* **Localizer Performance with Vertical guidance (LPV) & Localizer Performance (LP) data gathered from the FAA Global Navigation Satellite Systems Group.** **Airport information gathered from the 2015-2019 National Plan of Integrated Airport Systems (NPIAS) Report and Airport Master Record Form 5010 data.** **The count of national, regional, local and basic GA airports (as defined in the 2015-2019 National Plan of Integrated Airport Systems Report) without an Instrument Landing System (ILS) that have an LPV or LP procedure in the indicated year.**	0	2	18	73	141	246	329	472	605	762	901	967
Percent of Qualified GA Airports with LPV or LP Access *Cumulative Percent* **LPV and LP data gathered from the FAA Global Navigation Satellite Systems Group.** **Airport information gathered from the 2015-2019 National Plan of Integrated Airport Systems (NPIAS) Report and Airport Master Record Form 5010 data.** **The cumulative percent of qualified national, regional, local and basic GA airports (as defined in the 2015-2019 NPIAS Report) with an LPV or LP procedure.**	0.1	2.7	7.7	12.7	19.6	26.9	35.4	43.1	51.4	58.0	61.0	64.0

As described by ICAO: *A global Air Traffic Management (ATM) system should provide an operating environment that ensures all airspace users have right of access to the ATM resources needed to meet their specific operational requirements and that the shared use of airspace by different users can be achieved safely.*