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Evaluation of the impact of the Operational Programme Transport 2014 – 2020 on the development of selected agglomerations

FINAL REPORT

Appendix No. 2: Executive summary

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Content

1 Executive summary

The aim of this evaluation was to assess how the support from the European Structural and Investment Funds (ESIF) contributed to the achievement of the objectives of the Operational Programme Transport 2014 – 2020 (hereinafter referred to as OPD2). The aim of the evaluation is to show specific changes on the example of five agglomerations that were included in this evaluation.

These are:

- Brno Metropolitan Area
- Olomouc agglomeration
- Hradec Králové – Pardubice agglomeration
- Plzeň agglomeration
- Jihlava agglomeration

1.1 Findings for Evaluation Question 1: What effects did the implementation of OPT2 projects bring in selected agglomerations?

Evaluation Question 1 was divided into six partial evaluation questions: EO 1.1 to EO 1.6. In the following text, we first present the findings for the main evaluation question, followed by answers to individual partial questions. In summary, it can be said that the OPD2 projects have brought a number of positive aspects to the functioning of transport in agglomerations. Among the most important are time savings when using different modes of transport, improving the traffic situation in the agglomeration and increasing the attractiveness of public transport.

Time savings

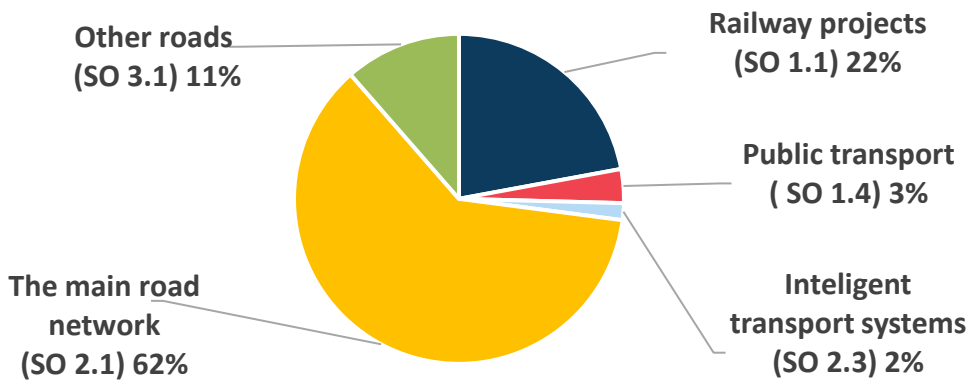
All the projects that could be assessed combined to save **14,916,643 hours of travel time** per year. On average, per project this represents a saving of 262,000 hours of time.

In terms of the population of the Czechia, this means that every single person saves during a year **an average of 1 hour and 25 minutes** in transport thanks to OPD projects.

Overall, this actual time saving is **about 17% lower** than anticipated in the project applications. On the other hand, **for the majority of projects** (66 % evaluated) the **same or even higher than expected savings** were recorded.

The biggest contributor to time savings is motorway projects, which save on average over 1.5 million hours of travel time per year; this is due to a significantly **higher volume of passengers using individual car transport** than other types of projects.

Graph 1: Share of individual specific objectives (SO) of the Operational Programme Transport in actual time savings. Source: own investigation



The largest difference between the expected and actual savings was recorded for rail transport projects (specific objective 1.1), where project documentation in many cases estimated significant time savings caused by usually overestimated numbers of traffic transfers.

Examples of significant time savings in agglomerations:

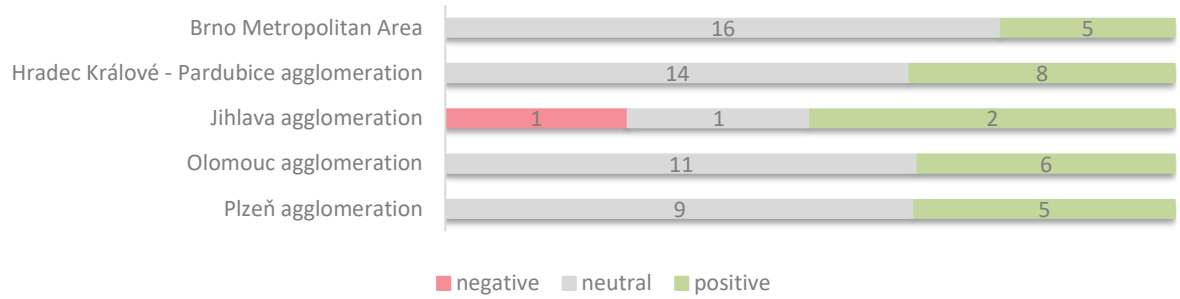
- Acceleration of the passage of tram and bus lines in Brno by 1.5 minutes by transferring the route to Plotní Street.
- Savings of up to 17 minutes when passing through the Hradec Králové-Pardubice agglomeration from the west in the direction of Moravia thanks to the completion of the D35 motorway.
- Real time savings on the railway in the Plzeň agglomeration thanks to the built Ejpovice tunnel are based on about 930,000 hours of travel time per year.

Environment

Based on a semi-quantitative assessment, it was found that **only a third (33 %) of projects have a positive impact on air** quality, the vast majority of others (60 %) have no or insignificant impact on the air.

The reason is that only a smaller part of the projects led primarily to the transfer of transport performance from individual car transport to other forms of transport. A very slight and mostly questionable reduction in the intensity of individual car transport (usually it cannot be objectively quantified) is often rather a side effect of the implemented projects.

Figure 2: Distribution of projects in agglomerations according to the evaluated impact on air quality in the agglomeration. Source: own investigation



An exception in this respect is several projects aimed at modernizing the railway line, the development of the number of passengers on some railways shows that in 2022 there is **an increase in the number of passengers by more than 20%** compared to 2016-2018 (Brno-Slatina – Blažovice, Plzeň – Rokycany). However, this increase is not always associated only with the transfer of passengers from passenger cars to trains, sometimes it is also related to the reduction of regional bus transport (for example Židlochovice or the railway line Brno – Třebíč, there was an increase of passengers in railway transport by 4 % between 2016 and 2022). However, the increase in passengers was not reflected on a number of lines.

In the event that the **offer of public transport connections was significantly expanded** due to the construction of a new trolleybus line in the locality, an increase in the number of passengers was also recorded, some of whom could have been from individual car transport (such a phenomenon is recorded at the trolleybus line Pod Strání or the trolleybus line in Jihlava in the direction of Horní Kosov).

The assessment of impacts on noise pollution shows that 33 % of projects actually have an impact on less noise pollution (26), while a negative **impact on noise pollution** can be demonstrated in 4 % of projects (3). However, up to 54 % of projects (42) do not have sufficient data to evaluate.

Examples of significant environmental impacts in agglomerations:

- Demonstrable transfer of passengers from individual car transport on new trolleybus lines in Jihlava and Hradec Králové.
- Increase in passengers on passenger and express trains on the railway line Plzeň – Rokycany by more than 30%.
- An increase in passengers also on trains between Plzeň and Mariánské Lázně by up to 70%; an increase caused by a doubling of the number of connections following the use of new modern train sets.

Traffic situation in the agglomeration

The evaluated projects generally contribute **to increasing the use of rail and urban public transport in agglomerations**. They achieve this by saving passengers' travel time as well as by lowering barriers to boarding and disembarking, improving transfer links and improving

information systems. Dynamic information elements with current departures of public transport connections are becoming a standard.

In agglomerations where intelligent transport systems have been deployed, road safety has been overwhelmingly enhanced:

Brno metropolitan area	**56% fewer accidents** with personal consequences
Hradec Králové-Pardubice agglomeration	**26% fewer accidents** with personal consequences
Olomouc agglomeration	**11-38% decrease** in relative accident rate

The links between the OPD and IROP projects have a positive impact on the traffic situation in the agglomeration. Most often, it is a strengthening of links between rail and other modes of transport (construction of public transport terminals, P+R car parks, cycle paths).

The introduction of new trains on all examined lines meant **a significant increase in comfort and perceived passenger safety.** The newly introduced trainsets and related operational changes have also increased the possibilities for intra-urban travel or for a combination of individual and collective transport. For projects implemented a long time ago, the data can document an increase in the number of passengers after implementation. These new passengers most likely came to the trains from individual car transport, thus fulfilling the goal of increasing the competitiveness and attractiveness of the railway.

Examples of significant changes in the traffic situation in agglomerations:

Modernized 55 km of railway lines in the Brno metropolitan area, including the construction of completely new railway stops: Židlochovice, Brno-Ostopovice and Brno-Starý Lískovec.

The Olomouc traffic control centre allows you to control all traffic lights in the city from one place, set preferences for public transport or for the Integrated Rescue System or other modern elements (e.g. night traffic lights reacting to the speed of vehicles).

The survey of two projects of new trolleybus lines in Brno and Jihlava shows that the key change that passengers most reflect is the **increased comfort of public transport**.

Other benefits

A total of 22% of public transport projects were also directly focused on modifyingstops such as.

- surface treatment around stops
- barrier-free stops and increased boarding edges
- Mobiliary
- dynamic information elements

In a number of other projects, modifications of stops were carried out from other means or new public transport vehicles were purchased, which are used in these locations. In the vast majority of cases, there was an overall improvement in the surroundings of the new line.

Transfer links were dealt with by less than half of railway projects, the vast majority of which had a significant impact on passenger transfers. Almost **three quarters of public transport projects** had a **significant impact on passenger transfers** between public transport lines.

More than half of the railway projects also dealt with the modernisation of platforms. In the vast majority of these cases, **the requirements for barrier-free access were met**. In the case of railway projects (with modification of platforms), modern dynamic information elements were installed in the vast majority of cases.

Examples of other benefits observed in agglomerations:

36 modern railway sets were purchased on the routes Křižanov – Brno – Břeclav and Letovice – Brno – Křenovice with a total capacity of over 10,000 seats; theintroduction of these new trains meant a significant increase in comfort and perceived passenger safety.

Theproject "Extension of trolley transport in Jihlava" contributed to the improvement of transfer links. The project will save part of the 499,929 passengers a year one transfer in urban public transport.

Residents of the Jihlava agglomeration appreciate the development of trolleybus transport in the city: **62% perceive an increase in the attractiveness of public transport** compared to a car, 71% appreciate the better appearance of the track, 69% think that thanks to this new line the inhabitants are happier.

1.2 Findings for Evaluation Question 2: What recommendations follow from the results of EO1 for the implementation of OPD3, especially in the area of monitoring and evaluation?

Throughout the evaluation, it was possible to collect a number of suggestions aimed at more effective development of transport in agglomerations. These suggestions can be found in various parts of the report, more significantly where greater emphasis was placed on qualitative methods of investigation (evaluation questions 1.4, 1.5 and 1.6). Based on these suggestions and our own experience with the evaluated projects, we have compiled a series of six recommendations that we consider to be key for the area evaluated here – the link between transport and the development of agglomerations.

In the area focused on the future settings of the OPD:

- we present a series of partial recommendations for refining the modelling of economic savings within the Cost-Benefit Analysis (CBA),
- we recommend more motivation of projects to interconnection across specific objectives,
- for ITS, we propose to start using information from the Floating Car Data (FCD) system for impact assessments; the infrastructure for collecting and storing these types of data at the level of the Czech Republic was supported by OPD, so there is a great potential for their use.

In an area that aims at the development of transport in general, independently of the operational programmes:

- We recommend spreading awareness of the benefits of traveling by public transport,
- We consider it important to significantly expand institutional support for public transport at the state level and thus strengthen its negotiating role in relation to other ministries.

The last recommendation is aimed at the future setting of monitoring and evaluation in the field of transport. This evaluation also showed us the possibilities and limits of working with currently available data. For this reason, we have proposed a recommendation in which we propose several ways to set up monitoring in the future in the long term so that it brings the required information, but at the same time does not burden any of the involved actors too much administratively:

- **Solution A:** Increase the obligations of all applicants across the board by measuring noise, emissions or traffic flow before and subsequently 2-3 years after the project implementation.
- **Solution B:** Define for each area a specific set of projects to which these obligations will be applied.
- **Solution C:** Assess impacts on noise, emissions or traffic flow into packages and convert them into agglomerations, i.e. integrated instruments or future successors to these institutions.
- **Solution D:** To ensure a sufficient data base, make full use of the resources offered by the Operational Programme Technical Assistance 2021+.

Each of the paths has its advantages and limits, we describe them in the text of the message.

The recommendations in Chapter 5 are presented in detail.