

About

Survey on the connectivity of major TEN-T airports by long-distance rail

The **TEN-T Regulation** requires airports with a total annual passenger traffic volume exceeding 12 million passengers to be connected to the TEN-T rail network by long-distance rail services, including high-speed rail (excluding other public transport), by 2040. For airports with annual passenger volumes of between 4 and 12 million, a connection via public transport (e.g. metro, light rail, tram) to the TEN-T network or to a nearby urban hub within the TEN-T is sufficient. We define the following terms as follows:

- **High-speed rail** refers to passenger rail services operated on specially built high-speed lines equipped for speeds generally greater than 250 km/h or specially upgraded high-speed lines equipped for speeds of the order of 200 km/h, typically connecting larger cities over longer distances with few or no intermediate stops.
- **Long-distance rail** refers to passenger rail services, connecting the airports to the TEN-T network, giving passengers a possibility to travel with ease by rail to and from the main European airports without a need for transfer in the urban node, located in the vicinity of the airport.
- By **connection**, we mean that a station enables direct access between rail and air services – i.e., passengers can transfer between the two modes without leaving the airport grounds, using only on-site means such as walking, shuttle buses, people movers, or internal rail links.

This study will support the implementation of the TEN-T Regulation by investigating the current state as well as **future plans** for Air-Rail connectivity at the respective airports. Furthermore, existing **obstacles**, that may have hindered stakeholders from establishing a suitable Air-Rail connection in the past, or do so now, as well as potential **measures** to overcome these obstacles are of interest. The survey is concluded by questions about additional data. The study is looking for evidence by carrying out this survey, desk research, and following stakeholder interviews.

We kindly ask you to fill out **one survey per organisation**, if possible. For better coordination we also provided you with a **pdf-file containing the questions**. If you are not able to submit one complete survey, you may submit multiple questionnaires (participants can then skip chapters).

If you are answering this survey **for multiple airports**, we would appreciate you filling out separate questionnaires – **one per airport**. If no exact figures are available, please give an estimate.

Participation is **voluntary**. Your information will be **evaluated anonymously**. Names of individuals and organisations will not be disclosed to the client.

Company and personal questions

1. Which stakeholder group do you belong to?

Please select the option that best applies to your organisation.

Airport operator

Rail infrastructure manager

Railway undertaking

Other:

2. Is this questionnaire being submitted as the complete and coordinated response of your organization?

Yes, this is the complete and coordinated submission of our organization

No, this is a partial submission (additional questionnaires will be submitted by our organization)

I do not know

3. Please select ONE airport you are completing this questionnaire for.

If you are answering this survey for multiple airports, we would appreciate you filling out separate questionnaires – one per airport.

Adolfo Suarez Madrid-Barajas (ES_LEMD)

Alicante (ES_LEAL)

Amsterdam/Schiphol (NL_EHAM)

Athinai/Eleftherios Venizelos (EL_LGAV)

Barcelona/El Prat (ES_LEBL)

Bergamo/Orio Al Serio (IT_LIME)

Berlin-Brandenburg (DE_EDDB)

Brussels (BE_EBBR)

Bucharest (RO_LROP)

Budapest/Liszt Ferenc (HU_LHBP)

Dublin (IE_EIDW)

Duesseldorf (DE_EDDL)

Frankfurt/Main (DE_EDDF)

Hamburg (DE_EDDH)

Helsinki-Vantaa (FI_EFHK)

Kobenhavn/Kastrup (DK_EKCH)

Krakow/Balice (PL_EPKK)

Lisbon Luis de Camoes (NEW)

Malaga/Costa Del Sol (ES_LEMG)

Milano/Malpensa (IT_LIMC)

Muenchen (DE_EDDM)

Napoli/Capodichino (IT_LIRN)

Nice (FR_LFMN)

Paris-Charles De Gaulle (FR_LFPG)

Paris-Orly (FR_LFPO)

Porto (PT_LPPR)

Prague (CZ_LKPR)

Roma/Fiumicino (IT_LIRF)

Stockholm/Arlanda (SE_ESSA)

Valencia (ES_LEVC)

Warsaw CPK Hub (NEW)

Wien-Schwechat (AT_LOWW)

Airport infrastructure

4. How would you describe the current state of air-rail connectivity of the selected airport?

By connectivity, we mean that the station is located at the airport.

very good (best practice)

medium

poor / non existing

I do not know

5. If a long-distance/high-speed rail connection to the selected airport already exists: Where is the train station located?

Please select one option.

Station directly located at the airport (e.g. inside a terminal building)

Separate building within walking distance to a terminal (e.g. connected via corridor/bridge)

Connected with a terminal via transport system (e.g. shuttle/bus)

Airport not connected

Other:

6. Please describe the current state briefly:

For example, key plans to establish or improve rail connections to the airport.

7. If a long-distance/high-speed rail connection to the selected airport already exists: Please estimate the following transfer times.

If you are unsure, provide your best approximation based on your experience.

Average transfer time from the train
station to airport terminal hall:

minutes

I do not know

8. Are there any plans for an expansion of high-speed or long-distance railway connection to the selected airport?

Please name also the planning time if known.

YES, concrete plans for **high-speed** railway from/to: [years]

YES, concrete plans for **long-distance** railway from/to: [years]

YES, general plans for **high-speed** railway, but details and timing are still unclear

YES, general plans for **long-distance** railway, but details and timing are still unclear

NO, the airport already has sufficient **high-speed** railway connection

NO, the airport already has sufficient **long-distance** railway connection

NO, barriers are preventing a **high-speed** railway expansion

NO, barriers are preventing a **long-distance** railway expansion

NO plans known

Airport plans

Only questions will appear here if you have specified concrete or general plans.

9. Will the future long-distance railway connection (including high-speed) be single or double track?

Railway type:

10. How long will the future long-distance rail link (including high-speed line) be?

Regardless of the number of tracks.

Approximately kilometres

11. Are there any significant structural features in terms of the existing or planned long-distance and/or high-speed rail connection to the airport?

If so, what are they (e.g. bridges, tunnels etc.)?

Yes, **status quo**; name the special structure(s):

Yes, **planned**; name the special structure(s):

No

12. Please briefly describe the features of the new connection as far as is known.

Including from airport to which destination, 1 or 2 tracks etc.

13. What stage of planning is/are the project(s) at?

Multiple entries are possible.

- spatial planning/corridor study
- feasibility study
- official approval of plan
- environmental impact assessment
- financing agreement
- secured funding
- strategic planning
- procurement
- site preparation
- on-going construction
- other:

14. How would you assess the current progress of the entire project?

The question relates to the entire project!

0%

100%

15. When did the planning initially start?

Year:

16. What is the planned construction duration for the future long-distance railway connection (including high-speed)? years

17. What kind of train service is planned?

Multiple entries are possible.

high-speed trains (>200 km/h, e.g. AVE, EIP, ICE, Pendolino, RJX, TGV)

other long-distance trains (e.g. EC, EN, IC, D)

regional trains (e.g. IRE, MD, RE, RB, RV, TER)

other trains (e.g. C, M, R, S, SKM, U)

tram (Rail tracks laid in the street)

other:

18. At what frequency are the trains expected to run?

high-speed rail: trains per day

other long-distance rail: trains per day

Not yet know

Costs and ownership

19. What is the (planned) investment budget in additional long-distance railway infrastructure (including high-speed) and feeder infrastructure/services? How much of the budget is allocated to each type of cost?

TOTAL: EUR

of which planning costs: EUR

of which construction costs: EUR

of which operation/maintenance costs: EUR

of which personnel costs: EUR

of which other costs: EUR

Not yet know

20. What percentage of the costs are borne by the following stakeholders?

Please enter the percentages.

Airport operator: % of total costs

Rail infrastructure managers: % of total costs

Railway undertakings: % of total costs

Public funding/government: % of total costs

Private equity % of total costs

Other: stakeholder/percentage % of total costs

I do not know

21. Who owns / will own the long-distance railway station (includes high-speed)?

Multiple selection possible.

Airport operator

Rail infrastructure managers

Railway undertakings

Public funding/government

Private owner

Other:

I do not know

Air-Rail Measures

22. What other measures, such as service-oriented actions are currently in place or planned to establish/increase accessibility for long-distance trains (including high-speed)?

Please name the most relevant projects/initiatives.

currently in place:

planned:

23. Are you willing to share further details about the Air-Rail connection project(s)/initiative(s) with us in an interview?

Yes, you can contact me **via email**:

Yes, you can contact me **via phone**:

No, I cannot give any further details

Main drivers and major obstacles

24. What are the main drivers for investments/actions for improving Air-Rail connectivity at the airport you mentioned?

Multiple answers possible.

economic growth targets (driven from market/business side)

policy/governance targets (e.g. environmental and climate objectives, tourism development...)

demand side driven reasons (e.g. customer satisfaction)

legal requirements (e.g. national or EU-regulations)

other:

25. Are there or have there been any major obstacles preventing or hindering long-distance railway connections to the airport (including high-speed)?

Multiple answers possible.

Yes, in terms of infrastructure-related obstacles

Yes, in terms of process-related obstacles

Yes, in terms of the following further reasons:

No

I am not sure

Kind of obstacles and measures

26. What are the main infrastructure-related obstacles, that hinder (improvements in) long-distance (including high-speed) rail connectivity for the airport you mentioned?

Please select up to three options.

lack of political will at the national level (e.g. absence of national rail strategy or funding commitments)

lack of political will at the local or regional level (e.g. opposition from local authorities or planning bodies)

frequent changes in government disrupting the planning process

limited social acceptance among local residents (e.g. concerns about noise, land use, or construction disruption)

limited own financial resources of airport operators or railway undertakings (internal capital constraints)

(expected) limited ability or willingness of railway operators to offer long distance services on new rail infrastructure

limited physical space or unfavourable structural conditions on site (e.g. insufficient land for station construction or platform expansion)

problems with the geographical location of the airport (not well placed for a rail connection)

limited external resources from service providers (construction companies, suppliers) legal uncertainties (e.g. planning law, classification of importance.)

legal uncertainties (e.g. planning law, classification of importance.)

Other:

Please elaborate your selection:

27. Which of these infrastructure-related obstacles can your organisation influence?

Multiple answers possible.

lack of political will at the national level (e.g. absence of national rail strategy or funding commitments)

lack of political will at the local or regional level (e.g. opposition from local authorities or planning bodies)

frequent changes in government disrupting the planning process

limited social acceptance among local residents (e.g. concerns about noise, land use, or construction disruption)

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Other:

Please elaborate your selection:

28. What are the main process-related obstacles, that hinder (improvements in) long-distance (including high-speed) rail connectivity for the airport you mentioned?

Please select up to three options.

social acceptance / willingness of travellers to use rail connections

limited own financial resources (of airlines or railway undertakings)

conflicting financial interests of airport operators (e.g. revenue from parking or car rental)

lack of willingness to help a competitor (short haul air compared with high speed train)

limited interest of airlines

insufficient skill set of staff (e.g. language barriers for train drivers)

limited awareness and knowledge of Air-Rail connectivity options among travellers or staff

limited integration of rail and air travel schedules

limited digital integration (e.g. apps, travel planners, real time information)

limited organisational integration regarding ticketing between railway undertakings and airlines (e.g. through-ticketing, baggage transfer)

insufficient signposting and wayfinding within the airport or at rail stations (e.g. unclear directions to rail access points)

lack of economic viability for railway operators (financial sustainability)

other:

Please elaborate your selection:

29. Which of these process-related obstacles can your organisation influence?

Multiple answers possible.

social acceptance / willingness of travellers to use rail connections

limited own financial resources (of airlines or railway undertakings)

conflicting financial interests of airport operators (e.g. revenue from parking or car rental)

lack of willingness to help a competitor (short haul air compared with high speed train)

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insufficient skill set of staff (e.g. language barriers for train drivers)

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insufficient signposting and wayfinding within the airport or at rail stations (e.g. unclear directions to rail access points)

lack of economic viability for railway operators (financial sustainability)

other:

Please elaborate your selection:

30. What measures is your organisation taking to overcome these obstacles?

Multiple answers possible.

public relations/ communication

investment measures (e.g. acquisition of funding)

studies

process improvements, acceleration, training

improving air-rail service offerings (e.g. language service, increased comfortability by door-to-door service with check-in from home)

none

other:

Please briefly explain the measures mentioned:

31. What measures should be taken in general to improve the air-rail connectivity (by others, not yourself)?

This question refers to all major EU airports.

Arrival and usage

32. How do passengers currently arrive at the selected airport (excluding passengers with air-to-air transfers)?

Please name percentage of all passengers. If exact figures are not available, please provide a rough estimate.

high-speed trains (e.g. AVE, EIP, ICE, Pendolino, RJX, TGV):

percentage

other long-distance trains (e.g. EC, EN, IC, D): percentage

regional trains (e.g. IRE, MD, RE, RB, RV, TER): percentage

other trains (e.g. C, LRT, M, R, S, SKM, U): percentage

Tram (Rail tracks laid in the street): percentage

(express) bus: percentage

taxi, ridehailing (Uber, Lyft etc.): percentage

car sharing/rental: percentage

own car: percentage

other mode: percentage

33. Please estimate the modal split of travellers reaching the airport via long-distance rail (including high-speed) if such measures were taken / obstacles were overcome?

Please enter a value between 0 and 100. If exact figures are not available, please provide a rough estimate.

percent of all passengers

I do not
know

34. How many rail passengers use the train station at the selected airport (where available) to transfer between rail services (without using airplanes)?

Please name the total number of passengers per year and the number that only transfers. If exact figures are not available, please provide a rough estimate.

total passengers per year

transferring passengers per year

35. How many people come to the airport for taking a flight (e.g. excluding visitors for pickup, employees)?

Please name the total number of passengers per year. If exact figures are not available, please provide a rough estimate.

Number of passengers per year:

Total number of visitors (including staff etc.) per year:

36. How many parking spaces does the selected airport offer (excluding spaces for hire cars and taxis)?

Only those offered directly by the airport administration. If exact figures are not available, please provide a rough estimate. Please name the number and explain the parking situation.

Number:

Explanation:

37. In your view, how many passengers use the car parking facilities at the selected airport?

Only parking facilities which belong to the airport. Please name the share of all passengers. If exact figures are not available, please provide a rough estimate.

Share of all passengers:

Percentage

Explanation:

Air-Rail services and modal shift

38. How do you estimate the current share of passenger using air-rail services at the selected airport?

Air-Rail services refer to a joint product (intermodal ticket) that allows travellers to use both the rail and flight under one booking/ticket. Please enter a value between 0 and 100. If exact figures are not available, please provide a rough estimate.

percent of passengers

39. What measures could be taken to increase the demand of Air-Rail services?

Please explain your approaches.

40. By what percentage could these measures increase the share of passengers using Air-Rail services?

Please enter a value between 0 and 100. If exact figures are not available, please provide a rough estimate.

percent of all airport customers

41. How many feeder / short-haul flights to the selected airport could be replaced by long-distance trains (including high-speed)?

Please name the percentage of feeder / short-haul flights and explain the circumstances. If exact figures are not available, please provide a rough estimate.

Share of feeder /
short-haul flights
of all flights:

 percent

Explanation:

42. How high do you estimate the proportion of car users who would switch to long-distance trains (including high-speed trains) if this were advantageous in terms of price or time?

Please estimate the percentage. If exact figures are not known, please provide a rough estimate.

less than 10 %

11 – 20 %

21 – 30 %

31 – 40 %

41 – 50 %

more than 50 %

I do not know

43. How many passengers per year does the selected airport need at least for a financially viable long-distance rail connection (including high-speed)?

If exact figures are not available, please provide a rough estimate.

 passengers per year

 I do not know

Please elaborate on (potential)
reasons; using examples

Final questions

44. Do you have anything else to add in terms of the entire survey?

Please make your comments here.

45. May we contact you for follow-up questions?

This information is voluntary and will not influence the evaluation! The information will not be forwarded to the client.

Yes, you can contact me for follow-up questions via **email**:

Yes, you can contact me for follow-up questions via **phone**:

incl. country code

No, but please keep me updated via **email**:

No, I am generally **not interested**

Last Page

Thank you very much!

Your questions have been saved. The questionnaire is now complete. You may now close the window.

**Christian Scherf, M-Five GmbH Mobility, Futures, Innovation, Economics –
2026**