Trains vs Buses: Long-distance transport in Slovakia

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Structure of the presentation

- Initial intro: a postcommunist story
- Slovakia: a small piece of land, so why longdistance transport?
- Institutional incentives and deformations
- Long-distance trains&buses vs Passenger car

Postcommunist legacy/peculiarities (?)

Still so different from the West? Pucher & Buehler 2005, Taczanowski 2012, Tomeš 2014, etc...

- Closure/suspension of less-effective parts of the railway network in post-communist countries
- Institutional changes, unbundling / liberalization / demonomolization of railways: new railway operators
- Liberalization of bus transport: new bus operators / international operators
- Growing competition: long-distance public transport still remains commercially attractive
- Changing mobility patterns
- Still growing position of individual mobility (",car-adolescence")

Liberalization in railways network

Railway carriers in passenger railway transport in Slovakia in 2017



Source: Michniak (in print)



Modal split of passenger transport in selected European countries (2000-2014, %)

Source: Eurostat

We somehow fell in love with the car...



Slovakia: performances of public transport and individual transport



Geography rules over everything: Slovakia is small and bizzare...

- Small area = short distances... (why <u>long</u>-distance transport?)
- Small market (5.4 million residents), no large urban agglomerations, rural territories, dispersed population
- Immense regional disparities/polarization (economic, social): W vs E
- Unequal railway network distribution: N vs S
- Extremely peripheral location of the capital city
- Bipolar world: Bratislava vs Košice (two metropoles) separated by mountains

Territorial specifics: transport corridors = urban axes



North vs South



5 (out of 8) regional metropoles located on the N corridor

Network limitations

 railway network developed in the period of the Hungarian Empire and former Czechoslovakia

- railways limited by morphology of central Slovakia (but all key urban metropoles located here are connected by railways)
- bus networks substitute railways where necessary



Počet spojov diaľkovej AD v priebehu pracovného dňa (2001-2002)





Bratislava dominating but not extremely (result of "poor" accessibility and peripheral location)



Share of long-distance TRAINS determined by location within railway network...



....while share of long-distance BUSES derived much from purely geographical position 100% 90% 80% 70% 60% 50% international buses 40% Iong-distance buses 30% regional buses 20% 10% 0% spiska Nova Ves Povatska Bystica Novelanky Martin michalovce Trnava Bratislava Kosice Trentin Prieviota Poprad Prešov žilina Nitta Pystica

Institutional specifics of Slovakia's passenger transport market

- Train schedules authorized by central institutions (Ministry of Transport and Contruction of the Slovak Rep.)
- Bus time-schedules authorized by regions (self-government)
- Long-distance trains partly subsidized (even fare-free capacities), long-distance buses are not subsidized (discrimination?)
- Uneven "open-access" rules for railways and bus transport (railways: higher regulation)
- Uneven accessibility of long-distance public transport for inhabitants of poverty regions and low-income communities: long-distance trains (regulated fares but poor geographical accessibility) vs long-distance buses (better geographical accessibility but uncontrolled fares)

Quality of long-distance public transport (trains+buses) in Slovakia (2011/2012)



- reflecting the population size
- Some of urban communities (towns) have no long-distance links
- Long-distance public transport: also numerous rural communities

Zdroj: GVD 2011/2012 Cestovný poriadok - Autobusy SR 2011/2012

Territorial complementariness of trains and buses: spatial equity? Probably not perfect but...





Poverty regions: fully dependent on bus services

Michalovce (2016, 38,000 residents): a small regional centre in eastern Slovakia well connected with Great Britain (18 services per week)

Linka číslo	Trasa	Prepravca	Počet odchodov za týždeň v smere X - Z	Počet odchodov za týždeň smere Z - X
702802	${f X}$ Amsterdam-Köln-Frankfurt am Main-Wien-Bratislava-Nitra-Košice-Humenné ${f Z}$	Viliam Turan-TURANCAR	1	1
702803	Humenné-Michalovce-Nitra-Bratislava-Saarbrücken-Luxembourg-Brussel-Gent	Viliam Turan-TURANCAR	1	1
702804	Humenné-Košice-Prešov-Žilina-Trenčín-Trnava-Zürich	Viliam Turan-TURANCAR	1	1
702805	Humenné-Banská Bystrica-Bratislava-Udine-Venezia-Rimini-Foggia-Vieste	Viliam Turan-TURANCAR	2	2
707801	Prešov-Vranov nad Topľou-Michalovce-Vyšné Nemecké-Užhorod	SAD Prešov a.s.	7	7
709702	Plzeň-Praha-Poprad-Spišská Nová Ves-Levoča-Prešov-Vranov n.TStrážske-Michalovce- Humenné-Snina	A-EXPRESS s.r.o.	7	7
709803	Snina-Michalovce-Prešov-Žilina-Brussel-London-Birmingham-Leicester-Sheffield-Bradford	S.r.o.	2	2
709804	Snina-Michalovce-Prešov-Žilina-Brussel-London-Leicester-Derby-Sheffield-Bradford	BRITANNIA CONNECTIONS, s.r.o.	1	1
712801	Svidník-Stropkov-Humenné-Michalovce-Užhorod	CK EUROTOUR s.r.o.	7	7
802901	Michalovce-Užhorod-Košice	TOB ERABUS	14	14
802902	Michalovce-Užhorod-Košice	PP Tranzit servis	7	7
802906	Užhorod-Košice	eurobus, a.s.	14	14
807707	Praha-Brno-Poprad-Košice-Sečovce-Michalovce	eurobus, a.s.	2	2
807807	Michalovce-Užhorod	ARRIVA Michalovce, a.s	7	7
807818	Michalovce, Košice/Prešov-Žilina-Praha-Brussel-London/Leicester, Sheffield, Bradford	SAD Prešov a.s.	2	2
807822	Michalovce-Praha-Dover-Chatham-London-Birmingham-Derby-Sheffield-Bradford	INTERBUS, s.r.o.	2	2
807823	Michalovce-Praha-Plzeň-Brussel-Dover-Chatham-London-Leicester-Sheffield-Bradford	INTERBUS, s.r.o.	1	1
807824	Michalovce-Praha-Plzeň-Brussel-Dover-Chatham-London-Peterborough-Sheffield-Roterham- Bradford	INTERBUS, s.r.o.	1	1
809702	Praha-Vyšné Nemecké	REGA & R spol. s r.o.	4	4
811702	Michalovce-Košice-Prešov-Poprad-Kolín-Mladá Boleslav-Liberec	ARRIVA Michalovce, a.s	1	1

Reality of eastern Slovakia: labour force commuting to Western metropoles

Small regional centre of Revúca (13,000 residents, as of 2015): bus station schedules

Bratislava, B.Bystrica, Košice, Praha, Londýn

1	Banská By	strica	78	73	3#5	7 7 3	5 %6	20	† 75	77	33
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Competitive public transport?

The metric accessibility (in min) of regional metropoles of Slovakia: public transport vs individual transport



Note: sum of minutes necessary to reach all other metropoles within the group

Public transport: metric accessibility rates (in min) among the regional metropoles of Slovakia (2011)





bus faster than train



bus services only

Metropoles accessibility improvement: Public transport vs car

Change of the metric accessibility rates among the regional metropoles of Slovakia in the 1989-2011 period (index 2011/1989)

_		public transport								
	From/To	Bratislava	B. Bystrica	Košice	Nitra	Prešov	Trenčín	Trnava	Žilina	
	Bratislava	x	0,78	0,79	0,74	0,85	0,72	0,82	0,78	
sport	B. Bystrica	0,89	x	1,00	0,80	0,92	1,03	0,67	0,89	
ran	Košice	0,93	0,95	x	0,81	0,74	0,63	0,65	0,82	
ual t	Nitra	0,83	0,83	0,92	x	0,88	1,14	0,76	1,00	
ividı	Prešov	0,79	0,80	1,00	0,80	x	0,58	0,92	0,61	
ind	Trenčín	0,86	0,93	0,81	0,83	0,75	x	0,55	0,59	
	Trnava	1,05	0,87	0,93	0,97	0,78	0,83	x	0,61	
	Žilina	0,66	1,00	0,86	0,73	0,80	0,64	0,62	x	

road-network upgrading

• public-transport: competition (IC trains), time-schedule modifications, railway network upgrading

 Competition (bus vs train operators) helps improve competitiveness to individual car transport



Note: both travel times and frequency of public transport services considered

Conclusions

- Liberalization, open access policy: helpful for public-transport upgrading, improvement of services, competition (struggle for passengers, struggle for "new" regions)
- Bus operators substituting trains where railways are inaccessible
- Institutional deformations: the Ministry vs Regions (time-schedules disharmonized)
- Geography still matters: location is important
- "Poor" accessibility of Bratislava: well accessible from Vienna but too far from (eastern) Slovakia
- Central positions = better for long-distance links? (Urban hierarchy vs geographical position = dilemma)
- Regions along the main (Carpathian) corridors profiting on both modes (trains + buses)
- Social context: lagging regions (= regions with poor railway network) generate demand for long-distance/international public transport links
- Public transport vs car competition partly successful for trains and buses
- Passengers & environment are supposed to be winners of this competition

Thank you for your attention! marcel.hornak@uniba.sk

