OPEN BORDERS WITH UNCOORDINATED PUBLIC TRANSPORT: THE CASE OF THE SLOVENIAN-ITALIAN BORDER

Matej GABROVEC

Scientific Research Centre of the Slovenian Academy of Sciences and Arts, Anton Melik Geographical Institute, Gosposka ulica 13, Ljubljana, Slovenia http://giam2.zrc-sazu.si/en/predstavitev#v,matej@zrc-sazu.si

Abstract:

Within the programme of cross-border cooperation between Slovenia and Italy, a project called TRADOMO was proposed and approved. Its aim is to improve sustainable access and mobility in the cross-border programme area. Within the framework of this project, we prepared a study on public transport proposing the steps, based on an analysis of the current situation, to improve the system of transport connections in public transport with regard to the needs of the passengers in the cross-border area. The study was made in the towns of Gorizia/Gorica and Muggia/Milje close by the Slovenian-Italian border. With the state border drawn after the Second World War these two towns were cut off from their hinterlands. Proceeding from the analyses of the revitalized traffic flows, we propose a new common organization of public transport in which municipalities on both sides of the state border would participate.

Keywords: cross-border cooperation, public passenger transport, Slovenia, Italy

1. INTRODUCTION

The land border between Slovenia and Italy is more than 200 km long. National roads cross it at nineteen points, and the railway at two. In contrast to increasing personal transport, cross-border public transport stagnates or even decreases. Slovenia and Italy are no longer directly connected by means of railway passenger transport, and regional, or local, bus transport crosses the border at only four points. On all the cross-border bus routes there are altogether twenty-seven both-way rides per working day (these include only the routes which connect places along the border both in Slovenia and Italy, excluded are all longer international transit routes that do not stop at places along the border). This poor level of cross-border passenger transport is typical not only of Slovenia but also of some other state borders within the European Union, and applies in particular to the borders between the new and the old EU members (Ahrens and Schöne 2008).

Within the Programme of Cross-Border Cooperation Slovenia-Italy 2007–2013, which is co-financed by the European Regional Development Fund (ERDF) and from national funds, a project called TRADOMO has been set up, with the main goal to improve sustainable accessibility and mobility within the cross-border programme area. Within this project a study of the possible improvements to public transport in two border areas was undertaken, i.e. the Muggia/Milje peninsula and the town areas of Gorizia and Nova Gorica. The two chosen areas were cut off from one another by the state border after World War II. A border between Zones A and B of the Free Territory of Trieste was drawn up approximately across the middle of the Muggia/Milje peninsula. Nowadays, the peninsula is divided between Slovenia and

Italy by a slightly different course of the state border (Kristen, 1990). After World War II, the city of Gorizia/Gorica was cut off from its hinterland by the state border. The city fell to Italy, while the greater part of its hinterland fell to Slovenia, or then Yugoslavia. Therefore, to meet a functional market role, a new town was built on the Yugoslav (Slovenian) side, called Nova Gorica. The result was twin towns both located by the border: Gorizia in Italy and Nova Gorica in Slovenia.

The problems of relationships between the two towns and social and functional cross-border integration are analysed in detail by Bufon (1996). In Slovenia, several analyses of public transport and plans for future development have been made in the past few years within the framework of several projects (Tibaut et al. 2010; Zavodnik Lamovšek, Čeh and Košir, 2010; Kozina, 2010; Bole et al., 2012; Gabrovec and Razpotnik Visković, 2012; Gregorc and Krivec, 2012), but no attention whatsoever has been paid to cross-border passenger transport in professional literature. Likewise, this topic was rarely dealt with within the European context (Ahrens and Schöne, 2008; Juschelka, 1996; Krug, Meinhard 2003).

2. AN ANALYSIS OF CROSS-BORDER MOBILITY AND THE EXISTING PUBLIC TRANSPORT NETWORK

Initially, the available sources of population mobility in the two studied areas were analysed. The Statistical Office of the Republic of Slovenia collects data on cross-border commuters. The Slovenian Roads Agency provided annual data on the average daily flow of vehicles on the sections of national roads running towards the Italian border, and some data was also obtained from bus operators. Several field observations were done, such as the counting of passengers at border points and on buses, as well as interviews with bus passengers and with people living along the border. In the past few years, data has also been collected within other similar projects (Gabrovec and Bole, 2009; Progetto 2013).

This paper presents some key findings required for both of these areas, in order to prepare proposals for new cross-border bus connections based on demands and needs. Only bus transport is discussed in this research, since there is no railway infrastructure on the Muggia peninsula, while the course of railway in Gorizia cannot provide efficient cross-border city transport.

2.1. The Muggia/Milje peninsula

According to the 2011 register-based census, conducted by Statistical Office of the Republic of Slovenia, 286 inhabitants of the Koper/Capodistria municipality work in Italy, and according to the data in the Statistical Register of Employment, 82 residents of Italy work in Koper. In view of undeclared work, this information understates the real workforce flows: however, for public transport organization the volume is very low. Besides, there is a lack of precise information on how many of these commuters work, or live respectively, in Muggia. The elementary school, with teaching in Italian, at Hrvatini/Crevatini in Slovenia (Fig. 1) is attended by local pupils and also those from the Muggia municipality in Italy. Since the school only has a 5-year programme, the pupils continue their education in Koper, at the Pier Paolo Vergerio il Vecchio elementary school with Italian as the language of instruction. In the 2012/13 school year, there were three pupils from Italy in the fifth class, twelve in the fourth, and eleven in the third at the Hrvatini school. From the 6th through the 9th year at the central school in Koper, that same school year were only five pupils from Italy who had begun their schooling at Hrvatini. Due to the greater number of pupils from Italy in the lower years at Hrvatini, it is likely that eight pupils will need to commute to the Pier Paolo Vergerio il Vecchio elementary school in Koper in the school year 2013/14, and as many as seventeen in

the 2014/15 school year, which makes a solid ground for organizing bus transport from Muggia to Koper.

Figure 1 shows the existing public bus transportation network. It is obvious at first sight that there are no cross-border connections in the discussed area. The termini of both Slovenian and Italian bus routes lie close to border crossings, or border points; in certain cases (Cerei, Lazaret), turning round areas for buses are located next to the border. Changing from the Slovenian to the Italian bus system is only feasible at Lazaret (Figure 1, point 1), where the distance between the two stops is 300 metres, while other trans-shipment distances range between 700 metres and 2 kilometres where changing buses could be possible.

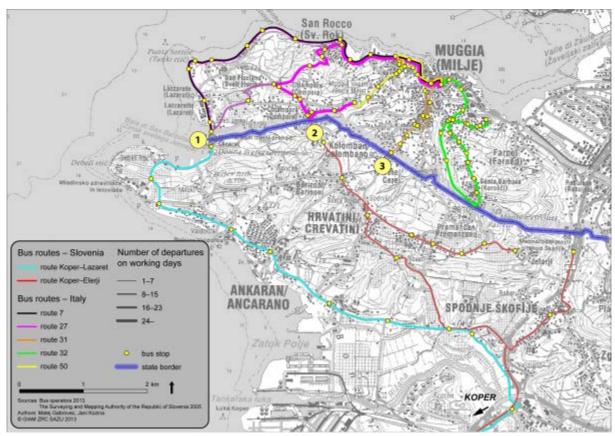


Figure 1: The network of bus routes on the Muggia/Milje peninsula

2.2. Gorizia and Nova Gorica

The network of city bus routes is uncoordinated even in the case of the twin cities Gorizia and Nova Gorica, since there are no contact points where direct changing would be feasible; in all cases a few hundred metres walking must be done. However, there is an international city route which connects the two main railway and bus stations of the two the cities. This route is alternately carried out by one bus operator from each country; these two operators are only licensed to transport international passengers, so they are not allowed to transport passengers inside a single state alone.

In order to determine travel behaviour and passenger structure on the international bus route, a survey was conducted by geography students of the Faculty of Humanities Koper, University of Primorska, on 22 March 2013 among people travelling on the route. All passengers on morning rides, between 8 a.m. and 1 p.m., were interviewed. A total of thirty questionnaires were completed, while some of those interviewed refused to cooperate. One third of the interviewed persons were resident in Italy, one third in Nova Gorica, and one third in other settlements of the Nova Gorica municipality or some other Slovenian municipalities.

Most passengers were retired persons, they represented two thirds of all passengers. Only one person stated schooling as their travel purpose, while the others mainly mentioned supply, and leisure or other activities. Only three of the surveyed passengers travelled on a daily basis, whereas the rest used the route several times a week or periodically. They were also asked whether they had a possibility of using a car or whether public transport was their only option. Eight out of thirty passengers declared that they had a driving licence and a car available. They were also asked to suggest possible timetable changes to improve their situation. The most frequent answer was a wish for an increased frequency of rides and for the introduction of Sunday rides; in addition, they also proposed the pre-sale of tickets to shorten the time of ticket purchase on a bus, and a connection between the Qlandia shopping centre and Šempeter.

The Slovenian Roads Agency data shows intense cross-border car transportation. At the border point Rožna Dolina (Slovenia; Gorizia via Vittorio Veneto in Italy) alone, the average daily car frequency in 2012 amounted to 9,343 vehicles. There are several border crossings in the area of the city of Gorizia, so that the total cross-border frequency is two times higher by rough estimation. On the other hand, according to the data of the bus operators (Avrigo, Nova Gorica and ATP Gorizia), 18,453 passengers were transported on the international city route in the year 2012. The proportion of cross-border passengers who used public transport does not even reach 1%. If the service became more attractive, which mainly means a higher frequency, the potential for considerably increasing the number of passengers is great.

3. PROPOSAL FOR NEW CROSS-BORDER BUS ROUTES

Accroding to Ahrens and Schöne, (2008), the bus networks of two states can be coordinated in three ways. One solution is to organize a transport node by the border. This solution offers two options: passengers cross the border on foot and walk a short distance from one station to the other, or a joint station is organized in one of the two states. Another solution is to extend a national bus route across the border to the nearest bigger settlement in the other state where passengers can change bus. A third solution is to establish a continuous line from one state to the other. This is the most reasonable choice but it is economically justified only if cabotage is allowed. It means that the bus operator, irrespective of the country of its domicile, has the right to transport passengers in both neighbouring countries.

To make changes in form of new cross-border connections, two stages are proposed in the above-mentioned project. The first stage (2014-5) primarily consists of the optimization of the existing routes through organizing transport interchanges, coordination of timetables and extension of certain national routes across the border. This is feasible within the scope of the existing concession contracts with bus operators. The second stage (2015 onwards) requires closer cooperation with local authorities on both sides of the border, who are required to reach adequate concession agreements. It would be reasonable to start this in 2015, concurrently with the granting of new concessions in Slovenia to bus operating companies and the establishment of an integrated public transport system. In this stage the networks of the two countries would actually be connected, while Slovenian and Italian bus operators would be entitled to cabotage.

In making such plans it would be necessary to observe the provisions of Slovenian, Italian and also EU legislation. In compliance with the Regulation (EC) No 1073/2009 of the European Parliament and of the Council of 21 October 2009 on common rules for access to the international market for coach and bus services cabotage is conceded to "regular services, performed by a carrier not resident in the host Member State in the course of a regular international service in accordance with this Regulation with the exception of

transport services meeting the needs of an urban centre or conurbation, or transport needs between it and the surrounding areas. Cabotage operations shall not be performed independently of such international service." (Article 15c).

According to this provision, within international transport the Italian bus operator shall not transport passengers inside Koper or between Koper and neighbouring settlements, and, in turn, the Slovenian bus operator shall not transport passengers inside Muggia or between Muggia and surrounding settlements in the municipality. However, Regulation 1073 specifies in Article 25 that "Member States may conclude bilateral and multilateral agreements on the further liberalisation of the services covered by this Regulation, in particular as regards the authorisation system and the simplification or abolition of control documents, especially in border regions".

It is advisable that the competent Slovenian and Italian transport authorities reach an appropriate agreement to make a firm basis for the planning of coordinated public bus transport in the border area of Koper and Muggia as well as Gorizia and Nova Gorica after 2015. Cooperation between the bodies of the two countries has already been made possible by the 1993 Agreement between the Government of the Republic of Slovenia and the Government of the Italian Republic on mutual regulation of international road passenger and freight transport. The concept of such routes is presented below, in the outline of the second stage of the cross-border public transport planning.

The aim of the proposed agreement is to connect the public transport systems of the two countries. Essentially, the plan envisages better possibilities of cross-border travel without bus operators having to do a considerable extra mileage. New cross-border connections are planned for those border crossings where vehicle counts have shown a sufficiently large flow of people, while new transport interchanges or turning round areas are envisaged on that side of the border where a more suitable infrastructure already exists. No construction work is required by the plan; all the proposed extended bus lines will operate on the existing turning round areas or bus termini. Each new international line is planned so as to interlink the two existing national lines. Slovenian and Italian operators will extend their bus lines across the border and continue to transport local passengers in both the countries at the existing fares. The itineraries and timetables of the new line will be adjusted to the needs of students and cross-border migrants who are likely to constitute the majority of cross-border passengers.

Proceeding from the above-described analysis and the stated starting-points three steps for the first stage of development on the Muggia peninsula are envisaged: i) the introduction of a joint transport interchange or turning area at Lazaret (Fig. 1, Point 1); ii) an extension of the Italian route no. 31 to Hrvatini (Fig 1, Point 3); and iii) the introduction of a new international route from Koper to Muggia via Hrvatini, which would cross the state border at Chiampore/Čampore (Fig. 1, Point 2). The timetable would be adjusted to suit the schedule of the Pier Paolo Vergerio il Vecchio elementary school in Koper.

For the second stage, feasible after 2015, mutual planning of public transport between Muggia and Koper is suggested, so that most of the routes would connect the two towns. However, a precondition for routes to follow such a course is a coordinated granting of concessions on both the Slovenian and Italian sides of the border, which means that an agreement should be reached in advance between the conceding entities on both sides of the border, i.e. between Slovenia on the one side and Friuli-Venezia Giulia on the other, as well as between the municipalities of Koper and Muggia. In order to achieve common connecting routes, the bus fleet should also be standardized. The spine of the public transport system on the Muggia peninsula would consist of three routes: a) Koper/Capodistria – Kolomban/Colombano – Chiampore/Čampore – Muggia/Milje; b) Koper/Capodistria – Cerei/Cerej – Muggia/Milje; c) Koper/Capodistria – Ankaran/Ancarano – Lazaret/Lazzaretto

– Muggia/Milje. The system would naturally be complemented by adjusted existing routes. Likewise, in the area of Gorizia and Nova Gorica is not reasonable to propose a significant increase in the frequency of cross-border city bus rides in the first stage, nor is it economically justified if bus operators do not have permission for cabotage. Therefore, in the case of the Muggia peninsula, only minimum changes were proposed in the courses of the existing lines, which provide, with a minor financial investment, significantly better cross-border connections.

Therefore, the following steps are envisaged for the second stage: a) the organization of a cross-border transport interchange at the Nova Gorica railway station which adjoins the state border; b) an extension of the Italian bus routes nos. 3 and 5 to Šempeter pri Gorici; and c) an increase in the frequency of the international city transport route and alteration to its course. Passengers' preferences, obtained by means of the above-mentioned survey, were taken into consideration in the planning of a new course. For the second stage, three cross-border bus routes should be planned in addition to the already existing but partly altered city routes. A new route to connect southern suburbs of Gorizia, via the centres of the two cities and past both main railway- and bus stations, with Solkan north of Nova Gorica (Fig. 2) will be the spine of public transport.

The proposed itinerary extends the most frequented Italian line into Slovenia, where it runs along the partly altered route of one of the Slovenian lines. The joint line continues to provide the same service as before to all local passengers within Slovenia and within Italy, and also significantly improves cross-border connection, without additional financial investment. Moreover, it connects the Nova Gorica railway station with the network of bus routes in both countries and thus improves accessibility to the two cities from the Slovenian hinterland by train.

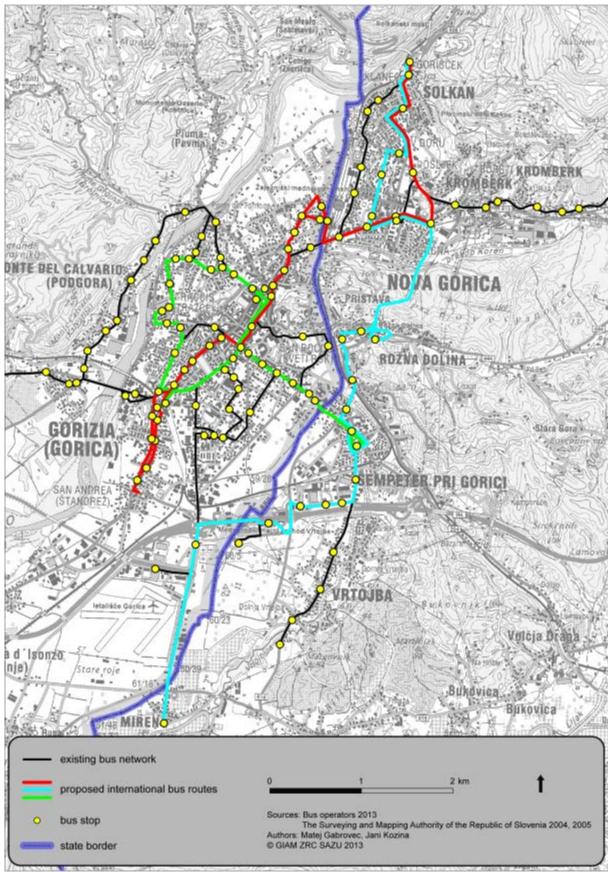


Figure 2: Proposed new international bus routes within the area of Gorizia/Gorica and Nova Gorica

4. CONCLUSION

In developed countries, the fare revenue from bus operations usually covers about half of any operating costs (Codeluppi, 2013). The majority of regional and local bus routes are operated under the terms of concession contracts between bus operators on the one side, and local communities or the state on the other. Public transport is defined in most countries as public service and therefore subsidized by the local or the state authorities. Since cross-border passenger transport is not defined as public service, and consequently not subsidized, it cannot compete with private transport. Since the number of people in the European Union who commute to work or school across state borders is increasing, it would be important to provide them with suitable public transport.

The CONPASS project has demonstrated how poorly developed local cross-border passenger transport is within the European Union (Krug, Meinhard 2003; Meinhard, Winder 2003). Unfortunately, the principle of free movement of people within the European Union cannot be fully realized without effective cross-border passenger transport. If passenger transport is not provided, then those European citizens who cannot afford personal transport due to social conditions or their health or other reasons, have no chance of enjoying the rights of mobility, employment or performing other services in a neighbouring country. A higher percentage of bus users in border regions would lead to reduced environmental impacts and would reduce the external costs of transport. The organization of quality cross-border public transport is only possible through close cooperation of competent authorities on either side of the border who would jointly plan, organize and finance it.

The European White Paper (2011) on transport discusses the organization of effective transport over intermediate distances and European transport corridors on the one hand, and clean urban transport and commuting on the other. It makes no mention of local cross-border transport, which has been constantly increasing ever since European borders were opened. In general, local cross-border passenger transport is poor or in some cases completely absent. This is often the result of legal obstacles and different national legislation. Numerous political-geographical studies dealt with cross-border flows and the problems of border areas (Prescott, 1965; Bufon, 1996; Schneider-Sliwa, 2008), and transport- and demographic-geographers have often dealt with urban influential areas and daily mobility, which often extends beyond the state borders (Knowles, Shaw, Docherty, 2008; Bole, 2011). It would be reasonable to complement strategic documents on European transport on the basis of these studies' results, and to include the necessity for effective and sustainable local cross-border transport. A possibility for solving the issue of local cross-border transport is offered within the framework of Euroregions and Eurodistricts. The Eurodistrict Basel is a good example of joint planning practice (Trinational Eurodistrict Basel, 2013).

This paper has illustrated some possibilities for joint public transport planning in two areas on different sides of the Slovenian-Italian border. It mainly analyses the daily travel needs of students and pensioners who constitute the greatest proportion of existing passenger transport users in the area. To improve this assessment, it would be also sensible to gather more detailed information on daily cross-border commuters for work and to adjust the public transport to this group of passengers. The way of connecting the networks of passenger transport in the two studied neighbouring countries could also be applied, in the adjusted form, to other state borders within the European Union.

REFERENCES:

Ahrens, G.-A., Schöne, M. 2008. *Cooperative Approaches to Integrated Cross-Border Transport Planning on a Regional Level*. Dresden: Technische Universität Dresden.

- Retrieved October 7, 2013, from website: http://www.espaces-transfrontaliers.org/document/Univ_Dresde_janv_08.pdf
- Bole, D. 2011: Changes in Employee Commuting: A Comparative Analysis of Employee Commuting to Major Slovenian Employment Centers from 2000 to 2009. *Acta geographica. Slovenica:* 51 (1): 89-108.
- Bufon, M. 1996. Social integration in the Italo-Slovene Gorizia transborder region. *Tijdschrift voor economische en sociale geografie*: 87 (3): 247-258.
- Codeluppi, G. 2013. Enhancing resilience: finding a healthy business model for public transport. *Public Transport International:* 62 (3): 16-17.
- Gabrovec, M., Bole, D. 2009: *Dnevna mobilnost v Sloveniji (Daily mobility in Slovenia)*. Ljubljana: Založba ZRC.
- Gabrovec, M., Nared, J., Razpotnik Visković, N. 2012. Integrated planning of public passenger transport between the city and the region: the case of Ljubljana. *Acta geographica*. *Slovenica*: 52 (1): 141-163.
- Gabrovec, M., Razpotnik Visković, N. 2012: Ustreznost omrežja javnega potniškega prometa v Ljubljanski urbani regiji z vidika razpršenosti poselitve (Suitability of the public transportation network in the Ljubljana Urban Region in terms of dispersion of settlement). *Geografski vestnik:* 84 (2): 63-72.
- Gregorc, C., Krivec, D. 2012. Networking of Public Passenger Transport Modes, a Step Towards Sustainable Mobility in Ljubljana Urban Region. *Procedia Social and Behavioral Sciences:* 48: 3009-3013.
- Juschelka, R. 1996. Grenzüberschreitender ÖPNV in einem Binnengrenzgebiet der EU. Das Beispiel des Busverkehrs in der Euregio Maas-Rhein. *Standort Zeitschrift für Angewandte Geographie:* 20 (1): 14-18.
- Knowles, R. (ed.), Shaw, J. (ed.), Docherty, I. (ed.) 2008: *Transport Geographies: Mobilities, Flows and Spaces*. Malden, Oxford, Carlton: Blackwell Publishing.
- Kozina, J. 2010: Modeliranje prostorske dostopnosti do postajališč javnega potniškega prometa v Ljubljani (Modelling spatial accessibility to public transport stops in Ljubljana). *Geografski vestnik*: 82 (1): 97-107.
- Kristen, S. 1990. Robert Murphy's mission to Belgrade, september 1954 the decisive step towards the final solution of the Trieste crisis. *Slovene studies*: 12 (2): 157-168.
- Krug, S., Meinhard, D. 2003. Das CONPASS-Projekt Ein Beitrag zur Verbesserung des grenzüberschreitenden Verkehrs. *Nahverkehrspraxis:* 7-8/03, 24-26.
- Meinhard, D., Winder A. 2003. How to improve cross-border public transport? Retrieved October 14, 2013, from website: http://abstracts.aetransport.org/paper/index/id/1599/confid/9
- Prescott, J.R. V. 1965. The Geography of Fronties and Boundaries. London: Hutchinson.
- Progetto "Adria A Accessibilità e sviluppo per il rilancio dell'area dell'Adriatico interno", Multimodal Transport Model Final Report, 2013. (Torino): Trenco.
- Schneider-Sliwa, R. 2008. Enjeux et transformations des régions métropolitaines du sud du Rhin Supérieur. *Revue Géographique de l'Est*, 48/3–4, 1-16.
- Tibaut, A., Lep, M., Fajfar, D. Gabrovec, M. 2010. SIJPRIS geografski informacijski sistem za upravljanje javnega potniškega prometa (SIJPRIS Geographical Information

- System for the Management of Public Passenger Transport). In: *Geografski informacijski sistemi v Sloveniji 2009-2010*, ed. D. Perko and M. Zorn, 261-271. Ljubljana: Založba ZRC.
- Trinational Eurodistrict Basel, 2013: *Stärkung des öffentlichen Verkehrs und der kombinierten Mobilität (P+R und B+R) im Trinationalen Eurodistrict Basel*. Retrieved October 10, 2013, from website: http://www.eurodistrictbasel.eu/de/unsere-projekte/oeffentlicherverkehr.html
- White Paper, Roadmap to a Single European Transport Area Towards a competitive and resource efficient transport system, 2011. Brussels: European Commission. Retrieved October 14, 2013, from website: http://www.espacestransfrontaliers.org/document/Univ_Dresde_janv_08.pdf
- Zavodnik Lamovšek, A., Čeh, M., Košir, U. 2010. Analiza dostopnosti prebivalcev do javnih dejavnosti z medkrajevnim avtobusnim potniškim prometom (Citizens Accessibility Analyses to the Public Services by Intercity Bus transportation). In: *Geografski informacijski sistemi v Sloveniji 2009-2010*, ed. D. Perko and M. Zorn, 251-260. Ljubljana: Založba ZRC.