

D.T.1.4.4

Action Plan Bratislavský kraj

Version 1.0

Study on the Possibilities of Expanding
IDS BK to the Trnava Region (Summary)

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1. Introduction

The next several pages are dedicated to a summary of the Study on the possibilities of expanding the Integrated Transport System in the Bratislava Region (IDS BK) to the Trnava region (referred to as the Study). The study was elaborated with the aim to create the Action Plan Bratislavský kraj, which focuses on enhancing multimodality in the existing public transport system in the Bratislava and Trnava regions. The two mentioned regions were selected because they are naturally strongly socio-economically interconnected and yet, the regional public transport systems do not resemble this. The systems do not only lack integration between different modes of transport, but also within the same modes (for example regional buses in the Bratislava region and regional buses in the Trnava region), which is a consequence of split competencies between different self-governing entities and also of the fact, that regional boundaries do not resemble real spatial divisions in the country.

The Study summarises the bases and proposes actions for integrating public transport in the Bratislava and Trnava regions. The Study was elaborated by a team of authors consisting of selected employees of project partner Bratislavská integrovaná doprava, a.s. and it is based on data and information about public transport in the two regions collected during the year 2019. The Study (Action Plan Bratislavský kraj) is one of the deliverables of Interreg Central Europe project SubNodes.

The Study consists first of an analytical part and from that proposals for actions are derived. A special part of the Study is an analysis of location data from the movement of SIM cards collected by mobile operators, which was procured to get access to more complex information on daily mobility of the inhabitants and thus to gain a better understanding about the spatial relations and bonds in the area of the two regions. Apart from getting hold of complex anonymized data on daily trends in commuting, the objective was also to verify the relevancy to use such an unconventional source of information. Procuring the analysis turned out to be a right step to take considering the unwillingness of transport operators to provide requested data on the numbers of passengers and the routes they take. Hence, the location data from SIM cards turned out to be exceptionally useful for creating a plan for optimizing the existing regional public bus transport in the Trnava region. Other institutions and transport operators in question were helpful and provided all the crucial data, for what the team of authors is thankful.

The expansion of the existing integrated transport system will be a big benefit to the public transport network operated in both regions. The presented analytical and planning outputs will be applied as a starting point for developing a more intensive cooperation between relevant institutions and for implementing concrete measures.

The study in several places names faults of the present state of public transport in the Trnava region. The authors tried to apply constructive criticism and they are kindly asking the reader to understand it in this way. The company Bratislavská integrovaná doprava (BID) also criticized the state of regional public transport in the Bratislava



region in the past. The authors want to address with the study, apart from the experts, also the leading figures of all the relevant self-governing entities. They realise, that at the end of the day the decision and responsibility is upon them. Thanks to this study their deciding can be easier and based on experience and “hard” data.

Since the presented Study includes proposals for optimizing regional public bus transport services also in the Bratislava region (mainly in connection with the Trnava region), the document will be submitted first to the regional administration and if that approves it, then to the parliament of the Bratislava self-governing region for approval as an attachment to the Regional Plan for Public Transport Services of the Bratislava region.

Already in the phase of establishing the integrated transport system in the year 2003 it was considered that there will be one integrated transport system covering at least the area of the Bratislava and Trnava regions (possibly further). This idea persisted throughout the years only on a declarative level, the representatives of the Trnava region continued to verbally support the idea of joining the system, which was developed around the capital city Bratislava. In reality no steps leading to fulfilling this intention were realised.

Only at the end of the year 2018 the head of Bratislava region and the head of Trnava region signed a Memorandum about cooperation on organizing public transport with the objective to develop a common integrated transport system. The Memorandum was indirectly initialized by the activities the company BID was implementing within project SubNodes.

The company BID was prepared for this initiative in advance and it joined the Interreg Central Europe project SubNodes, in which it is implementing activities aiming at expanding the IDS BK system to the Trnava region. The first important output of the project in the regions in question was the integration of railway node Trnava (the sub-node to Bratislava) on 1 August 2019, the second one is the presented Study on the possibilities of expanding the IDS BK to the Trnava region, which analyses the status quo and suggests actions to be taken in order to further expand the system.

2. Summary of the Analysis and of the Proposed Actions

The presented document, based on thorough analysis of public transport services, fare and ticket sale systems and other relevant facts influencing regional transport in Trnava region, proposes a manual for expanding the IDS BK to the Trnava region. The need to spatially expand the current system was justified by the analysis of location data from SIM cards, which is attached to the Study. The outcomes of the analysis together with proposed actions are also summarised in the SWOT analysis, which is attached at the end of this summary of the Action Plan (the SWOT analysis is also a separate deliverable D.T1.4.16).



From the transport operation point of view the gradual integration is proposed to start first by a pilot project involving the integration a defined area. The process will consist of coordinating the regional bus lines in the selected pilot region and of creating new connections between these lines and trains in transfer hubs. The plan suggests minor changes to the existing bus routes, with implementing integrated network timetables with regular departure intervals and also with connections guaranteed by a central dispatching centre of the coordinator.

The next step will be to eliminate parallel lines and their needless overlapping across the regional borders. It will be possible to optimize the network thanks to this and introduce an effective system of serving mainly the border areas. The planning part of the Study describes seven selected operation sections in both regions, where at present parallel lines are operated by several transport operators. The institutions ordering the services (in this case the self-governing regions) can together theoretically save approximately 425.000 vehicle-kilometres by implementing the proposed measures. The condition before implementing any measures is, that all the vehicles of all public transport operators serving the two regions must be fitted with all necessary hardware and software enabling to handle the passengers within IDS BK in a unified manner.

According to the plan the integration of the whole Trnava region will be divided into four areas, which can be integrated independently from each other, since their mutual interconnection is minimal. The advantage of gradual integration is, that the interventions into the present-day system are not so dramatic and at the same time the financial impact on the self-governing regions (or other self-governing entities) is spread more in time.

Public transport service in these areas is designed to follow the principles of an integrated network timetable. By implementing the proposed actions interval timetables will be created in the Trnava region and the level of services will be either kept at the same level or it will be enhanced. The number of services on each line will fundamentally rise (also during non-working days), which will increase the attractiveness of the regional bus transport. The changes will also mean, that the timetables will become easier to read thanks to reducing duplicate lines and numerous route variants. The new timetables will also bring regular, easy to remember intervals between the departures of services on different lines on the shared sections of their routes.

The level the region is currently served by public transport can be to a large extent enhanced by optimizing the routes of the lines forming the network (by eliminating duplicate bus services running at the same time on the same route, or by shortening the routes of selected lines in order to terminate them in transfer hubs- mainly at railway station). The saved costs can be consequently redistributed between the lines. The suggested redistribution of costs will however not be enough to secure basic public transport service according to the IDS BK Standards, therefor the self-governing region will have to increase the volume of transport service it is ordering. The additional costs

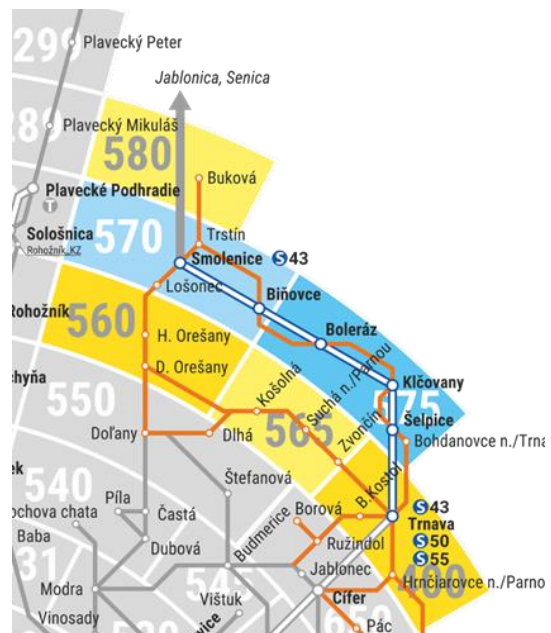
can be reduced by savings from better coordination of operation on common routes between transport operators and the ordering institutions.

Least but not last, in order to satisfy the demand, it will be necessary to increase the capacity offered in regional railway transport. It will be inevitable to closely cooperate with the Ministry of Transport and Construction of the Slovak Republic. In connection to advices in strategic planning documents we propose that railway transport will be the backbone of the public transport system in the IDS BK and in its expansion into the Trnava region. A detailed proposal for shortening time intervals between train services on individual lines is presented in chapter 6.2 of the Study.

The first steps in **fare integration** in the Trnava region must be:

- establishing the fare zones (division of the area of the region into zones)
- unification of discounts and of the terms under which they are provided
- integrating cities with separate city public transport systems into the system

The Study proposes to start the integration of the Trnava region by integrating a pilot area spatially delimited by the Malé Karpaty mountain range in the north-west, the IDS BK area in the south-west, the railway line number 120 in the south-east and by the railway line number 116 (or the road I/51) in the north-east. The selected area is already partly served by lines ordered by the Bratislava region (the lines Bratislava - Dolné Orešany and Bratislava - Trnava), which are used partly by passengers commuting to Bratislava (or to locations in the Bratislava region), and therefore they have experience with the IDS BK fare system. In addition, the area has a railway line, which can be used as the main line for passengers heading to Trnava (and for passengers heading to Bratislava too, since it is faster to make a change in Trnava, than travelling by a direct bus to Bratislava).



The newly integrated area will consist of zones 560, 565, 570, 575 and 580 (see the picture of the scheme), which will be created according to principles used until now. In the case of a reform of the fare system, the zones will be modified together with the existing ones.



Current IDS BK price list will be used for integrating the pilot area. Cities with their own public transport systems will have an option to adopt the IDS BK fare system with certain exceptions.

The implications of integrating new area have two dimensions. The first is the fallout of changes in the fare system on the newly integrated transport operators and on Trnava self-governing region as the institution contracting the regional bus transport operators. The second dimension consists of impacts on the present day system, in which the total revenue of the IDS BK system is divided between the transport operators. Based on the experience from the gradual development of the IDS BK system it is possible to conclude, that unifying the size, extensity and range of discounts meant the greatest financial impacts on the institutions contracting transport services. The biggest differences are in the age groups of pensioners above 60 years of age, who travel within public transport in the Trnava region without the right for any discounts. The introduction of discounts for these groups of passengers within the IDS BK brought along a negative impact of 450 thousand Euros for the Bratislava self-governing region.

The economic implications presented in the Study were calculated only for the current area of the IDS BK, since the authors of this study do not possess all the necessary input data. The introduction of the integrated transport system in the pilot area, as proposed by the authors in this document, would mean a minimal impact on today's revenues in the IDS BK. There will be only one line (line 207415) extending into the territory of the present-day system (Trnava - Pezinok) after integrating the pilot area, which would create a 22 thousand Euro annual loss on revenue. It is necessary to count with an increase of the number of passengers after integrating lines of a new operator, which can reduce the drop in revenue, or even eliminate it completely.

If all the bus lines serving the Trnava region and extending into the IDS BK territory were integrated, then an annual increase of available seat kilometres in the zones 100 and 101 will be 39 599 016. This means a drop in revenue by approximately 343 thousand Euros. The Capital city Bratislava would feel the largest negative impact, since it orders the largest volume of available seat kilometres within the zones 100 and 101.

Possible increase of revenue from changes made in the current fare system in regional public bus transport of the Trnava region were not considered in the calculations. It is possible to count with a certain growth of revenue, which could mitigate the impacts.

The facts identified by calculating the possible economic implications need to be suitably reflected into the process of planning and integrating public transport in the territory of the Trnava region. All accessible information should be used for creating a new transport network, so that transport operators won't operate duplicate services, mainly in the case of parallel routes and shared zones, as far as it is possible. When all crucial input data are accessible, mainly on the number of passengers and sizes of individual groups of passengers, then the calculations can be completed.



To make the integrated transport system function well, it must have its own coordinator, or in other words a “master”, who will be sufficiently prepared to manage the system. For this it is necessary to have enough experts and personnel with experience and to have the right equipment. From the practical point of view it is ideal to have one independent organization, which represents all the institutions ordering public transport services and at the same time it is capable to act in a professional manner with the aim to operate the system according to the passenger needs. It doesn't really play a role if the ordering institutions have a share in this organization, or whether they will cooperate based on reciprocal contracts. The coordinator must always have in mind in the first place the interests of the passenger and the functioning of the system as a whole, when making decisions. Only in the second place it should take into account the specific requirements and interests of individual cooperating institutions.

More than several entities can manage one integrated transport system in exceptional cases, but they must act in accordance with each other and they have to have strictly defined tasks. Even in this case it will be always inevitable that some activities, for example the dispatching centre, or the division of revenue, are managed only by one of the entities.

The IDS BK is managed by the company Bratislavská integrovaná doprava, a. s. (BID). At present it has two shareholders, Bratislava self-governing region (65 % share) and the Capital city of the Slovak Republic Bratislava (35 % share). The Ministry of Transport and Construction of the Slovak Republic, as the third institution ordering services in public transport, doesn't own any share in the company at present. The same applies to the city Malacky, which finances its city public transport integrated in the IDS BK. Despite this, the company BID manages the system, so that it functions right and meets the demands of all the passengers. Before any change is made, the discussion between BID and the partners within IDS BK continues until they unanimously agree on a solution. The size of the share held in the company influences only the leadership and functioning of the company as such, not the integrated transport system.



3. SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> - Existence of an integrated public transport system in the Bratislava region and in the adjacent parts of the Trnava region - Existence of an institution (BID) coordinating the existing integrated transport system (BID can either implement the system in new areas of Trnava region, or at least give an oversight on the process and spread good practices) - Existence of city public transport in most cities in the Trnava region (both in large and small cities) - Strong support of public transport (especially rail transport) in relevant strategic and planning documents valid for Trnava region - Support of public transport integration in relevant strategic and planning documents - The need to develop a common transport system is proved by studies and “hard data” (for example the data from SIM cards presented in the Action Plan) - Extensive railway network - Sufficient capacity on most of the railway network: <ul style="list-style-type: none"> - good offer of capacity on the trains on the railway line 110 (Bratislava-Kúty) - good offer of capacity on the trains on the railway line 114 (Kúty-Skalica) - good offer of capacity on the trains on the railway line 116 (Kúty-Trnava) - good offer of capacity on the trains on the railway line 133 (Galanta-Leopoldov, Sered'-Trnava) - good offer of capacity on the trains on the railway line 141 (Leopoldov-Kozárovce) 	<ul style="list-style-type: none"> - Almost no public transport integration in most of Trnava region - Almost no possibility to transfer between bus and train in the region outside the cities (the state of the infrastructure is insufficient and the timetables are not planned integrally) - Poor public transport services to some villages in the Trnava region, despite a dense network of regional bus lines - Poor regional bus services during weekends (some villages are without a connection) and during some parts of working days (excluding rush-hour) - Insufficient state of most of the railway infrastructure (applies to both regions) - Inadequate state of infrastructure at many transfer hubs (railway stations, bus stations) - Insufficient capacity on some railway lines: <ul style="list-style-type: none"> - lack of capacity on the trains on the railway line 120 (Bratislava-Žilina) during rush hour (mainly on the section of the line between Bratislava and Trnava) - lack of capacity on the trains on the railway line 130 (Bratislava-Štúrovo) during rush hour (services terminating at Bratislava-hlavná stanica) - No sign of fare integration in the present-day public transport system in the Trnava r. - Big difference in prices of regional bus travel tickets between Bratislava and Trnava region - Low compatibility of the IDS BK fare system and the current fare system used in the Trnava region - No common standards of quality being used in the Trnava region - Unfavourable modal-split for public transport, which is 25 % for public transport vs. 75 % for other transport (calculation for Bratislava region, Trnava region may be even worse due to worse services offered)



Opportunities	Threats
<ul style="list-style-type: none"> - Declared political will to cooperate between regions (existence of a memorandum declaring the interest in interregional cooperation in developing a common transport system) - Willingness and legal ability of the institution coordinating the existing integrated transport system to expand the system - New government on the national level declaring prioritising the development of integrated transport systems - Common transport problems in Bratislava and Trnava regions and thus an opportunity in solving them effectively together - A potential to gain a lot of new passengers with public transport integration, since many commute daily across the regional border - An increase in offer in the number of train connections/capacity on the main lines (mainly on lines number 120, 130 and 131) has a potential to bring big improvements - Creating multimodal transfer hubs out of railway/bus stations by reconstructing the existing infrastructure - Creating new possibilities for transfers with short waiting time by securing guaranteed connecting services (secured both by new integrated network timetables and a central dispatching centre) - Optimizing the current public transport network can bring savings, which can be invested into further development (for example by eliminating duplicate services) - Securing a modern and low entry fleet of public transport vehicles meeting the expectations and needs of all passengers (applies to all modes of public transport) - Interest of commuters in travelling by train or generally by public transport - All new public transport integration activities will create a chance to integrate also regions beyond the Trnava region (also regions further away from Bratislava region have intensive socio-economic relations with it, for example daily commuting) 	<ul style="list-style-type: none"> - Lack of political will to cooperate between regions in the future - Threat of reducing the number of train connections or closing railway lines because of parallel bus lines and limited options to transfer between bus and train - Lack of political will to secure connections and better conditions for comfortable transfers between buses and trains (or generally between different modes of public transport) - An increase of individual car use and decline in the use of public transport - Shortage of finances to invest into public transport due to a starting global economic crisis (both on regional and national level) - Lack of courage of leading politicians to start any major changes in public transport because of public opinion and a starting global economic crisis - Refusal of the public to accept changes connected with introducing an integrated public transport system (more transfers during one journey, higher travel ticket prices) - Insufficient public relations and promotion activities regarding any changes while integrating public transport in new areas



Attachments

Attachment number 1 - Analysis of location data from SIM cards provided by the mobile operators for the Bratislava and Trnava region (methodology and selected outputs)

Attachment number 2 - Photographic documentation of railway stations, stops and bus stations (the attachment is provided only on request due to its large volume)