

Note rapide

Ground access to large European airports



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L'accessibilité terrestre aux grands aéroports européens

Une desserte terrestre qui privilégie les Babouins

Bénéficiant tous d'une bonne accessibilité routière, les grands aéroports européens se distinguent par une desserte en transport en commun plus ou moins adaptée à la demande. Cela se traduit par une large plage de variation du taux d'utilisation de ce mode par les passagers aériens.

Les aéroports des aéroports

Quatre aéroports européens ont été étudiés

Les différences portent également sur la manière de la desserte en transport en commun des aéroports.



be concentrated around a city centre or extend beyond that in a sprawling or multipolar fashion. For two airports however (Amsterdam-Schiphol and Zurich), passengers from other parts of the country greatly outnumber those from the immediate region. These geographic differences in the origins of air transport users can help or hinder the provision of public transport services for airports.

Ground transport services that prioritise links with the city centre

All the airports are linked to the local motorway network and have very good road transport connections. This promotes the use of cars and taxis.

The quality of public transport services varies depending on the type of connection.

Transport services in the immediate area are provided mainly by bus networks. These are more suitable for airport staff than for air passengers.

City-centre links perform best of all: three out of four airports are connected via multiple rail services (including express or dedicated airport lines) in addition to bus and coach services.

The rest of the region is less well connected to the airport as air passengers are more dispersed. Only three airports (Copenhagen, Düsseldorf and Oslo-Gardermoen) are linked to the main towns in their region via frequent and regular rail services.

Thanks to extensive road transport connections, all major European airports provide public transport services that meet the demands of users to a greater or lesser extent. This is evident in the wide variations in public transport usage by air passengers.

Meeting the transport needs of airports is a recurring question faced by a large number of airport and local authorities worldwide. Private transport is the most popular mode of transport, which contributes to the saturation of nearby car traffic often already under severe pressure. Faced with these challenges, most airport authorities are looking at ways to increase public transport usage by air passengers to at least

50%. An analysis matching ground transport services with the preferred transport mode of users of major European airports highlights the extent to which public transport access affects passenger behaviour.

Fourteen European airports were assessed

The study covered:

- five very large airports (43-69 million passengers per year): London-Heathrow, Paris-Charles de Gaulle, Frankfurt,

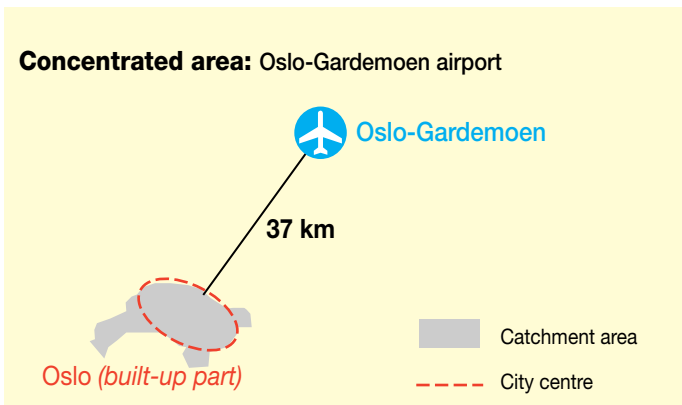
Madrid-Barajas and Amsterdam-Schiphol,

- four large airports (22-33 million passengers per year): Munich-J.F. Strauss, London-Gatwick, Paris-Orly and Zurich,
- five smaller airports (16-20 million air passengers): Copenhagen, Oslo-Gardermoen, Düsseldorf, Brussels and Stockholm-Arlanda.

These airports differ both in size and in terms of their distance from city centres: 37-40 km for three airports, 22-28.5 km for three others and 8-14 km for the remaining eight airports.

There are also differences in the shape of the catchment areas around airports. For most of the airports, the majority of air passengers come from the local region. The catchment area may

Three types of airport catchment area



National and international links are improving with the continued development of high-speed rail links. Almost half the airports now enjoy good national and even international rail access. Note that many airports offer dedicated coach services in addition to the regional and intercity rail connections.

The appeal of an airport's public transport services is also dependent on the quality of the links

between the various modes of transport and the plane itself. One out of two airports provides good links between modes of transport, with bus or train stations located in the immediate vicinity or inside the airport terminals.

Wide variation in public transport usage

Depending on the airport, the percentage of air passengers using public transport varies

between 20% and 63%.

Air passengers' preferred mode of transport does not seem to correlate with the size of the airport. The smallest airports have either the highest percentage public transport usage (the three Scandinavian airports), or the lowest (Brussels, Düsseldorf).

However, the nearness to the city centre seems to encourage private modes of transport, particularly taxis with the lowest percentage usage for airports further away (Oslo, Munich-J.F. Strauss) and the highest usage for nearby airports (Madrid-Barajas, Paris-Orly).

A more in-depth study of transport networks would reveal the significant impact of the supply-demand equation.

Public transport usage among air passengers varies from airport to airport and ranges from 20% to 63%. The airports can be divided into two equal-sized groups: 20-40% and 40-63%.

Two airports are in the 50%-63% bracket:

- Oslo-Gardemoen (63%) and Copenhagen (58%) serve a catchment area concentrated on the capital. This makes it easier to provide public transport services. They enjoy very good radial links (multiple rail services and dedicated bus services) and good connections to the other urban areas in the region. Copenhagen also has excellent national and international transport services and the two airports offer a highly integrated air-rail platform.

The 40%-50% bracket has five airports:

- Stockholm-Arlanda (47%) has similar characteristics to Oslo-Gardemoen, but taxis are more competitive because of the high cost of the Arlanda Express dedicated rail service,
- Zurich (47%), Amsterdam-Schiphol (44%), Paris-Charles de Gaulle (43%) and London-Heathrow (40%): the first two serve a catchment area with a

strong national dimension, whereas the other two serve sprawling regional areas. They have good public transport connections with the city centre (less so in the case of Paris-Charles de Gaulle), which are more competitive than private transport because of traffic congestion. Access to these airports via public transport from the rest of the region is very average. Paris-Charles de Gaulle and London-Heathrow are particularly penalised in this respect due to their sprawling regional catchment areas. Zurich and Amsterdam-Schiphol however possess quality national and international rail links that are well suited to the profile of their catchment area. They also have good air-rail connections. Paris-Charles de Gaulle is also served by the national rail network, but not London-Heathrow.

The 30%-40% bracket also has five airports:

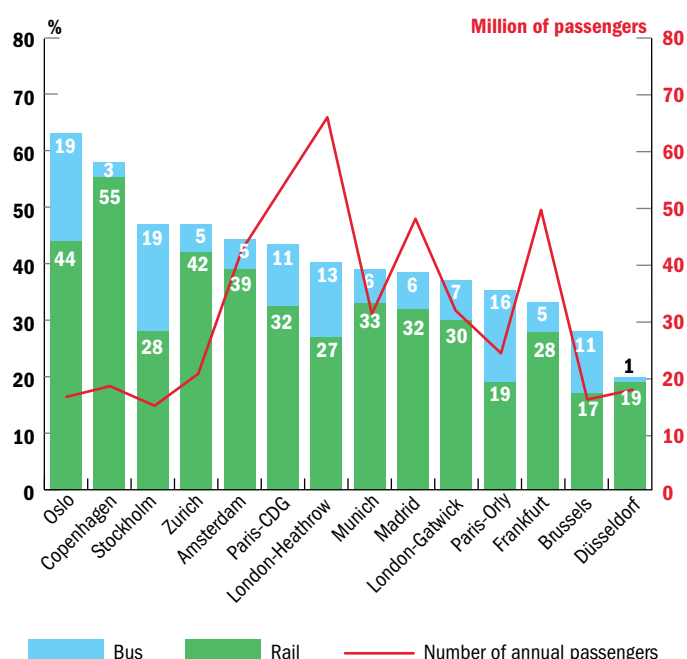
- Munich (39%), Madrid (38%) and Paris-Orly (35%) which serve a sprawling regional catchment area,
- London-Gatwick (37%) and Frankfurt (33%) which serve multipolar regional catchment areas.

These airports are well connected to the city centre via public transport except Paris-Orly which is not directly linked into the rail networks. However, access to these airports via public transport from the rest of the region is mediocre, except for London-Gatwick which offers rail services that are well suited to the multipolar structure of its catchment area. Only Frankfurt airport can offer a national rail network thanks to the Frankfurt-Cologne-Duisburg corridor; however, this efficient corridor draws passengers from a catchment area limited by that of the adjoining Cologne-Bonn and Düsseldorf airports.

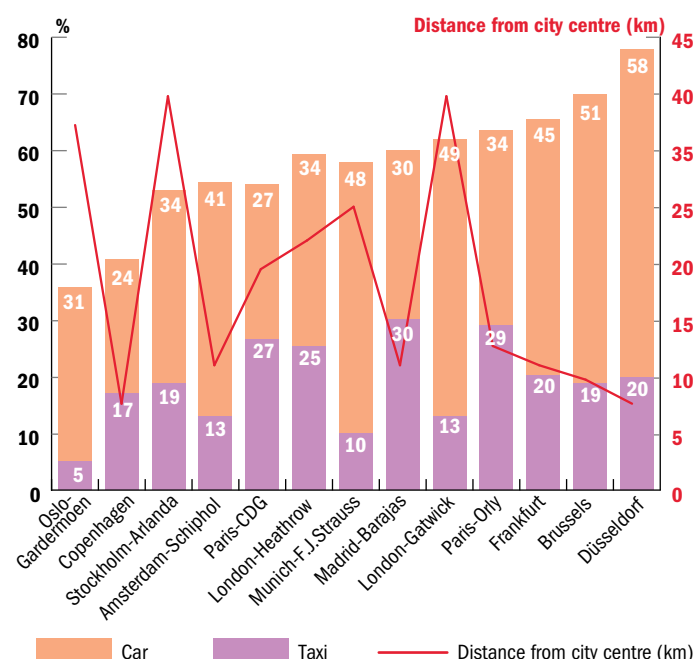
The 20%-30% bracket contains the remaining two airports:

- Brussels (28%) and Düsseldorf

Public transport: annual traffic and percentage usage by mode



Distance from city centre and percentage usage of private modes



(20%). They are not very alike, apart from the distance to the city centre (8-10 km).

Brussels airport suffers from mediocre regional transport access poorly suited to the sprawling nature of its catchment area. In addition, access is not very good from the city centre and the rest of the country.

Düsseldorf airport has a railway station that is served by a numerous regional or national trains. However, the connections provided only serve a part of the multipolar catchment area; in addition, the station is not very close to the terminals.

Optimising supply to meet demand

Identifying where passengers are coming from is the first step in matching supply to demand.

Taking into account the nature of the airport's regional catchment area and comparing this to the national catchment allows us to determine the most suitable modes of transport.

Furthermore, we must also factor in a specific type of behaviour air passengers display when choosing a mode of transport. They consider their entire journey from start to finish, taking into account the time and cost

involved, assessing very closely the reliability of the mode of transport, ease-of-travel (transfer times between modes in particular), comfort and the availability of information.

City-centre links must be very efficient because in the case of every airport, they are used by a large percentage of air passengers. Providing a range of transport choices is the way to do this. There should be a combination of reasonably priced public transport and more efficient, but more expensive services (e.g. dedicated lines) to serve as many passengers as possible.

Links to the rest of the region should also be considered, especially if the catchment area is not concentrated on the city centre. Solutions can range from improving radial transport services with stops at regional interchange nodes if the airport is far away to the construction of connecting lines with nearby rail services to allow for transverse links, or finally direct transport services via a webbed regional network if the airport is closer.

Increasingly, high-speed train services are becoming a feature of the national and even international transport offering of air-

ports. A sizeable percentage of air passengers are attracted to this integrated air-rail service and their number is even greater given that the proportion of passengers of national origin is high and the number of long-haul flights on offer is very large. The success of this type of interchange relies on good rail links (a frequent and varied service), a high level of synchronisation between the train and flight timetables and good cooperation between the air and rail operators to optimise the services on offer.

A number of guiding principles apply in all cases:

- take advantage of the flexibility of bus and coach services to increase and diversify links (especially regional) and to offer dedicated services that air passengers appreciate,
- ensure the best city-centre diffusion possible (multiple diffusion points or a central station forming a hub with urban and regional transport networks),
- offer optimum intermodality at airport platforms (bus and train stations situated near the air terminal halls),
- optimise transport conditions (number of seated places, lug-

gage racks) and customer services at bus and train stations (information, ticket sales).

The two Paris airports

A more in-depth study of supply-demand equation was carried out for Paris-Charles de Gaulle and Paris-Orly airports. At both airports, public transport usage is less than 50% (43% and 35% respectively).

Paris-Charles de Gaulle airport is quite well connected to the immediate area thanks to a comprehensive bus network, but access via public transport from Paris (which accounts for 72% of all passengers coming from Île-de-France) and the rest of the region is very average. It is linked to the capital by only one rail line, the RER B, that is not very attractive for air passengers and the number of links with the rest of the region is limited. However, the airport does boast good national rail services in the shape of the interconnected TGV lines in Île-de-France. They contribute 4.2% and push the public transport usage over the 40% mark. The airport is the focus of a number of public transport projects which will improve access from Paris (CDG Express), La Défense and the northern suburbs (RER



The public transport information sign in Paris-CDG underlines the airport's poor regional access.

B+, Grand Paris Express), and the adjoining Picardy region (Picardy-Roissy rail link).

In its current state, Paris-Orly airport is penalised by:

- mediocre regional public transport access, whether it be from Paris (which accounts for 61% of passengers coming from Île-de-France) or the rest of the region, with neither the RER B or C serving the airport directly,
- the lack of a national rail transport service.

However, the airport's accessibility will benefit greatly from ongoing or planned public transport projects, which should result in a significant increase in public transport usage:

- the T7 tram line is underway and will facilitate access from sectors fed by the RN7 and the urban centres of the Essonne

region served by the RER C and D,

- the extension of the line 14 metro will create a high-performance link between the capital's major hubs, including the Gare de Lyon and Saint-Lazare train stations. It will also improve access from the heart of the built-up area, in particular thanks to connections with the Grand Paris Express,
- the station planned on the Southern TGV interchange line which will give the airport a national rail service.

The completion of the public transport projects at the two Paris airports should allow them to reach or even exceed the desired 50% threshold of public transport usage by air passengers. Paris-Charles de Gaulle and Paris-

Orly would then move into the top bracket in terms of public transport access - all the more so since the four airports (Oslo, Copenhagen, Stockholm-Arlanda and Zurich) currently holding the top positions in our sample do not have any public transport projects planned given the quality of their existing public transport access. Only five other airports (Amsterdam-Schiphol, Brussels, Frankfurt, London-Heathrow and Madrid-Barajas) are set to see improvements in their public transport access. However, these projects are mainly limited to one type of connection unlike the Île-de-France projects which are on a completely different scale.

Danièle Navarre ■

To find out more

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