NORAH
Lärmwirkungsstudie

The investigation fields

The NORAH Study investigated the impact of noise at the airports Frankfurt, Berlin-Brandenburg, Cologne/Bonn and Stuttgart.



The noise from an airport is not divided evenly over the surrounding area, but concentrated mainly along the flight routes. This is why it did not make sense to draw a circle around the airport and examine, for example, all of the residents in a radius of 50 kilometres. Instead, a multiply curved line delineated the investigation area: the so-called 40 dB contour. Within this contour there is an average sound level of more than 40 decibels day and night. Acoustics experts call this the "equivalent continuous sound level".
In this area the sub-studies Quality of Life (https://www.laermstudie.de/en/results/results-of-the-quality-of-life-study/), Blood Pressure (https://www.laermstudie.de/en/results/results-of-the-blood-pressure-study/) and the Child Study (https://www.laermstudie.de/en/results/results-of-the-child-study/) were carried out within the framework of the NORAH Study in interdisciplinary cooperation between national institutes. In the investigation area Frankfurt it extended around 100 kilometres from east to west and around 65 kilometres in the north-south direction. Within this investigation area, the Sleep Study (https://www.laermstudie.de/en/results/results-of-the-sleep-study/) was also taking place in individual, selected residential areas which fulfilled the necessary conditions for a noise-related, medical study on sleep.

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Investigation area of the Study on Health Risks

The sub-study on Health Risks (https://www.laermstudie.de/en/results/results-of-the-study-on-health-risks/) covered an even larger area. It included not only persons randomly selected in the core investigation area described above, but also persons insured with three participating health insurance bodies in the whole administrative district of Darmstadt, in the Rhine-Hessen cities of Mainz and Worms and in the regional districts of Mainz-Bingen and Alzey-Worms. A total number of more than one million persons insured with the participating health insurance bodies in this area is assumed.

Their investigation area extended from east to west around 150 kilometres and from north to south around 120 kilometres.

Berlin Brandenburg

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The planned airport Berlin Brandenburg was to be included in die NORAH Study as an example of a sudden change in the noise level. Due to the delays in construction, it was only possible to register the status before the opening. As in Frankfurt, the investigation area was defined by the aviation noise exposure – in this case by the expected exposure on the basis of flight movement prognoses. Residential addresses have been included for which an average continuous sound level of the aviation noise day and night of at least 40 dB is forecast.

Cologne/Bonn und Stuttgart

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These two locations were included in the study as existing airports without any significant changes of flight operation during the study period. Stuttgart Airport has most of its traffic during the day, while Cologne/Bonn airport has a high proportion of night flights. Here again, the investigation area in each case was the area around the airport in which the continuous sound level due to aviation was over 40 dB(A).

Do you have any questions?

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