

# Airport charges at Frankfurt Airport



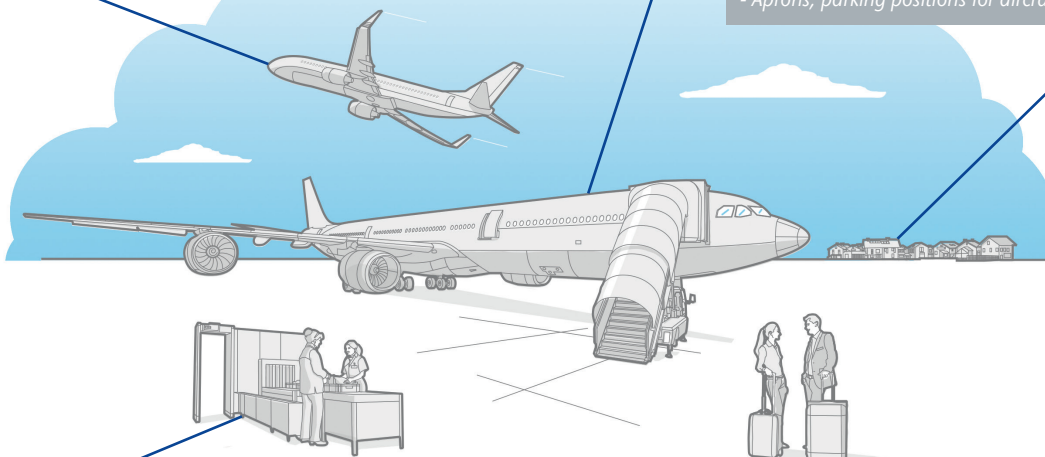
Fraport AG builds and operates the infrastructure facilities at Frankfurt Airport – such as runways, apron areas and terminals – serving airlines and their passengers. Airport charges are used to refinance these facilities and the corresponding services, as well as noise abatement measures required by law. These charges must be directly related to the real investment and operating costs. In Germany, airport charges are set out in paragraph 19b of the German Air Traffic Act and are subject to approval by the regional Aviation Authority. The government authority responsible for Frankfurt Airport is the Ministry of Economics, Energy, Transport and Regional Development, State of Hesse (HMWEVL).

## The individual elements of airport charges at FRA

■ Type of charge   ■ Charging method   ■ Use of resources (examples)

### Landing and take-off charges (including noise charge)

- Each time an aircraft arrives or departs
- Depending on maximum take-off mass of aircraft, noise category and time of arrival/departure as well as number of departing passengers and freight volume on take-off and landing
- Runway system, including navigational aids
- Noise-measurement devices



### Parking charges

- Charges related to parking an aircraft at the airport
- In relation to size of parking position, parking time and location of the position (terminal or apron)
- Aprons, parking positions for aircraft

**i** The airline pays the charges to the airport operator.

### Noise abatement charges

- Per departing passenger or per 100 kg of freight on landing and take-off
- Depending on noise category of aircraft and time of arrival/departure
- Legal noise abatement measures in the vicinity of the airport

### Security Charges

- Per departing passenger and per 100 kg of freight on landing or take-off
- Staff and goods control when entering the restricted area

### Passenger Charges

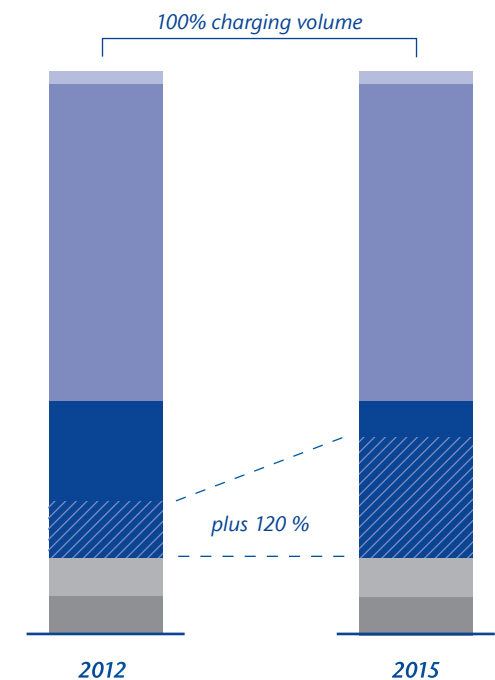
- Per departing passenger
- In relation to flight destination
- Terminal facilities and equipment
- Transportation of passengers between terminals

## Significance of noise charges

### Financial incentives to use quieter aircraft at Frankfurt Airport

The landing and take-off charges include a noise-related portion which has been raised by some 120 percent since 2012

- Noise abatement charges
- Passenger charges
- Landing and take-off charges
- Security charges
- Share of noise charges
- Parking charges



# Focusing on noise charges

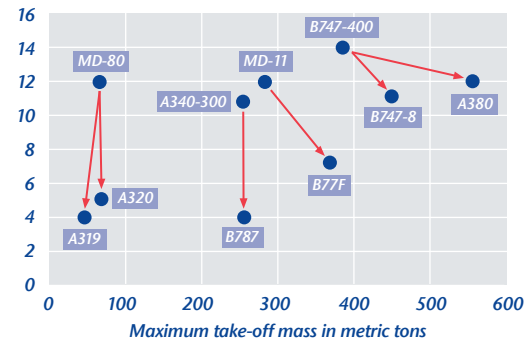
Frankfurt Airport is a global pioneer when it comes to developing and applying noise-related charges.

Based on aircraft noise measurements regularly carried out since 1964, and through the use of targeted airport charges, Fraport AG continuously contributes to aircraft noise reduction efforts. Starting in the 1990s, Fraport has been taking account of aircraft noise in its airport charges and in 2001 Frankfurt Airport was the first airport in Germany to introduce airport charges based on effectively measured noises. Back in 2010 these noise charges were even further spread: using noisy aircraft became more expensive for the carriers. This charge component was then further differentiated in the years 2013, 2014 and 2015. Every charge calculation is based on the aircraft type being allocated in one of 16 noise categories measured at FRA. Higher charges for aircraft movements operated during the late evening or early morning hours serve as an incentive to shift these movements into the daytime. A night curfew applies at FRA between 11 p.m. and 5 a.m.

- ✓ Effectively measured noise is taken into consideration
- ✓ Landings and take-offs are evaluated separately
- ✓ High levels of noise category differentiation
- ✓ Overnight noise surcharges
- ✓ Incentives for technological improvements (NRI)
- ✓ Noise certificates are taken into account

## Airlines are gradually replacing noisy aircraft by quieter types

Take-off noise categories



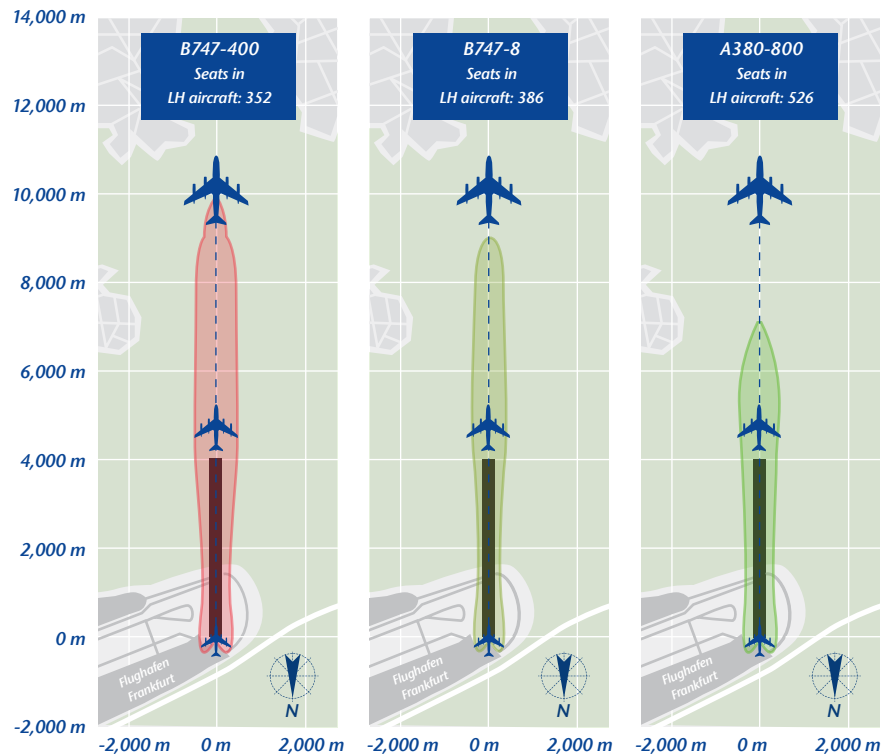
## Airport charges sample calculation

■ Aircraft type ■ Noise charge per turnaround in 2015

SAS Scandinavian Airlines	MD-80	€ 852	replaced by	A320	€ 275
	A319	€ 267			
	A340-300	€ 869		replaced by	B787
LATAM					
MD-11	€ 1,140	replaced by	B77F		€ 740
Lufthansa Cargo					
B747-400	€ 2,173		replaced by	B747-8	€ 1,292
Lufthansa Passenger					
A380	€ 1,298				

## Positive trend: less aircraft noise – more passengers

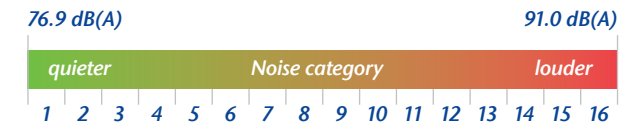
Comparison of take-off noise footprint between older and newer wide-body aircraft



A maximum noise level of 85 db(A) is not exceeded outside the areas marked

## Latest development of airport charges at FRA

1) Noise categories from Level 1 through 16 allow for a detailed differentiation in 1 db(A) steps



2) The effectively measured take-off and landing type level, based on a three-year average, is taken into account



3) Noise efficiency of the aircraft type is evaluated on the basis of an international standard, the “noise rating index” (NRI) with relation to the respective weight category. Depending on the technological evolution of the aircraft type, a maximum discount of 10 percent is granted on the noise charges. This provides an additional incentive to develop and use quieter aircraft types.