



FINAL REPORT

D.T3.4.6

Report on the planning & development of an intermodal regional railway station as access point to the European TEN-T network



PP 8 - PO Lubin

Final product report T.3.4.6 - Planning & development of an intermodal regional railway station as access point to the European TEN-T network

1. Completed activities.

During the project implementation, activities aimed at obtaining relevant documents constituting the basis for the development of construction projects for the transfer center in Lubin, socially consulted and agreed by a number of institutions involved in the development of the concept of building the transfer center in Lubin. As part of the project:

- "Analysis of technical and legal requirements related to the use of autonomous electric vehicles for passenger transport on public roads" as a product of D.T.3.4.2
- "Development and planning of a new intermodal transport system for the Lubin region" as a product of D.T.3.4.1 containing:
 - Two functional concepts of the Lubin intermodal transfer center (railway station with accompanying infrastructure) made as land development projects taking into account the designed railway infrastructure as part of the reconstructed railway line
 - solutions for car and pedestrian communication as part of the integration of various means of public collective transport (location of communication stops, parking spaces for long-distance bus transport, bus stops and parking spaces for intercity transport, parking spaces for passengers leaving passenger cars, parking spaces for bicycles , "TAXI" stop, areas for the transport of travelers, etc.,
 - organization of places where travelers wait for public transport in terms of their functionality and location, while proposing architectural solutions,
 - location of places intended for the needs of commercial and service facilities with the simultaneous proposition of architectural solutions,
 - status quo analysis of mobility solutions in public collective transport in the Lubin Poviát (project products marked as: D.T.1.2.6., D.T.2.2.6., D.T.3.2.6.),
 - analysis of technical and legal requirements related to the use of autonomous electric vehicles for passenger transport on public roads (project product marked as D.T.3.4.2.).

The concepts were developed in such a way that they could form the basis for the development of a construction design and an executive design. The construction, geometric and technological solutions in height, as well as solutions in the land development plan, adopted at the concept stage, are feasible in terms of construction and law at the stage of investment implementation. The developed concepts of the transfer center are consistent in terms of functionality and use with the concept of integrating the railway station with the road system (product D.T.3.4.3).

As part of the study, the following were performed for each concept:

- Land development design in the scale of 1: 500 taking into account the height ordinates of the areas adjacent to the area covered by the concept
- Technical description of the solutions adopted and threats related to the project implementation
- Analysis of the estimated costs of implementing each concept
- 3D multimedia presentations of each concept - a short film presenting the concepts
- A-1 charts showing the proposed land development in the form of a 3D view.
- "Implementation of a set of measures regarding the integration of new intermodal transport solutions with the existing peripheral transport system" under the DT3.4.3 measure, including: a concept of changes in the transport system of the city of Lubin in the area of the planned transfer center, enabling its communication with the northern and southern parts of the city and the road under construction S-3, including:



- connection of the southern bypass of the city of Lubin, al. General Stanisław Maczek with Kolejowa Street,
- ensuring a collision-free connection with the railway line of the northern and southern parts of the city of Lubin in the area of the transfer center in the form of a tunnel,
- reconstruction of the intersection of Odrodzi and Sikorskiego Streets, including the straightening of the inlet of Sikorskiego Street and the change of the location of the intersection and the creation of a new road section towards Kolejowa Street,
- planning the layout of public transport lines taking into account the new routes and the service of the transfer center and RCS Lubin areas (sports hall, stadium, swimming pools, bowling alley, sports shooting range).

The conceptual work was to optimize the public transport system to meet the defined needs of citizens and to prepare for the integration of intermodal connections with the railway center (e.g. bus routes, new connections, more services, better modal integration, etc).

The concept was prepared in such a way that it could constitute the basis for the development of a construction design and an executive design. The construction, geometric and technological solutions in height, as well as solutions in the land development plan, adopted at the concept stage are economically justified and feasible in terms of construction and law at the investment implementation stage.

The developed concept of the road system is functionally consistent and utility with the concepts of the transfer center (product D.T.3.4.1) and the existing road system. As part of the study, the designer, in a manner consistent with the requirements of legal regulations, with due diligence, made a concept containing::

- Land development design in the scale of 1: 500 or 1: 1000 taking into account the elevation ordinates of the existing roads,
- Technical description of the solutions adopted and threats related to the project implementation,
- Estimated cost analysis of the concept implementation,
- The concept of target traffic organization,
- 3D multimedia presentation of the concept - a short film presenting the concept,
- A-1 charts showing the proposed land development in the form of a view.
- Guidelines for the construction of a tunnel under the railway line of the Lubin station along Odrozienia Street along with guidelines for the reconstruction of the road system ensuring optimal communication between the tunnel and the transfer center,
- Social consultations of the adopted communication solutions of the transfer center made via the website and directly with the employees of the powiat starosty involved in the project implementation,
- Local government consultations at the powiat level carried out with the City Commune of Lubin and representatives of the authorities of the Dolnośląskie Voivodeship and the Polish State Railways
- Promotional activities in local media, the press and on the websites of the Lubin powiat and the city hall of Lubin.

2. The impact of the implemented activities on the connection of the Lubin Poviát region with the TEN-T railway network

When joining the project, the Lubiński Poviát faced the prospect of the railway company PKP PLK completing a thorough modernization of the railway line No. 289 from Legnica - Lubin - Głogów, enabling the restoration of railway connections at a speed of 160 km / h. This fact determined the necessity to create a place in the city of Lubin that would enable the connection of various public transport modes. At the same time, thanks to the restoration of railway connections with Legnica and Głogów, Lubin gained direct access to international railway connections with Austria, Germany, the Czech Republic and Slovakia. Such a development of public transport and the emergence of railway connections in Lubin after a long period of time required taking steps to create an appropriate accompanying infra-



structure and at the same time forced changes in the manner of transport throughout the powiat, for example by properly communicating the railway station and creating a public space guaranteeing free and safe transfer between different means of public transport. The creation of new communication lines in powiat passenger transport during the project period made it possible for residents from nearby towns to reach Lubin and the transfer center, where it will be possible to change the means of transport from local to supra-regional, carried out by rail connections and long-distance bus lines serving domestic and international transport.

Due to the restoration of railway connections in Lubin after more than 15 years, the Lubin Powiat took effective measures under the project to improve the accessibility of peripheral areas to the new branch of public transport. Therefore, during the project, new bus lines were launched, enabling access to the area of the Lubin railway station and changing the means of transport from road to rail. In the last two years, for the purposes of improving the modality of public transport, we managed to connect: Polkowice, Biedzychów, Rudna, Siedlce, Ręszów, Chocianów, Brunów, Szklary Górne, Szklary Dolne, Trzebnice, Chocianowiec, Trzmielów, Michałów, Żabice, Ogrodziska and Raków, thanks to which residents of these 16 towns can directly reach Lubin via the newly established bus lines No. 110, 111, 112, 113, 121 and 131 using free bus transport and change to trains serving regional, supra-regional and international lines.

The adopted model of public transport ensuring communication between the region of the Lubin Powiat in a way ensuring the accessibility of the TEN-T network to its inhabitants assumes the implementation of modal connections. From the area of the Lubin Commune, Ścinawa Commune and Rudna Commune to the cities that are the seat of the communes by means of local connections realized mainly by small, private communication lines and then using communication lines as part of powiat passenger bus transport to the transfer center in Lubin, where it will be possible to change the means of transport to long-distance bus or rail transport in regional, national and international rail connections. At the same time, it will be possible to reach Legnica and Wrocław within the TEN-T trans-European transport network via regional rail connections, from where all international connections available in the Dolnośląskie Voivodeship are realized.

Therefore, taking into account, inter alia, the population density in individual communes belonging to the Lubin Powiat

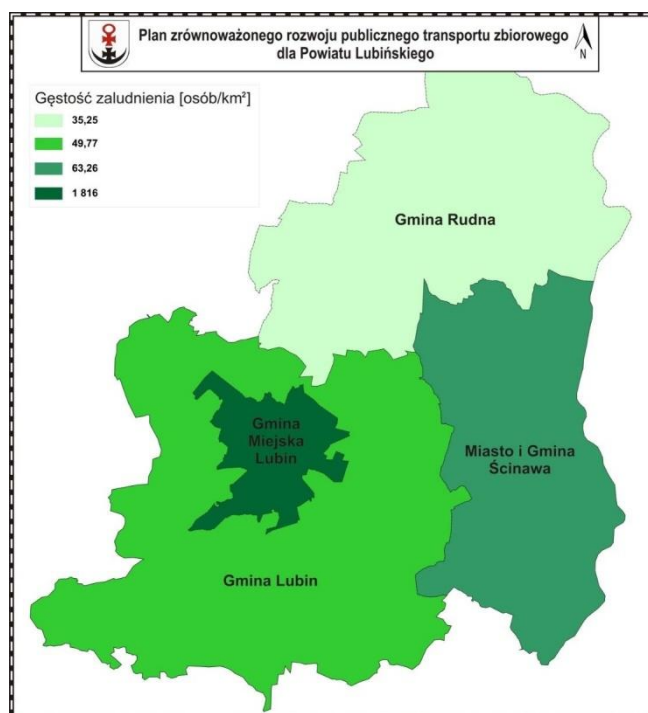


Figure 1: Population density structure in communes of the Lubin Powiat



as well as the layout of the main traffic generators, based on the existing road layout shown in the diagram below

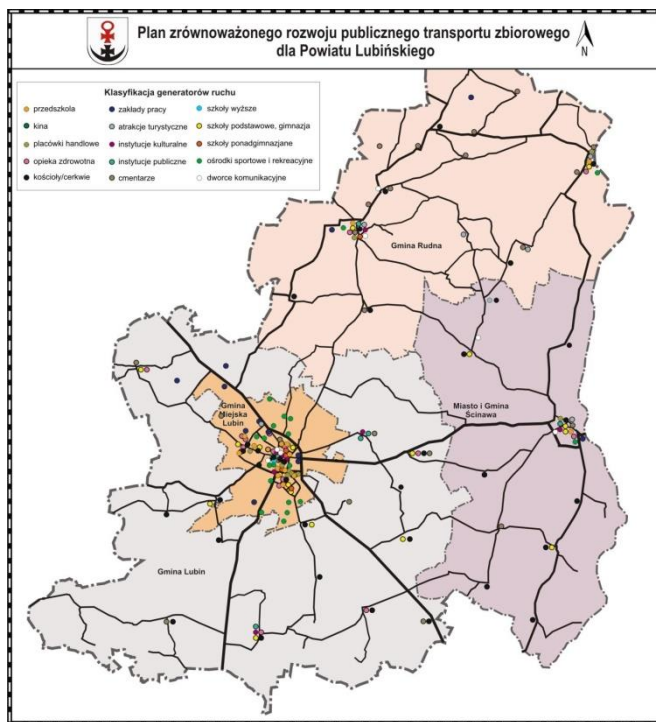


Figure 2: Arrangement of traffic generators in relation to the basic communication system

a target plan of connections was developed for all towns of the Lubin poviat with the city of Lubin, where a transfer center is planned, and with Ścinawa and Rudna, from where rail transport is also provided.

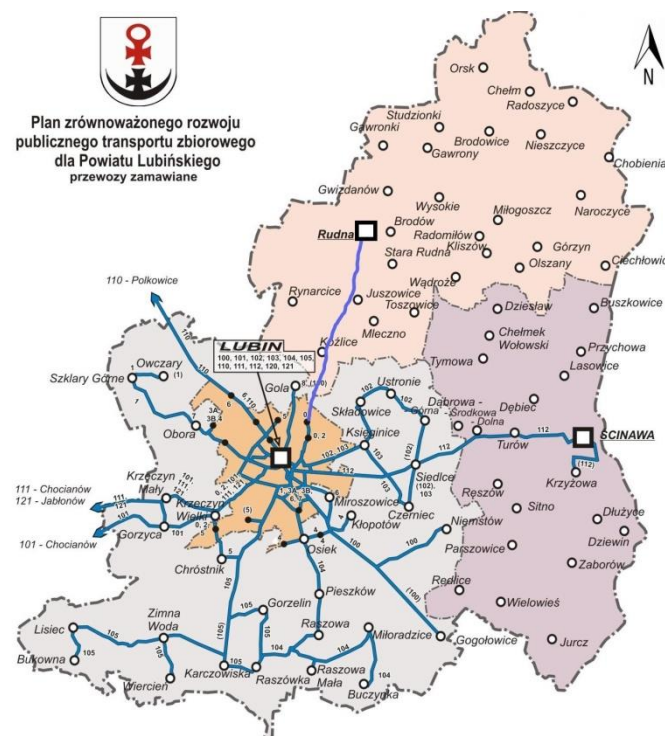


Figure 3: . Diagram of the existing connections in poviat passenger transport to cities providing rail transport

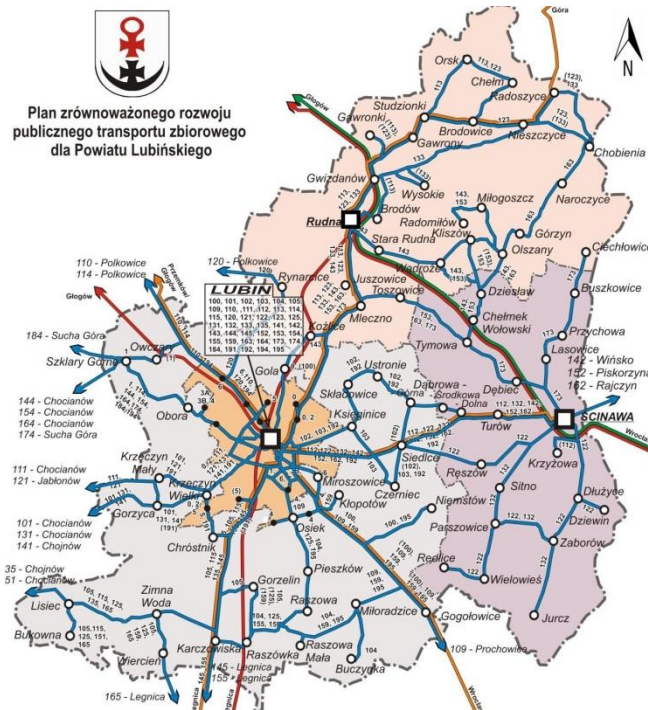


Figure 4: Plan of the target system of bus lines to the transfer center in Lubin and cities providing rail transport

As soon as the planned transport system is reached, all localities located in the Lubin poviats will have direct access to transport corridors in the TEN-T network using modal connections in the transfer center in Lubin and in Rudna and Ścinawa, from where it is already a railway transport access to Legnica and Wrocław, i.e. cities located on the TEN-T trans-European transport network route.