

Airport Development: Intermodal Munich – By Train and by Plane

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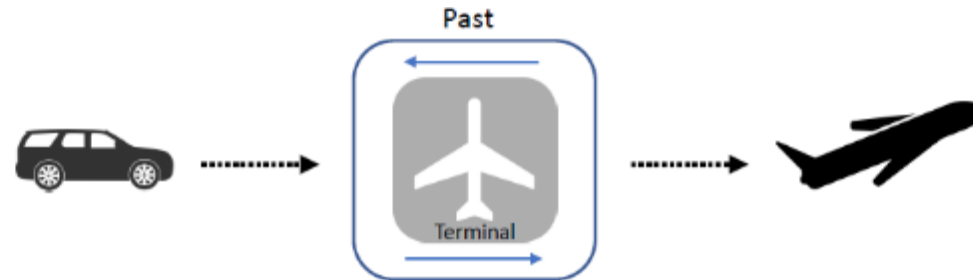
Agenda

1	Airport as multi-modal transport hub
2	Munich Airport:
	Facts & Figures
	Connectivity
3	Benchmarks for intermodality

Airports as multi-modal transport hub



Before: Airports as dual-modal transport hub

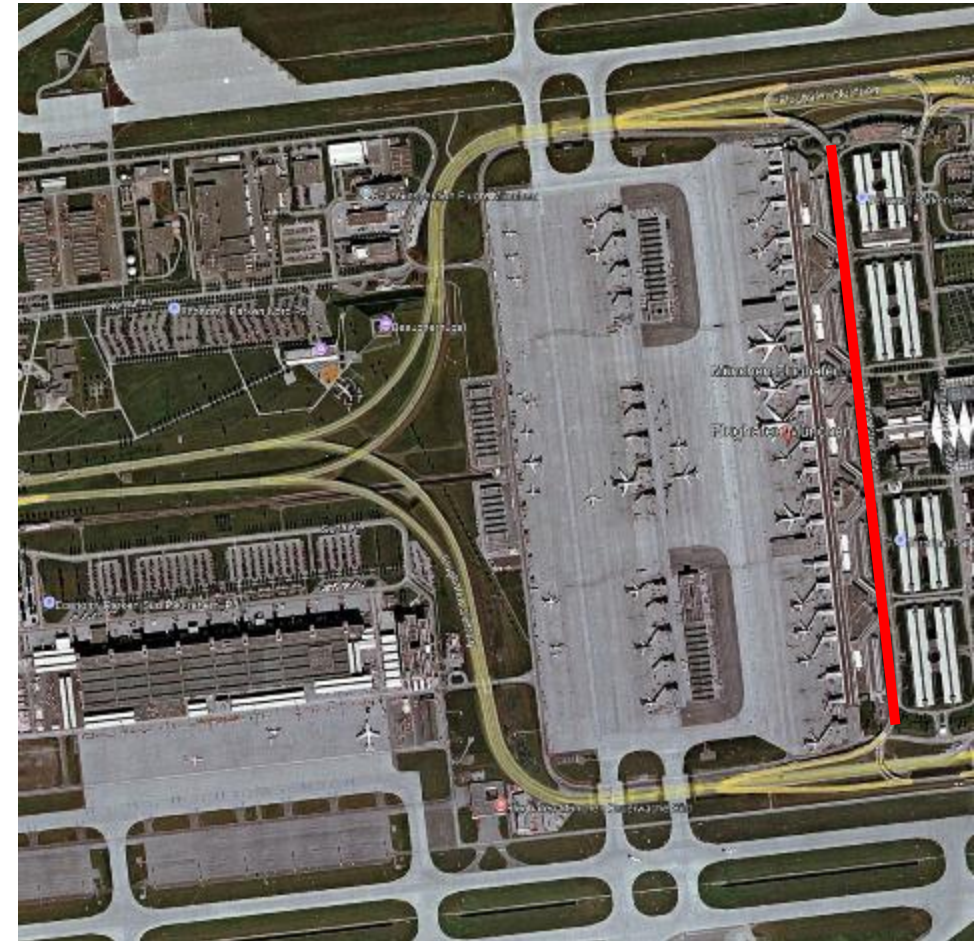


- **Private cars** were the dominant mode of airport access
- Airports built **large parking areas** to accommodate car travelers
- Public transport was **limited and less frequent**
- Airports were often located far from city centers, **favoring car use**
- Cars offered **flexibility and convenience**, especially for families and business travelers
- **Infrastructure** was car-oriented: highways, drop-off zones, parking garages
- **Sustainability and multimodal planning** were **not major considerations** at the time

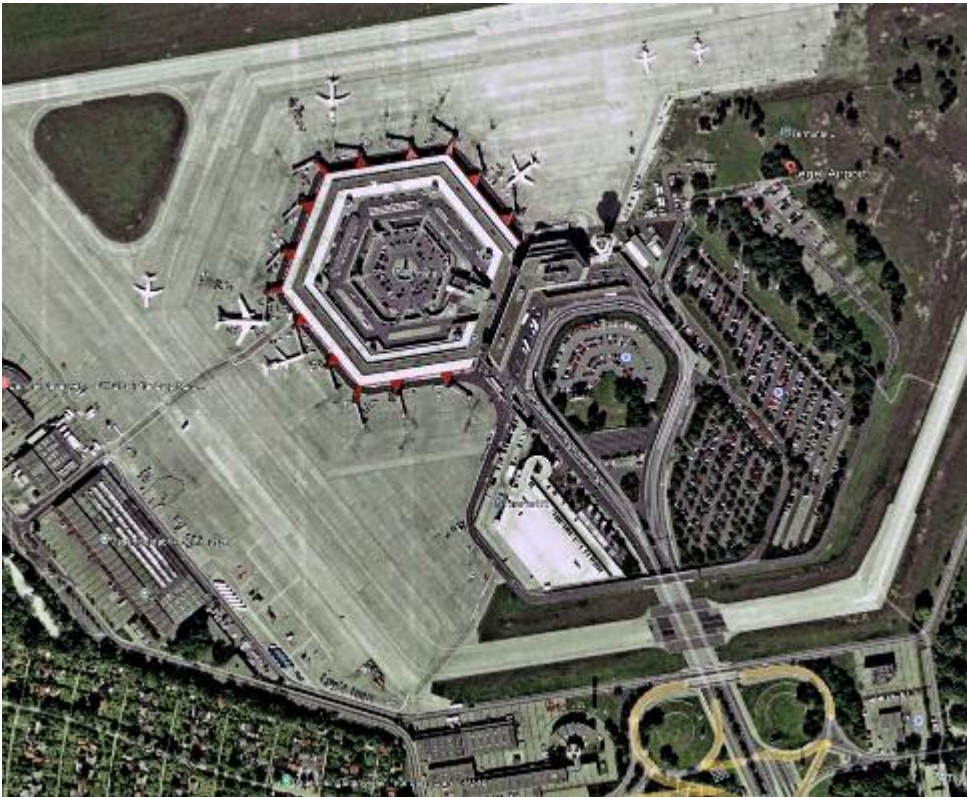
Before: Airports as dual-modal transport hub



- View from the **North**, large **parking garages** to the left
- Almost 1 km long curbside



Before: Airports as dual-modal transport hub



- **TXL**, Tegel Airport, optimized for **individual car traffic**
- Parking below the gates and distance from curbside to gate minimized

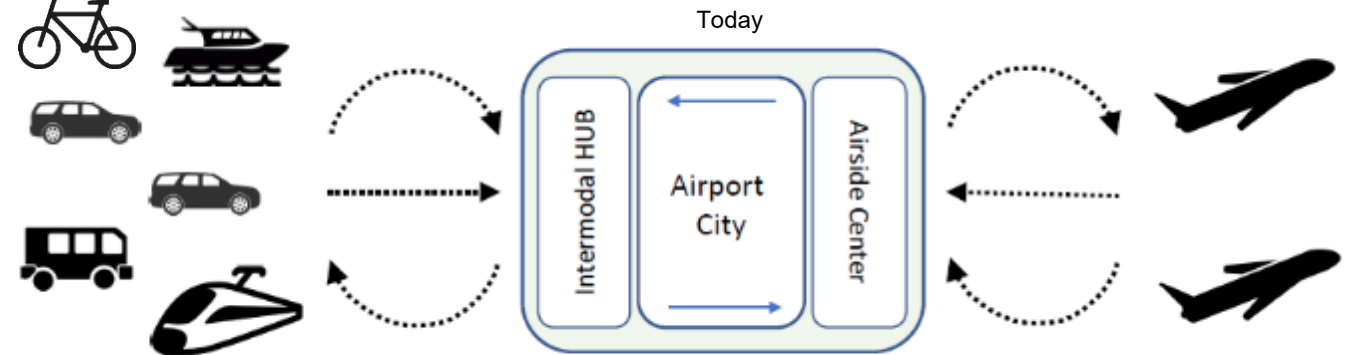
Before: Airports as dual-modal transport hub



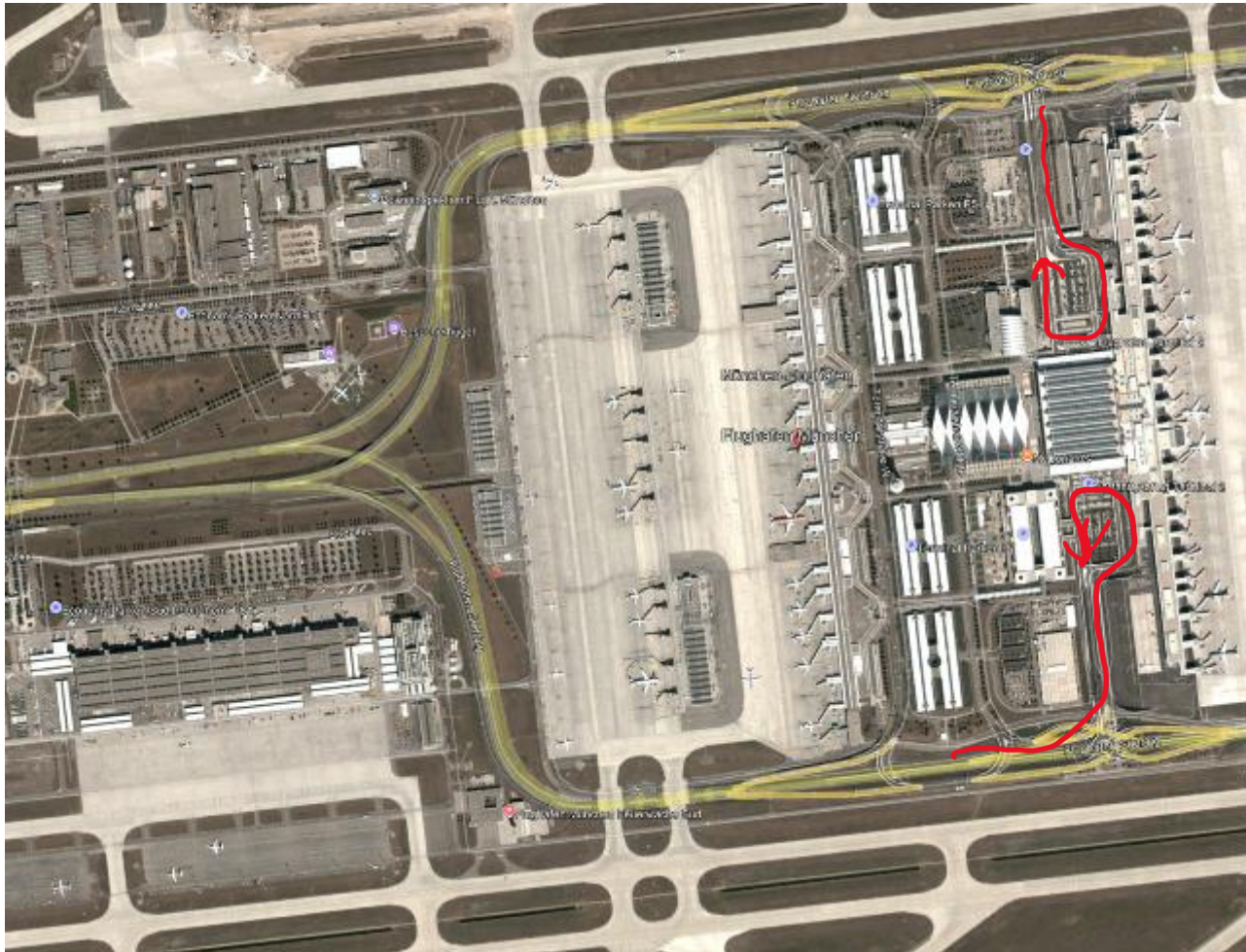
- As you can see from these cars from that period, it was a different age
- **Private cars** were the dominant mode of airport access
- Airports built **large parking areas** to accommodate car travelers

Now and in the future: Airports as multi-modal transport hub

„Multimodal transportation is an organic combination of two or more modes of transport. It captures and integrates the advantages of various modes of transportation and is an advanced mode of transportation.“



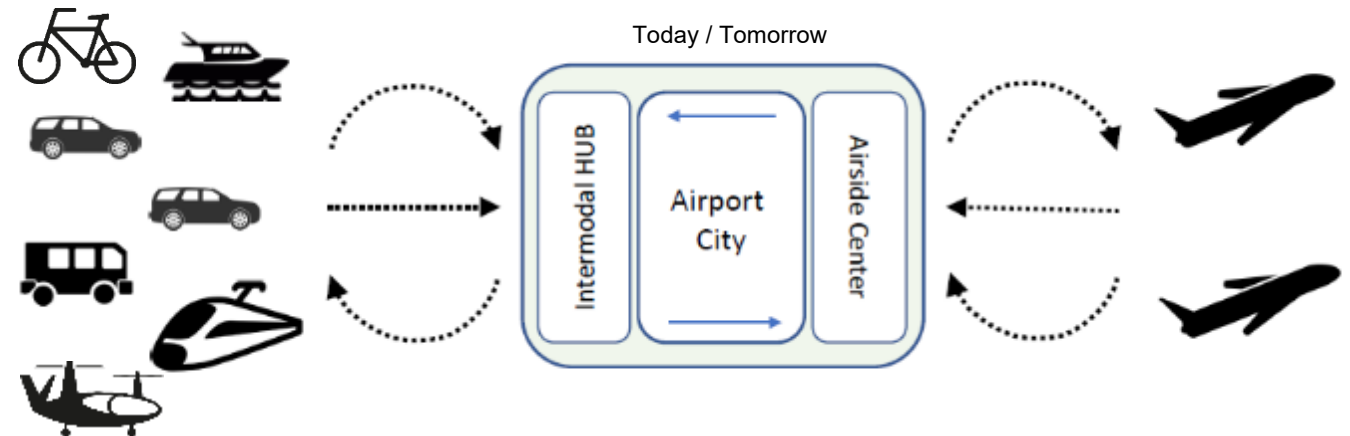
Now and in the future: Airports as multi-modal transport hub



- **Terminal 2 at MUC**
- No curb-side in front of the Terminal
- Curb-side split North/ South for public transport and individual traffic
- First step to differentiation

Now and in the future: Airports as multi-modal transport hub

„Multimodal transportation is an organic combination of two or more modes of transport. It captures and integrates the advantages of various modes of transportation and is an advanced mode of transportation.“



What's next?

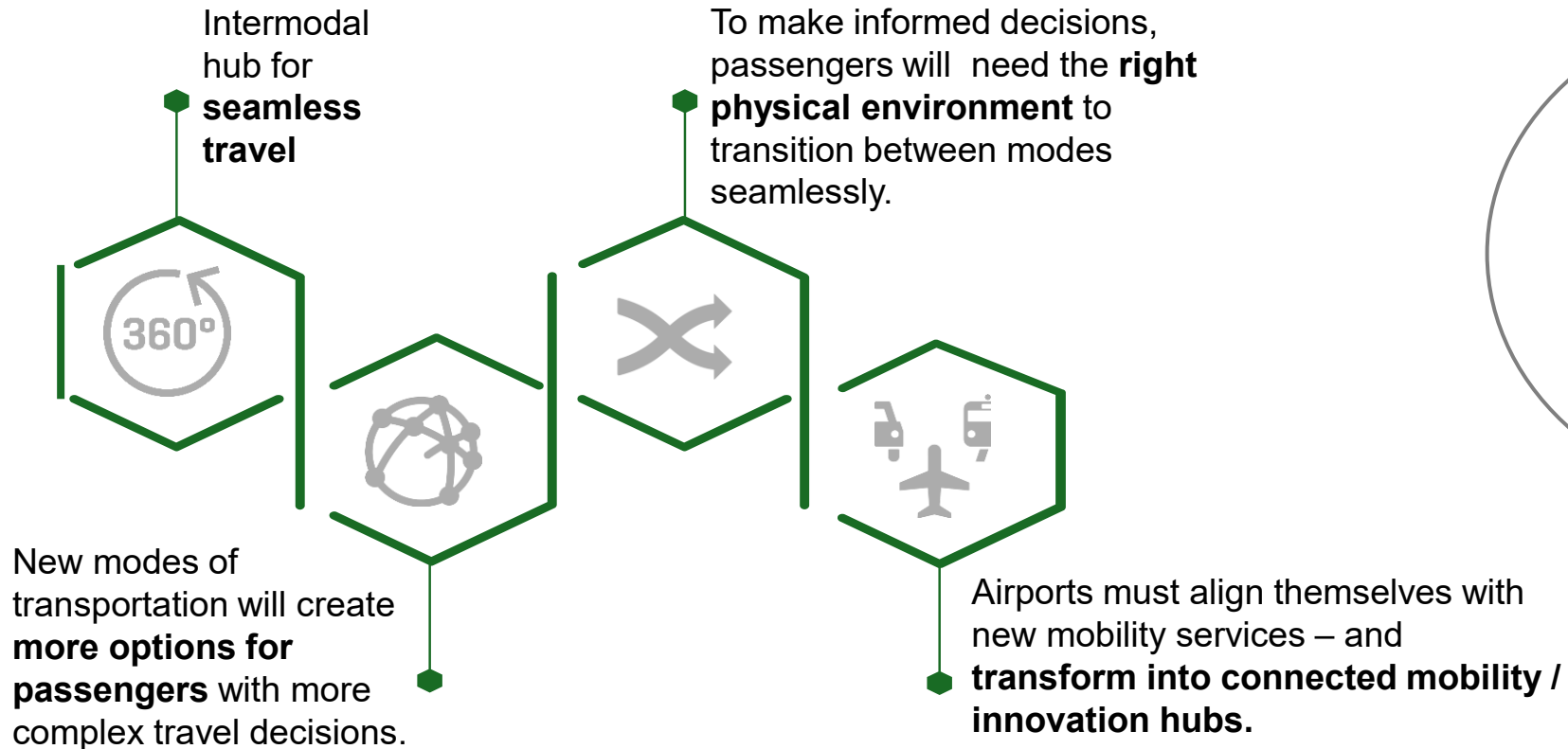
Intermodal Munich – By Train and by Plane



- Autonomous Buses/ cars
- Air Taxis?



Airports as multi-modal transport hub



„Airports, ports, railway, metro and bus stations should increasingly be linked and transformed into multimodal connection platforms for passengers.“

(European Commission, 2011)

For airports to maintain their position in the mobility industry, their function as a transit hub, focusing mostly on air travel, will have to be reshaped into a multi-modal transport hub that unites existing transport flows and incorporates new transport modalities into its business.

Airports as multi-modal transport hub

Prerequisite: successful integration of infrastructure and service elements

Infrastructure

- Facilities required to operate the transport modalities (railways, highways, runways)
- Connecting elements (buildings, walkways)

Service elements

- Facilitating a seamless interchange between multiple modes of transport
- Transfer environment
- Accessibility
- Signposting
- Safety
- Public utilities
- Comfort & convenience

Barriers

- Regulations between different mobility stakeholders
- Different design standards among transport operators
- Incomplete infrastructure
- High development costs
- Absence of open information interfaces
- Lack of integrated operations

Multi-modal transport hubs should facilitate high-quality intermodal transfers, by improving the integration of services.

Intermodal Munich – By Train and by Plane



- Already in place: **ÜFEX**
- Munich Airport connected by rail
- But not enough...





Munich Airport

Facts & Figures Connectivity

Munich Airport: Mesmerizing and diverse



327,200
take-offs & landings



41.6 million
passengers



311,000
tonnes of airfreight
and airmail



33,330
employees on campus*



464
businesses on campus*



1,575
hectares total
surface area

Munich Airport: Bavaria's gateway to the world - a global hub

Munich Airport is a key international aviation hub.



96*
airlines



224
destinations

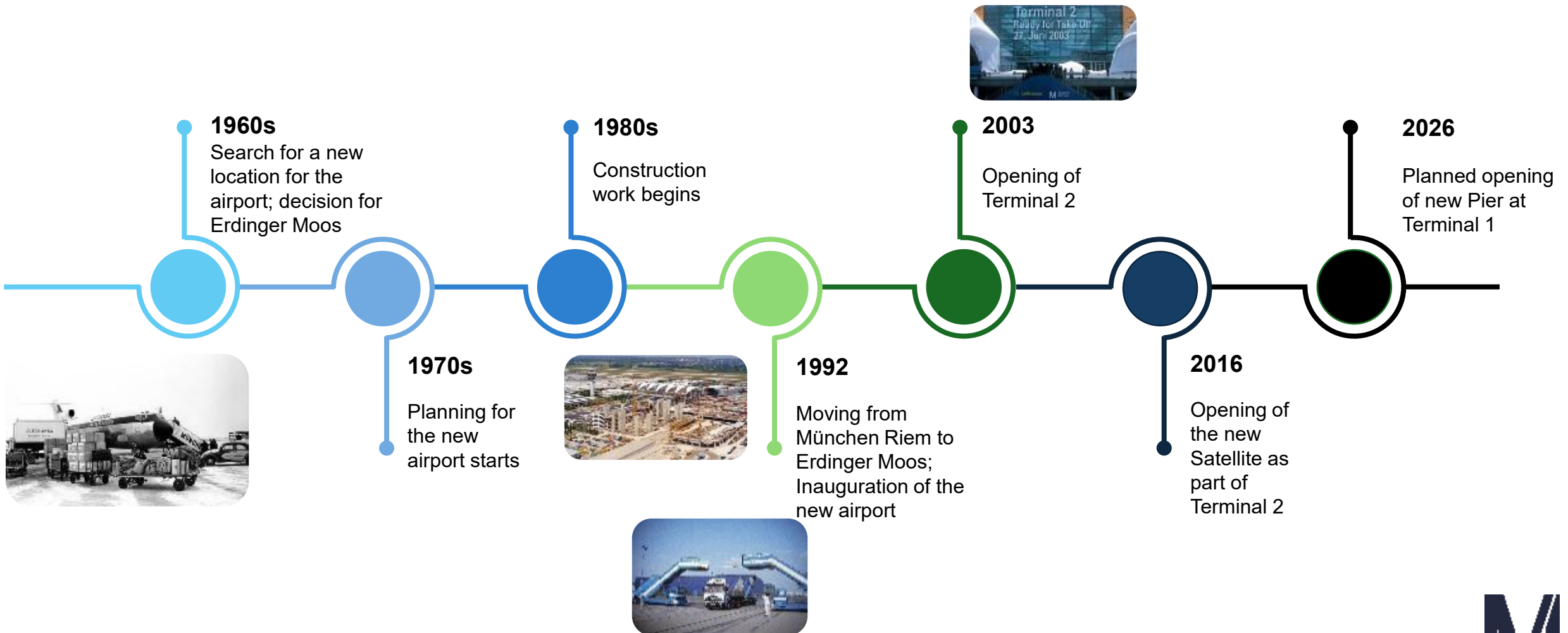


66
countries

*five airlines were active solely in air freight



Munich Airport: How did we get there?



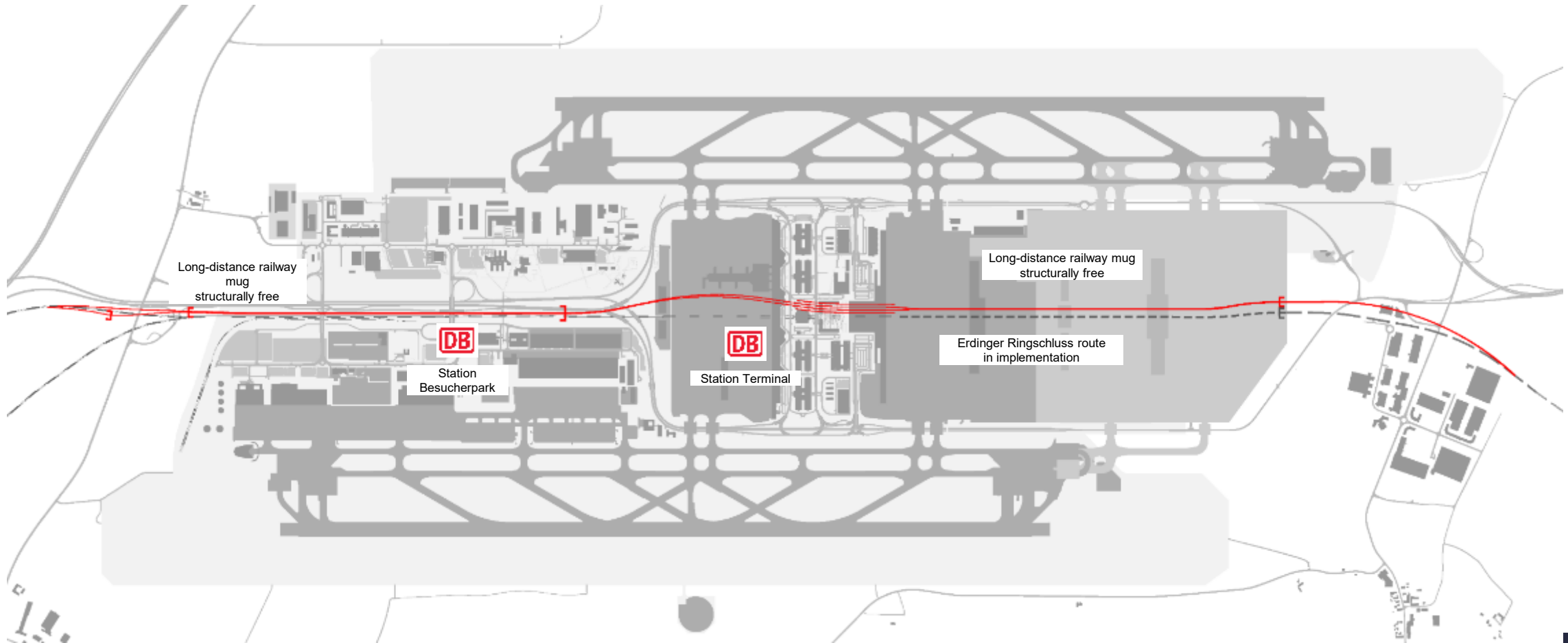
The vision of a Transrapid

...to get from Munich City Center to Munich Airport within 10 minutes.

“If you can get from
Munich Central
Station to the airport
in ten minutes, then
you're basically
starting at the airport.”
(Edmund Stoiber, 2002)

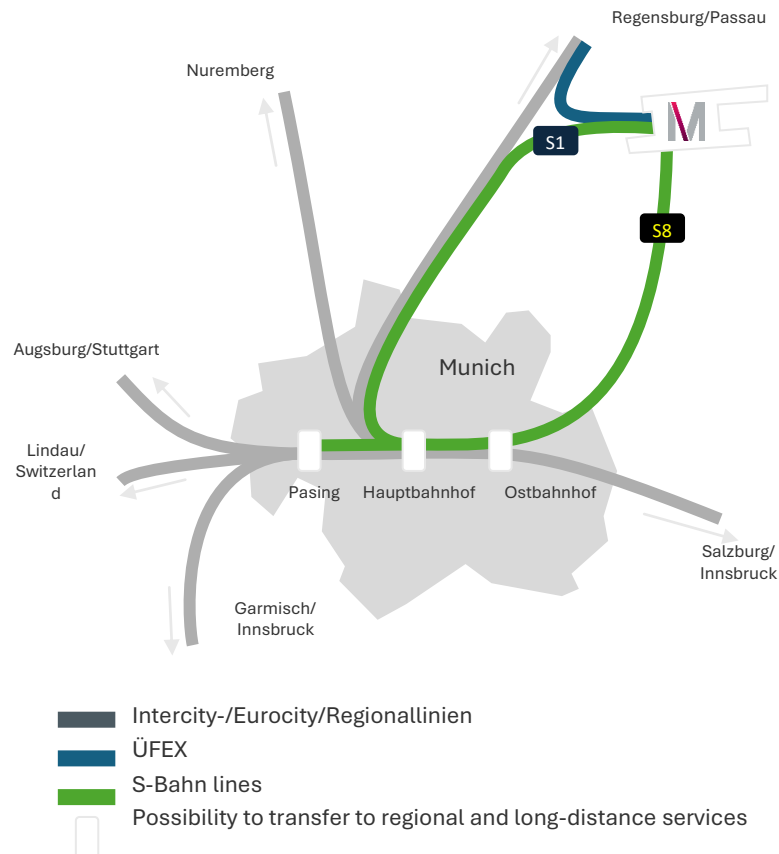


Munich Airport: Overview of rail infrastructure



Munich Airport: Rail connection Munich Airport

Local, regional and long-distance transport: Only 2 S-Bahns, 1 ÜFEX and 0 ICE trains



S-Bahn

- ✓ 10-minute interval in the direction of Munich
- ✗ High share of modal split, but only serves "home market"
- ✗ Travel time from the airport / main station is about 40 minutes.
- ✗ Lack of reliability of the S-Bahn and inadequate incident management
- ✗ Offer does not meet the quality requirements of customers

ÜFEX Regensburg/Nuremberg

- ✓ 1-hour interval from Regensburg
- ✓ 2-hourly service from Nuremberg
- ✓ Positive demand development



Munich Airport: Supra-regional airport connection – four-stage concept*

Service planning:

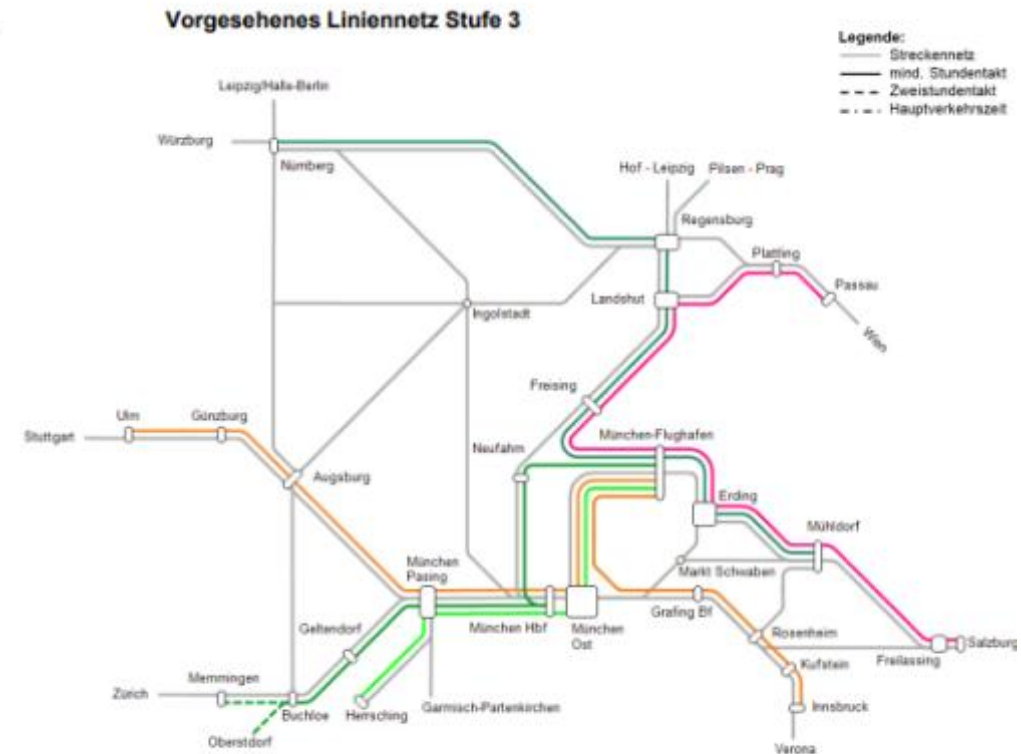
- Stages 1-3: Improved regional and interregional accessibility of the airport by rail via suburban trains and additional Üfex connections (including Augsburg, Salzburg, Innsbruck)

Infrastructure planning:

- Stages 1-3: Airport - Schwaigerloh line with new turning facility
- New Ingolstadt/Freising - Munich Central Station line and connection to the airport with a new long-distance train station at the airport (responsibility lies primarily with the federal government and DB)

Demand forecast:

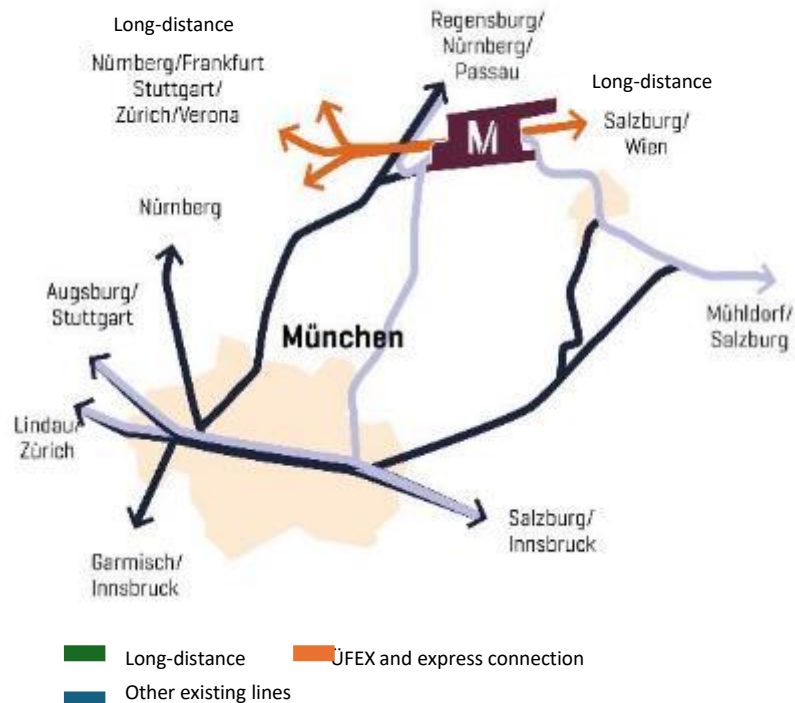
- Increased use by passengers and employees achievable through more direct connections and shorter travel times



Improving rail connections to Munich Airport is an important goal of Bavarian transport policy. A key prerequisite is financial viability.

Munich Airport: Urgently needed – A better rail link

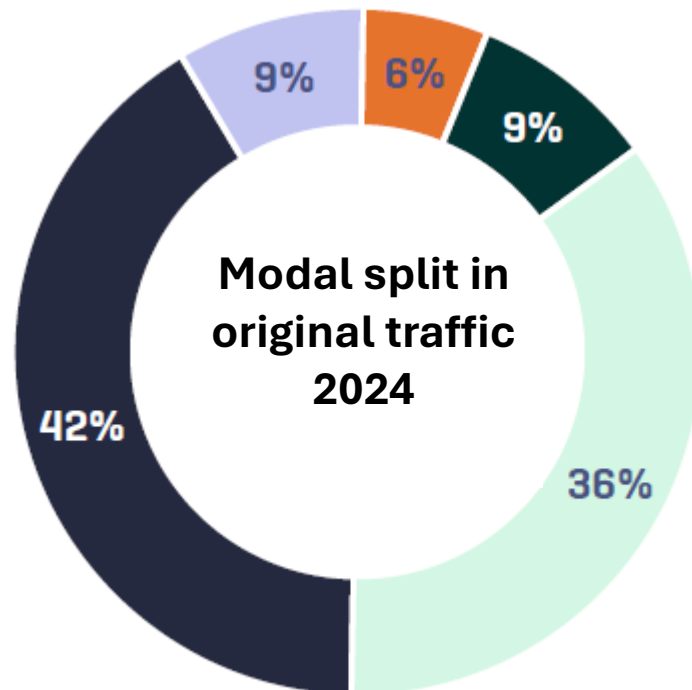
As a multimodal transportation hub, Munich Airport provides attractive «airside» connections. But «landside» transport connections also play a key role. Expanding rail access strengthens sustainability and the airport's competitive position.



The phased approach includes:

1. ÜFEX connections
 - to Nuremberg on existing infrastructure
 - Passau, Salzburg and Innsbruck as well as Allgäu and Augsburg/Ulm in conjunction with the second trunk route as well as the Erding loop connection and further expansion measures
2. Express connection from downtown Munich
3. Mainline rail link

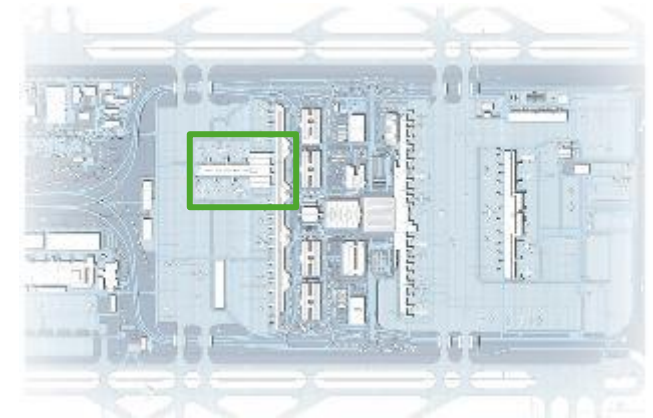
Modal split – Outgoing Passengers at Munich Airport



	Private car (parked at the airport / surrounding area; brought by others)
	Taxi, Uber etc.
	Rental cars, car sharing
	Bus
	Railway (34% S-Bahn, 2% Üfex)

Munich Airport: New Pier at Terminal 1

- **Start of construction:** Q4 2018
- **Commissioning:** 2026
- **6 Multiple Aircraft Stands-Positions** (for 6 wide-body aircrafts or 12 smaller aircrafts)
- Handling of **Non-Schengen** traffic
- Capacity of 6 Mio. passengers



Benchmarks in Intermodality



Zürich Airport

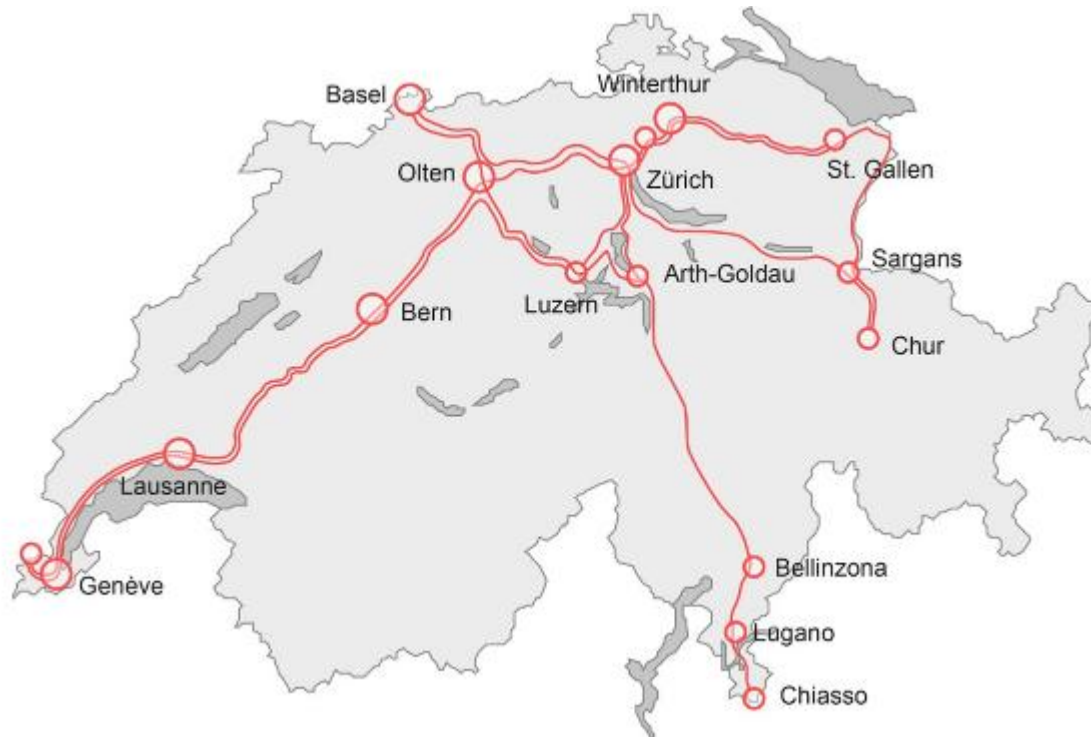
Zurich Airport – The Swiss Model of Integration

- **Train station directly beneath the terminal:** SBB trains depart every 10 minutes to Zurich Main Station (approx. 15-minute journey).
- **Long-distance connections:** IC, IR, and EC trains provide access to all regions of Switzerland and international destinations such as Munich, Milan, and Vienna.
- **SWISS & SBB “Flugzug”:** Intermodal tickets with guaranteed connections to cities like Basel, Lugano, Bern, Interlaken, and Zermatt.
- **SWISS Air Rail:** Since 2022, international service between Munich Central Station and Zurich Airport with six trains daily.
- **Advantages:**
 - Seamless integration with the Swiss rail network.
 - Earn Miles & More points for train journeys and enjoy lounge access for status customers.

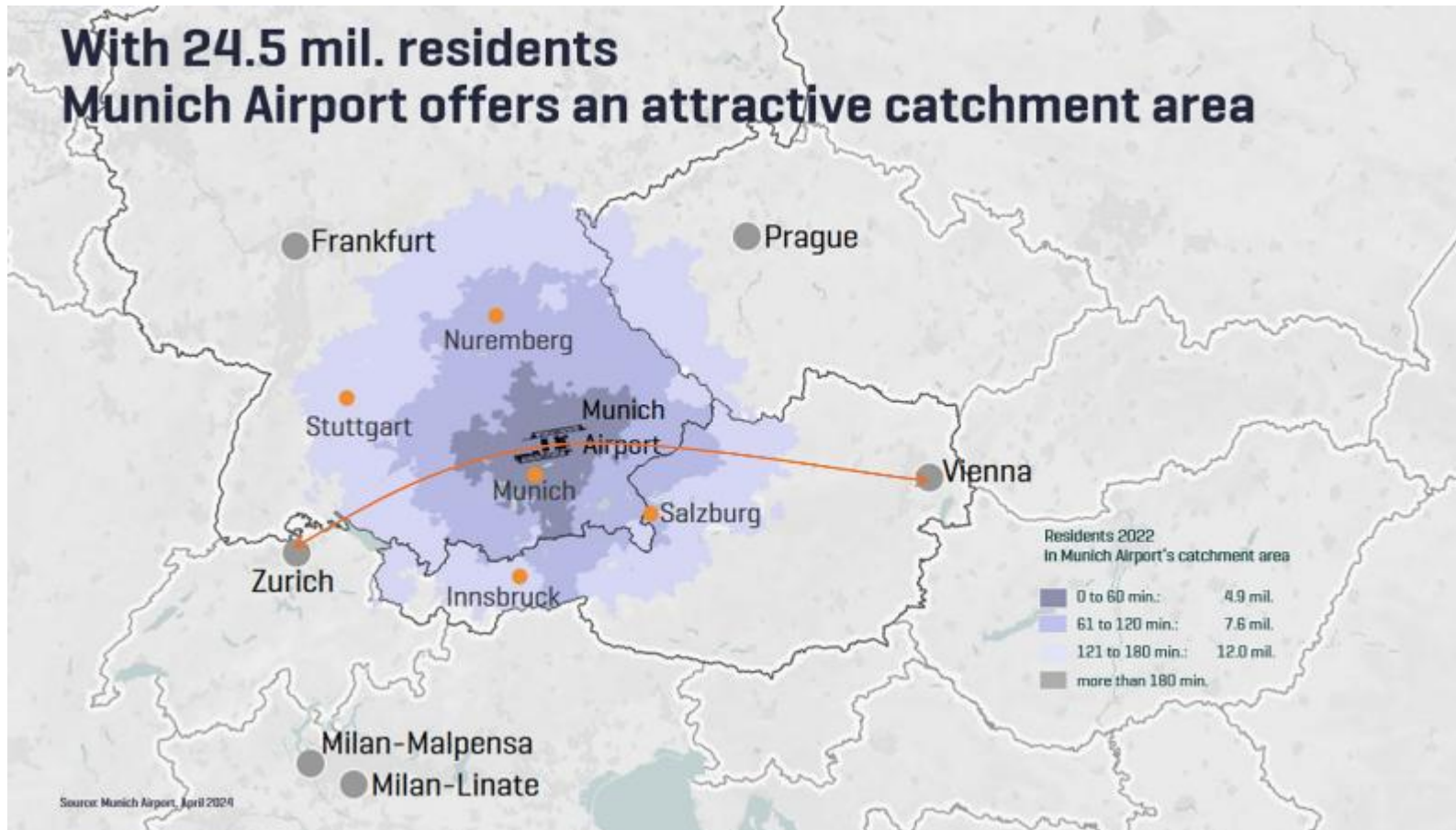


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Zürich Airport – country wide connectivity



Zürich Munich Vienna Airports – European rail connection?



Frankfurt – Benchmark for intermodality

Frankfurt Airport

- **Two train stations:** Regional train station (since 1972) and Long-distance train station (since 1999).
- **Long-distance train station:** Right next to Terminal 1, with over **210 daily long-distance trains**, including 185 ICEs.
- **Connections:** Cologne–Frankfurt high-speed line, direct connections in all directions (e.g. Berlin, Hamburg, Munich, Brussels, Amsterdam).
- **AIRail partnership:** Lufthansa and Deutsche Bahn offer **through tickets**, baggage service and guaranteed connections.
- **Pros:**
 - High proportion of air travellers arriving by train.
 - Reduction of short-haul flights in favor of long-haul flights



Thank you!

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www.munich-airport.com/international

