

# ELBE VALLEY 2040

Opportunities and potentials for regional development in the Elbe Valley through the new railway line Dresden-Prague

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## 1. INTRODUCTION

Under the heading "Elbe Valley 2040", the partners of the CORCAP project exchanged views on opportunities for joint regional development in the Saxon-Czech border region associated with the new Dresden-Prague railway line. The time horizon 2040 was chosen considering the expected commissioning of the new line.

To this end, a cross-border dialogue was initiated and successfully launched in order to narrow down which concrete topics are considered urgent and relevant in this context in the coming years. The starting point was a joint working paper from July 2021, which outlined possible questions for further discussion:

### a) Prospects for tourism, local recreation and housing

- If the Elbe Valley is relieved of rail noise in the section Heidenau-Ústí nad Labem (and subsequently also in the section Ústí nad Labem-Lovosice/Litoměřice) - what new perspectives will arise for tourism and the spa and recreation resorts in the Elbe Valley? What are the connections and interrelations with tourist destinations in the surrounding area?
- If the Elbe Valley is made accessible better (more comfortably) and more frequently in cross-border regional transport - what prospects arise for climate, nature and socially compatible tourism? What are the connections to cycle tourism, local recreation and the development of ecological protected areas and reserves?
- What are the prospects for living in the Elbe Valley if the noise pollution caused by rail noise (especially at night) decreases and the quality of accessibility improves at the same time due to better and more frequent public transport services?

### b) Valorisation of the Elbe waterway

- What developments are conceivable with regard to the development of freight transport on the Elbe waterway? What are the objectives in Germany and the Czech Republic, and what conditions must be met so that the Elbe can be better used for freight transport? And what does this mean for the port locations between Ústí nad Labem and Dresden - how could or should they develop?
- What are the opportunities for water tourism in the Elbe Valley? Which potentials are already being used today, where can new perspectives be developed?

### c) Utilisation of urban development potential

- What opportunities arise for the development of the towns and communities in the Elbe Valley? Which priority functions - housing, supply, work, recreation - will be strengthened, and what conclusions and recommendations can be derived from this?
- If already identifiable - where are measures and precautions necessary to safeguard land, where are opportunities and possibilities for renaturation, conversion and redevelopment of land?

In addition, comprehensive data and information on the effects of the new Dresden-Prague line on cross-border rail freight and passenger traffic were provided, which were used as background information in the discussion process.

## 2. EFFECTS OF THE NEW DRESDEN-PRAGUE LINE

### 2.1. Current situation of rail freight transport in the Elbe Valley

For cross-border rail traffic along the TEN-T corridor Orient/East-Med, the Dresden-Prague section is an important connection for Germany and the Czech Republic, as well as for the neighbouring countries in Central and South-Eastern Europe.

The existing Dresden-Prague railway line largely follows the course of the Elbe. In the cross-border section between the cities of Pirna and Děčín, the railway line is double-tracked and is already heavily used by local and long-distance passenger traffic as well as by a steadily growing number of goods trains. In 2016, the utilisation of this section was over 82 %, making it the second most used border crossing for rail freight in Germany.<sup>1</sup>

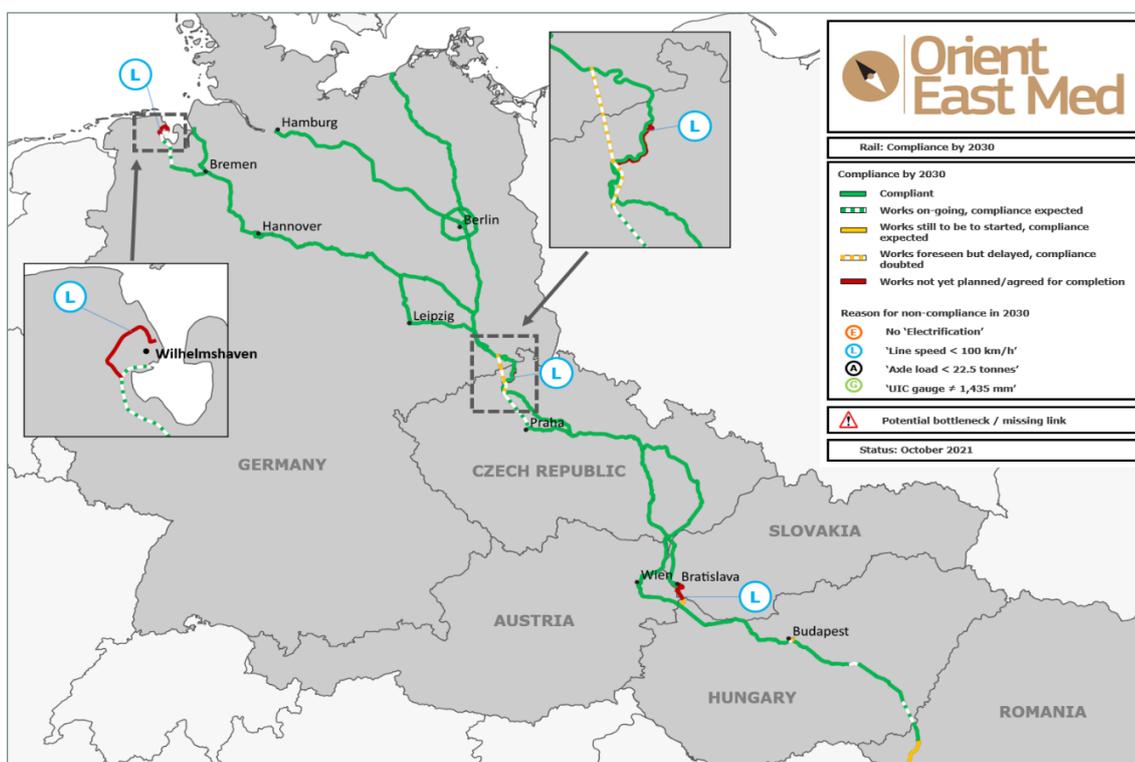


Figure 1: Illustration of the existing bottleneck in rail freight transport in the Elbe Valley<sup>2</sup>

According to estimates by the European Commission, a further increase in rail freight transport of up to 80 % is to be expected in this section by 2030. This growth trend is supported by the continuing shortage of truck drivers in Europe as well as general efforts to further shift freight transport to rail.

<sup>1</sup> cf. Heldt, Petra: Infrastructure development and its effects on transport, demography, and employment: the example of a new rail line Dresden-Prague, in: Scholl, Bernd et. al (eds.): Spatial and transport infrastructure development in Europe: example of the Orient/East-Med Corridor, ARL science report no 12, Hannover 2019, p. 216

<sup>2</sup> cf. Grosch, Mathieu: Overall considerations and the OEM Core Network Corridor. TEN-T Coordinators Hearing, European Parliament, Brussels. 26 February 2018, [https://www.europarl.europa.eu/cmsdata/139309/Mathieu\\_Grosch.pdf](https://www.europarl.europa.eu/cmsdata/139309/Mathieu_Grosch.pdf) (accessed 15 March 2022)



Furthermore, with the planned modernisation of the line between Kolín and Ústí nad Labem, which is part of two important rail freight corridors (RFC7 and RFC8), a further increase in rail transport (including automotive, container transport) is expected.

In theory, inland navigation could constitute an alternative freight transport option, but due to the nature and state of development of the Elbe, it will not provide significant capacity relief in the foreseeable future.<sup>3</sup>

According to the European Commission, the significant increase in rail freight traffic will lead to a critical capacity bottleneck for the TEN-T Orient/East-Med corridor in the current section along the Elbe by 2030 (this section is also used to a significant extent for passenger traffic, but only slight growth is expected here).<sup>4</sup>

Both the lack of capacity and the limited line speed are seen as significant problems for meeting the European targets for rail transport by 2030. The environmental conditions and topography prevent further expansion and make acceleration of this section of the line impossible.<sup>5</sup> In addition, the existing railway line is strongly influenced by flood events due to its location in the Elbe catchment area.

## 2.2. The new Dresden-Prague railway line

The new Dresden-Prague line will make a major contribution to eliminating the capacity bottleneck on the existing section in the Elbe Valley and thus also to the overall permeability and performance of the TEN-T Orient/East-Med corridor for future rail freight traffic.

The overall project comprises the realisation of a double-track high-speed line with a length of approx. 43 km between Heidenau and Ústí nad Labem, including the construction of a base tunnel under the Ore Mountains with a minimum length of 25 km, bridge structures and an overtaking station. The connection to existing railway lines is to be ensured on the German side in the area of Heidenau and on the Czech side in the area of Ústí nad Labem.

The design speed will be 200 km/h for passenger traffic and 120 km/h for freight traffic at a maximum gradient of 12.5%. The line will also be equipped with the European Train Control System (ETCS).<sup>6</sup>

The spatial planning procedure was completed in 2020. In it, the Saxony State Directorate confirmed that two route variants (a full tunnel variant and a partially above-ground variant) are compatible with the principles of state and regional spatial planning. In the preliminary planning phase, DB Netz AG as the developer will examine both variants with various sub-variants. Both variants will be considered equally in order to find a solution that is acceptable for the region and meets the requirements and criteria of the federal government.

A decision on the preferred variant will be made at the end of the preliminary planning phase in 2024. Completion of the new line is not expected before 2035. Regardless of the route variant, the following objectives will be pursued with the realisation of the new railway line<sup>7</sup> :

- Significant reduction in travel time for long-distance passenger traffic
- Significant increase in capacity for freight transport

<sup>3</sup> cf. European Commission (ed. ): Orient/East-Med Corridor. Core Network Corridor Study. Final Report, Brussels 2014, p. 41

<sup>4</sup> cf. *ibid.* , S. 190

<sup>5</sup> cf. Deutsche Bahn AG (ed.): Neubaustrecke Dresden-Prag, <https://neubaustrecke-dresden-prag.de/en/> (accessed 15 March 2022)

<sup>6</sup> cf. *ibid.*

<sup>7</sup> cf. Heldt, Petra, p. 217

- Reduction of noise pollution in the Elbe Valley by shifting a large proportion of freight trains to the new line
- Provision of a flood-proof connection between Saxony and the Czech Republic

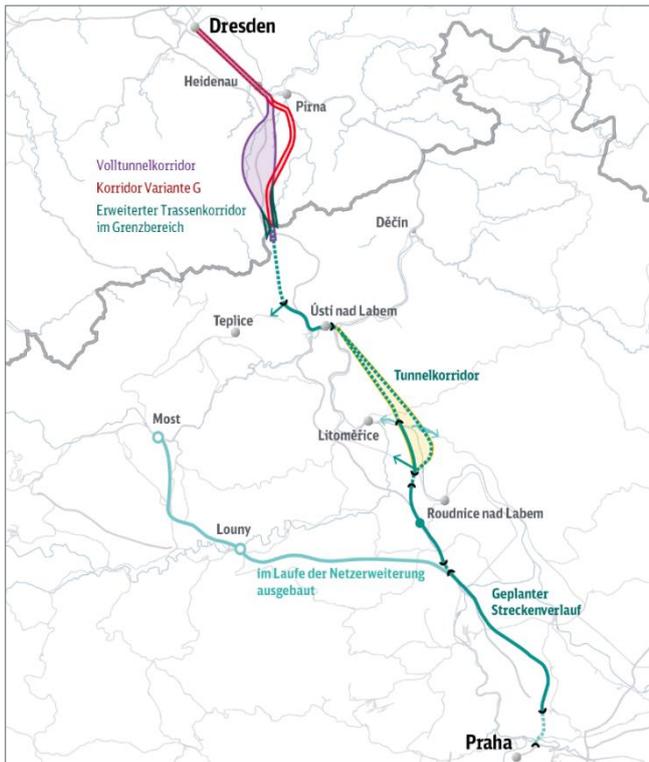


Figure 2: Possible route of the new Dresden-Prague railway line after completion of the spatial planning procedure<sup>8</sup>

### 2.3. Possible effects and perspectives

The construction of the new Dresden-Prague line will have a major impact on the Saxon-Czech border region. In passenger traffic, the capacity for long-distance trains will be doubled (from eight to 16 trains per direction), while the travel time between Dresden and Prague will be halved (from more than two hours to about one hour).

The majority of freight trains will be shifted from the Elbe Valley to the new line, and only very long or heavy trains will remain in the Elbe Valley. Furthermore, additional connections can be established in cross-border regional traffic, some of which also run through the Ore Mountains base tunnel.

The realisation of the new line will enable better connections to public transport, for example in Ústí nad Labem, where the construction of the new line will also entail the relocation and new construction of the main railway station. From an environmental point of view, the new line will significantly reduce noise and environmental pollution in the Elbe Valley and Saxon Switzerland, which is not only an important tourist area but also a national park.<sup>9</sup> The Elbe Valley is currently heavily polluted by rail noise along the existing

<sup>8</sup> *ibid.* , [https://neubaustrecke-dresden-prag.de/wp-content/uploads/2022/05/Dresden-Prag-Planungsbereich\\_mit-Dresden.png](https://neubaustrecke-dresden-prag.de/wp-content/uploads/2022/05/Dresden-Prag-Planungsbereich_mit-Dresden.png), (accessed 15 March 2022)

<sup>9</sup> cf. Heldt, Petra, p. 223



railway line. Especially the Saxon side is very narrow and densely populated, and in many cases the settlement extends to within a few metres of the railway line.

The Ore Mountains base tunnel will lead to a significant reduction in noise. Further relief is expected from the Deutsche Bahn noise remediation concept. On average, rail traffic noise is to be reduced by 10 decibels. To achieve this goal, Deutsche Bahn AG is relying on an overarching overall concept that includes measures on the route network and the vehicle fleet.<sup>10</sup>

Due to the modal shift from road to rail, the new rail line will also have an impact on transport-related energy consumption and greenhouse gas emissions, both due to the shorter rail distance and as a result of the modal shift from road to rail. However, the changes will mainly affect long-distance passenger and freight transport. In contrast, no significant changes are expected for regional passenger traffic, as this will continue to be handled mainly on the existing railway line.

According to current calculations, around 1,000 tonnes of greenhouse gas emissions are saved per year in long-distance passenger transport and more than 20,000 tonnes in freight transport. In terms of air pollutants (SO<sub>2</sub>, CO, NO<sub>x</sub> and PM), the reduction amounts to 7.5 tonnes per year in long-distance passenger transport and 57 tonnes per year in freight transport.<sup>11</sup>

Through possible labour market effects (e.g. reduced travel times for commuters) and commercial settlement effects (e.g. cross-border business settlements; better accessibility of freight transport centres, inland ports and intermodal terminals for companies), the new line will have considerable economic effects on the cross-border region. This also includes considerable effects in the field of tourism.

In this context, DB Netz AG is already considering during the preliminary planning phase how the new line can be enhanced and integrated in terms of tourism. As part of the public participation process, for example, the establishment of a project nature trail with information boards is being discussed, which is to be integrated into the existing network of hiking trails.

With the completion of the new line, day tourism in particular will benefit from the construction of the new railway line. It has already been shown in recent years that Dresden is very attractive for day trips by tourists staying in Prague. The shortened travel time by train can further promote this development trend. Vice versa, an increasing number of travellers from Germany to the Czech Republic can be expected.<sup>12</sup>

Further potential is expected for tourists travelling to the tourist regions of Bohemian and Saxon Switzerland. The relocation of a large part of the goods trains into the new base tunnel will significantly reduce noise pollution in the hotels and tourist attractions along the Elbe. This will also expand the prospects for tourism marketing. In addition to the tourism industry, however, residents who are currently affected by rail noise along the existing line will also benefit from the noise reduction.<sup>13</sup>

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<sup>10</sup> cf. Deutsche Bahn AG (ed.): Noise control at Deutsche Bahn, <https://neubaustrecke-dresden-prag.de/en/noise-control-and-vibration/> (accessed 15 March 2022)

<sup>11</sup> cf. Heldt, Petra, p. 225

<sup>12</sup> cf. *ibid.*

<sup>13</sup> cf. *ibid.*



### 3. OPPORTUNITIES FOR REGIONAL DEVELOPMENT

Regional actors on both sides of the Saxon and Czech borders were involved in the dialogue on opportunities for regional development at various events and workshops, including the infrastructure operator SŽ Správa železnic, Žesnad.cz / ČD Cargo, the Czech-Saxon inland ports, the Jan Evangelista Purkyně University in Ústí nad Labem, the Elbe/Labe Euroregion, the Dresden Chamber of Industry and Commerce, the regional planning associations of the Free State of Saxony and the city of Ústí nad Labem.

In general, the stakeholders stated that the planning and construction of the new Dresden-Prague line with the Ore Mountains base tunnel is a clear commitment to rail. A fundamental expansion of the Elbe waterway, on the other hand, seems less likely, so that a fundamental course has been set here.

With regard to the development of tourism, it was noted that the Elbe Valley and the neighbouring tourist regions are already intensively used for tourism. In this respect, there is no urgent need for further intensification. Rather, the promotion of sustainable tourism (and environmentally friendly forms of mobility) is considered important.

With regard to the further development of future uses around the Elbe waterway, it was suggested that the application of the principles of the "Gesamtkonzept Elbe" should also be discussed and examined for the transboundary section of the river (cf. German-Czech Agreement on the Maintenance and Development of the International Elbe Inland Waterway). In this way, it could be possible to establish reliable transboundary framework conditions for the future of the Elbe waterway.

All in all, the following focal points emerged during the discussion, which are to be jointly pursued in the future:

#### 1) Waterways and inland ports

- Exchange of information on the "Gesamtkonzept Elbe" and the principles for "cautious development and maintenance" (e.g. within the framework of joint events)
- Discussion of the importance of the Elbe as a (freight) transport route between the German-Czech border and Ústí nad Labem
- Evaluation of the effects of a change in the use of the Elbe waterway, e.g. with regard to the development of inland ports; conceptual discussion of conclusions and recommendations
- Development of concepts for the further development of inland ports as multimodal logistics locations that combine the advantages of inland waterways, rail and road
- Analysis of the interaction of inland port capacities with other access points to the rail network (e.g. intermodal terminals, new/existing sidings).

#### 2) Sustainable tourism

- Investigation of ways to strengthen cross-border strategies for sustainable tourism in the Elbe Valley.
- Analysis of potentials for sustainable mobility in the Elbe Valley, e.g. through better coordination of public transport, regulation of motorised private transport and promotion of shared and emission-free mobility
- Control of tourist visitor flows to relieve the pressure on tourist "hotspots" and to upgrade and valorise decentralised, local attractions.
- Analysis of possible uses for increased tourist utilisation of the Elbe in accordance with the principles of "careful development and maintenance".



Furthermore, it was suggested to hold regular events involving stakeholders from all levels in Saxony and the Ústí region on the status of the planning for the new Dresden-Prague line. The aim is to provide up-to-date information to enable early clarification of misunderstandings, to involve and activate supporters, and to identify relevant topics for accompanying analyses and studies. One possible approach could be annual events, for example in combination with meetings of the EGTC as the most important regional multiplier. The existing Saxon-Czech working groups could also be a forum to further support the exchange of information between the actors.

The partners of the CORCAP project have agreed to remain in exchange on these issues and to support initiatives for joint projects in which these topics are further developed. They also want to use their networks to inform other actors and stakeholders about the joint initiative "Elbe Valley 2040" and to motivate them to participate.



## 4. OUTLOOK - FURTHER ASPECTS AND QUESTIONS

In the course of the cross-border dialogue process, during the meeting of the Advisory Board in September 2021 in Ústí nad Labem, in addition to the possible future focal points of work, further aspects and questions were highlighted, which are documented below:

- Along the existing rail corridor between the Czech Republic and Germany, there is a great need for capacity expansion in the short term. Freight traffic has increased strongly in recent years, with the automotive industry being an important factor. As the capacity limits have been reached, alternative routes and additional capacities must be provided for the period until the new Dresden-Prague line is put into operation. In addition, the expansion of intermodal terminals is necessary in order to be able to use the future capacity of the new line and the Ore Mountains base tunnel.
- As in the Saxon section, the transport volumes in the Czech section of the Elbe/Labe has also decreased drastically in recent years. The insufficient water depth is a major obstacle to the (future) transport of goods on the waterway. For example, the construction of a new trimodal terminal in Ústí nad Labem would require a considerable increase in water depth and the construction of new locks. At the same time, it is currently not clear which freight flows could be handled in a trimodal terminal.
- Mobility is a very important factor for the future development of the German-Czech border region, among others (and especially) in the field of tourism. At the same time, care must be taken that natural resources are not adversely affected by a high tourism intensity.
- The increase in noise pollution on the access routes to the Ore Mountains base tunnel (mainly due to a significantly increased number of goods trains) cannot be neglected.
- The city of Ústí nad Labem is expected to benefit significantly from the new line. The planning process for the new railway line should be accompanied by a comprehensive analysis of future traffic flows. In addition, an intermodal study is required that deals with the future train connections and the connecting function of the railway junction in Ústí nad Labem. It must be clarified how traffic will flow through Ústí nad Labem in the future and how goods can be transported and transhipped.
- In this respect, a key factor for the success of the new line will also be decisions taken in Ústí nad Labem - only if sustainable transport solutions are found in general, will the new railway line be successful. The development prospects of the city of Děčín should also be taken into account, e.g. by ensuring an efficient connection to the high-speed network.
- One possible option for relieving cross-border freight traffic could be the additional expansion of the cross-border connection via Zittau-Liberec.

These aspects and questions can be further deepened and elaborated in the context of further cross-border cooperation.