

# Noise reduction at Schiphol

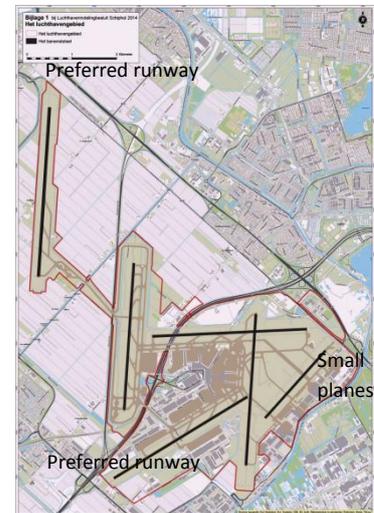


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## Runway system

Schiphol has 6 runways of which one is used only for small planes and for regular planes under Southwest storm conditions. The other 5 runways are normally used for all traffic, except those small planes. Two of these runways are preferred, covering a significantly less densely populated area and thus producing far lower numbers of seriously hindered houses and people, which is the present legal standard for noise reduction measurements in the Netherlands. The remaining three runways mostly are used as the second or third runway. These are called the secondary runways as they cover densely populated areas. This runway system was built decades ago due to the fact that the Dutch weather is dominated by strong winds from various directions, mostly from Southwest to Northwest.



## Noise reduction

Negotiations on noise reduction took place at “the Schiphol Table of Hans Alders” (Alderstafel) as from 2008, under the directive of the Parliament that the number of Air Transport Movements (AM) should not exceed 510,000 p.a. until 2021. The present number of AM is some 440,000. The maximum amount of noise is legally determined by maximum values for numbers of houses and people seriously hindered by aircraft noise, located in two areas within respectively the noise contours of 58 dB(A)Lden (“inner area”) and 48 dB(A)Lden (“outer area”). Far lower maximum noise values are applicable for night flights. These legal maximum values are supposed to produce an *equivalent protection* against noise, existing in an older legal noise protection system before the reference year 2005. Owing to various noise reduction measures and air fleet innovations it was expected during the negotiations that the noise of 510,000 AM would just fit within the legal maximum values, using the full 100% available environment capacity.

The Alderstafel negotiations produced a new system to control aviation noise. The present system as from 2005 consists of 35 points around Schiphol where the actual noise of passing planes is physically measured and added up to annual totals per point. If a total at a certain point will exceed its legal maximum, the relating runway can no longer be used and traffic should be diverted to alternative runways. The maximum capacity of this system is some 480,000 AM.

This output measurement system will be replaced in legislation on aviation by an input system based on calculated annual amounts of expected noise being totalized per year for the inner and outer areas. The noise calculations are based on the expected annual number of AM per plane type and routes across both areas. The number of houses and people affected by this noise pattern is fixed at the situation in 2005, the reference year for the above mentioned *equivalent protection*. Recent calculations indicate that owing to all reduction measures and air fleet noise innovations the

maximum amount of traffic could be no more than 485,000 AM, which may grow to 510,000 after the full introduction of a new departing system (NADP2 for steeper climbing).

However, the representatives of the inhabitants managed to insert a second rule to limit the noise. It is based on the agreement that the use of the three secondary runways should be limited to prevent too much hindering the highly populated areas. The rule is that Schiphol is not allowed to use more than three runways simultaneously, with the exception of using four runways no more than 60 times per day. Schiphol has various peak times per day of arriving and departing flights, to minimize the waiting times for the vast number of transfer passengers. One of the limiting factors is the maximum capacity of three runways (some 108 AM per hour) which is very complicated to raise during these peak hours. The consequence of this rule and the daily peak pattern is that Schiphol can handle no more than 470,000 AM. The aviation sector is invited to increase this, but is expected not to be able to do so.

At this moment it is quite unclear which will be the maximum capacity of Schiphol in the next decades: 470,000; 485,000 or 510,000 AM. It is also uncertain if these rules and legal maximum values will last long in our political system which is heavily supporting aviation, but also is conscious of the environment.

### Outsourcing leisure traffic

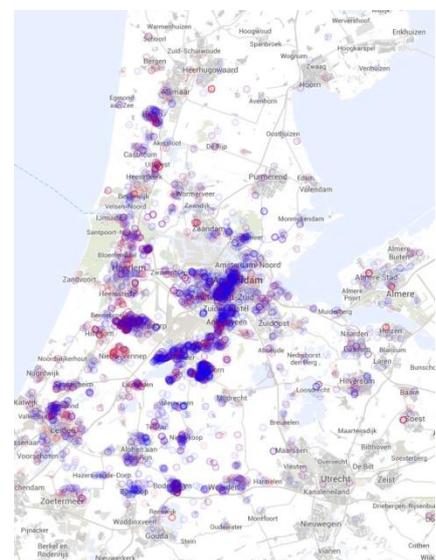
A third measure is negotiated to increase the growth potential of Schiphol air transport which is important to the Dutch economy, at the cost of transport not contributing to the economy. This concerns traffic for leisure purposes only, e.g. low-budget city trips and holidaymaking. It was agreed between the inhabitants, the major Schiphol carrier AirFrance/KLM, the management of Schiphol and the Ministry of Transport that 70,000 AM of such traffic will be moved to smaller regional airports. The opposition of leisure carriers is increasing as they prefer Schiphol as an operational base over airports far away from the big cities.

### OD and transfers in the network

If this move of leisure traffic turns out to be successful, the remaining network carriers could increase their present capacity from 370,000 to at least 470,000 AM. Their passenger transport has a 50/50 split between OD and transfers, both Europe/intercontinental and intercontinental/intercontinental. The latter category is subject to competition by fast growing airports in the near East, the first one by European hubs. Transfer passengers are indispensable making intercontinental flights profitable, because the OD-segment in the Netherlands is far too small to justify the vast dense network of the major Schiphol carriers. Their European flights therefore also have large proportions of transfer passengers to/from the catchment area, most of the connections being loss making due to competition with carriers at the other major hubs and price fighters within Europe.

### Complaints about noise

People living around Schiphol can send their complaints about noise, fear or pollution caused by planes by the Internet, phone or letter to a Registration Office called BAS, founded by the



Dutch Air Traffic Control and Schiphol. BAS distributes quarterly and annual statistic reports on complaints and complainants (Figure), analyses of the cause of complaints such as use of runways, and all kinds of details dealing with the environmental burden in the larger Schiphol region. These reports are addressed to the public and all stakeholders of Schiphol, including politicians. Over 2013, 2,624 complainants submitted 39,260 complaints. If a complainant submits over 400 complaints in one year, only up to 400 complaints are registered. Of those complaints, almost 11,000 (28%) are about sleep disturbance caused by night flights.

### **Future noise reduction: permanent cap and hi-speed trains**

Negotiations between the aviation sector, new inhabitants' representatives and local authorities on further noise reduction will continue in 2015 in a new organization called "Omgevingsraad Schiphol" (Vicinity Council Schiphol). Considering the above mentioned risk of short-lived noise reduction rules, present representatives are proposing strategies to their successors to effectively withstand lobby attempts of the aviation industry to have the noise rules liberalized, using motives like regional employment and the major contribution of aviation to the national economy.

Regional employment is no longer a relevant motive to let aviation grow, since it was proven that this is not the major contribution. ATAG 20080 states this as follows: "The air transport industry's most important economic contribution is through its impact on the performance of other industries and as a facilitator of their growth. These "catalytic" or "spin-off" benefits of air transport affect industries across the whole spectrum of economic activity."

Concerning transport of passengers, the most important contributions of aviation to the economy are the welfare effects of people able to travel fast from the country to international destinations vice versa (called OD, Origin/Destination), especially if this transport serves business (commercial and nonprofit) purposes being economically important to the country. It may also include foreign tourists spending money in the country. Passengers travelling abroad for leisure purposes do not contribute to the economy. Neither do transfer passengers at hubs, but since they enable carriers to operate a dense network serving the above mentioned economic travel, they still have an indirect positive effect on the economy as long as the amount of OD passengers is too small for the vast network.

These economic considerations do not only apply to aviation, but also to hi-speed trains on routes within some 1,000 km, offering about the same travel times and comfort. Such trains could replace short-haul flights if the hi-speed network is compatible to the short-haul air network. However, this is not yet the case in a fair part of Western Europe, especially Northern Germany, Scandinavia and England. Expanding this network is one of the transport aims of the EC, but it is not sure if the integration of this network and the air networks of hubs is part of that EU-strategy. This may be something to consider.

We advise the new representatives in the Council to plea for a development of Schiphol under a permanent cap of some 470,000 to 500,000 AM, in which

- a) the use of hi-speed trains to Germany, France, England and Scandinavia is strongly stimulated,
- b) travel without an economical purpose is outsourced and/or de-marketed
- c) economically important OD-transport is enabled to grow at the cost of transfer growth.

The availability of a highly developed hi-speed train network at Schiphol would present an extra capacity for international passenger transport equivalent to one new runway for 150,000 AM of 14 million passengers. The outsourcing of 70,000 leisure flights extends the passenger capacity by some 16 million if the present slots are used for intercontinental flights with planes twice as large. A shift from transfers to OD on intercontinental routes creates an extra growth potential, whereas the route profitability will be maintained.

The total effect of such measures would be that the economically important passenger transport market of Schiphol (some 23 million passengers out of 53 million in 2013) if necessary could continue its growth and double in the next decades compared to 2013, without increasing the air traffic. The belonging contribution to the economy would also double.

Naturally, the aim of such a plea is not at all to stimulate the growth of international passenger transport. However, the market of international passenger transport is supposed to grow further at some two per cent p.a. The real aim is to prevent further growth of *air traffic and noise*, presenting a reliable case for the implementation of a permanent cap on AM without causing harm to the economy. This should prevent the aviation industry to use the economy as a strong motive for their lobby to increase the air traffic and to invest in extension of air side hub capacities.

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