

# A Boost For Bavaria

## The Most Important Facts About The Transrapid



### Money

- Financing of the project costs to the tune of €1.85 billion can be considered secure.
- The industry guarantees a fixed price before start of construction.
- Subsidies from the federal government and state of Bavaria will not be at the expense of other regional and mass transit projects (commuter rail system).
- No subsidies will be needed for operation of the Transrapid during the 20-year project life.
- Market-acceptable fare prices: around €14 to €16 for a one-way ticket (plus discounts for frequent users and families).
- German Rail (DB AG) will operate the Transrapid at its own risk and is contributing €235 million for the construction.

### Transportation

- Only a high-speed direct connection between two major traffic hubs (airport and main railway station) will ensure economically efficient operation.
- The Transrapid will take the pressure off congested freeways (Routes A9, A92) and induce travelers to leave the car at home and to use public transportation.
- An attractive airport link that offers a very short travel time and dependable service: “in 10 minutes, every 10 minutes”.
- Making up for the lack of a main railway line between the airport and city center, the Transrapid will be the perfect addition to the normal railway service.
- The increasing number of airline passengers\* calls for an increase in the capacity of the public transportation system.  
\*in 2006: 31 million, by 2020: 54 million (FMG)
- Every year, the Transrapid will induce 3 million passengers in the large airport catchment area to make the switch from road to rail.

### Technology

- It is an innovative high-tech product reflecting the latest state of development (TR09 maglev vehicle new in 2007).
- The vehicle has no motors, axles, wheels and gearing. So it is quiet, energy-efficient and fast.
- Passengers enjoy a high degree of comfort at all speeds and jerk-free acceleration and braking.
- It is the ideal means of transportation for carrying a large number of passengers over short distances at short headways.
- Short travel times to and from the airport are only possible with rapid acceleration and a high running speed. No other system can do that.
- The vehicle levitates over the track without making any contact, thereby eliminating mechanical wear and lowering maintenance costs.

### Environment

- 40% of all passengers will be people who switch from private to public transportation. This alone will cut CO<sub>2</sub> emissions by 20,000 metric tons per year and mean a shift of over 100 million person kilometers from the road to the rail and to the Transrapid.
- Traveling in urban areas at a speed of 250 km/h, the Transrapid is quieter than a truck at 80 km/h.
- A small ecological footprint is ensured by construction of the system on dedicated transportation space (former commuter rail corridor) and by its close alignment with the existing freeway.
- Very good aerodynamics and contactless levitation ensure low power consumption—especially at high speeds. The energy generated during braking is fed back into the power supply system.
- 84% of the route will be at grade level. The line will only be elevated where it crosses other traffic routes or where land areas have to be protected.
- The magnetic fields will be shielded almost entirely, so that even cardiac pacemakers will not be affected.

## Safety

---

- Safety standards are at least as high as those of modern high speed trains. The safety concept has been approved (2007).
- The maglev vehicle literally envelopes the guideway and can therefore not derail. There is a separate guideway for each direction of travel.
- Multiple brake systems are provided, work independently of each other and will still function even in a power failure.
- All operations are controlled automatically and are monitored by an additional train control system.
- Equipped with flame-resistant materials and the latest fire extinguishing system (mist type), the Transrapid fulfills the highest fire protection requirements.
- Evacuation of passengers is possible at any point along the route (even in tunnels). There are also three evacuation stopping points outside the stations.

## Benefits

---

- The overall economic benefits of the project outweigh the investment costs by a factor of 2.5 (according to expert opinions conducted on behalf of the federal government in 2007).
- The Transrapid will alleviate an acute traffic problem in the north of Munich (overloaded roads and freeways).
- It will help to secure the national and international competitiveness of the rapidly growing Munich airport.
- 5,500 jobs will be created during the construction period, with about 500 jobs being needed for operation and maintenance.
- It will create an outstanding tourist attraction for the Greater Munich area, with retailers profiting from tourists, air passengers, and visitors to congresses and fairs.
- It will strengthen Bavaria as a prime location for innovation, enhance the export opportunities for high-tech “Made in Germany”, secure the technological lead of our country and prevent the emigration of high-grade technology to other countries.

## “Express commuter rail system”

---

- Like the Transrapid, it would need its own track. Express commuter trains cannot run on the lines at the same time as conventional commuter trains because overtaking is not possible.
- Travel time to the airport would be reduced only slightly and the headways would be longer. Therefore, fewer people would switch from road to rail.
- Overall, an express commuter rail system would be no cheaper than the Transrapid. Unlike the express commuter rail system, the Transrapid would not be ordered by the state of Bavaria and would therefore not receive any state subsidies. Fare revenues would finance its operation.
- Funding of an express commuter rail system would be at the expense of other means of transit (bus, rail).
- In addition to a second main line, the federal government and Bavaria will not finance another large-scale commuter rail project to the airport.
- It would hardly be possible to complete an express commuter rail system before 2020: no planning up to now, no ongoing approval procedure and no financing.

## Good to know

---

- There have been many controversial projects in Munich: the tunnel under the Mittlerer Ring, the relocation of the trade fair center, the Eschenrieder Link (Route A99), the Allacher shunting yard and the Allianz Arena. Despite early resistance, they all were ultimately realized to the benefit of the city.
- Of the 23,500 initial objectors to the maglev system, a total of 80 persons (0.3%) were present at all of the 70 hearing days.
- Amount contributed by City of Munich, the capital of Bavaria, to the Munich maglev system: €0.00.
- The City of Munich is strongly in favor of building a third takeoff and landing runway at the airport but rejects a link in the form of the Transrapid between the airport and the city.
- Apart from the railway, there are only two other eco-friendly means of transportation: the bicycle and the Transrapid.