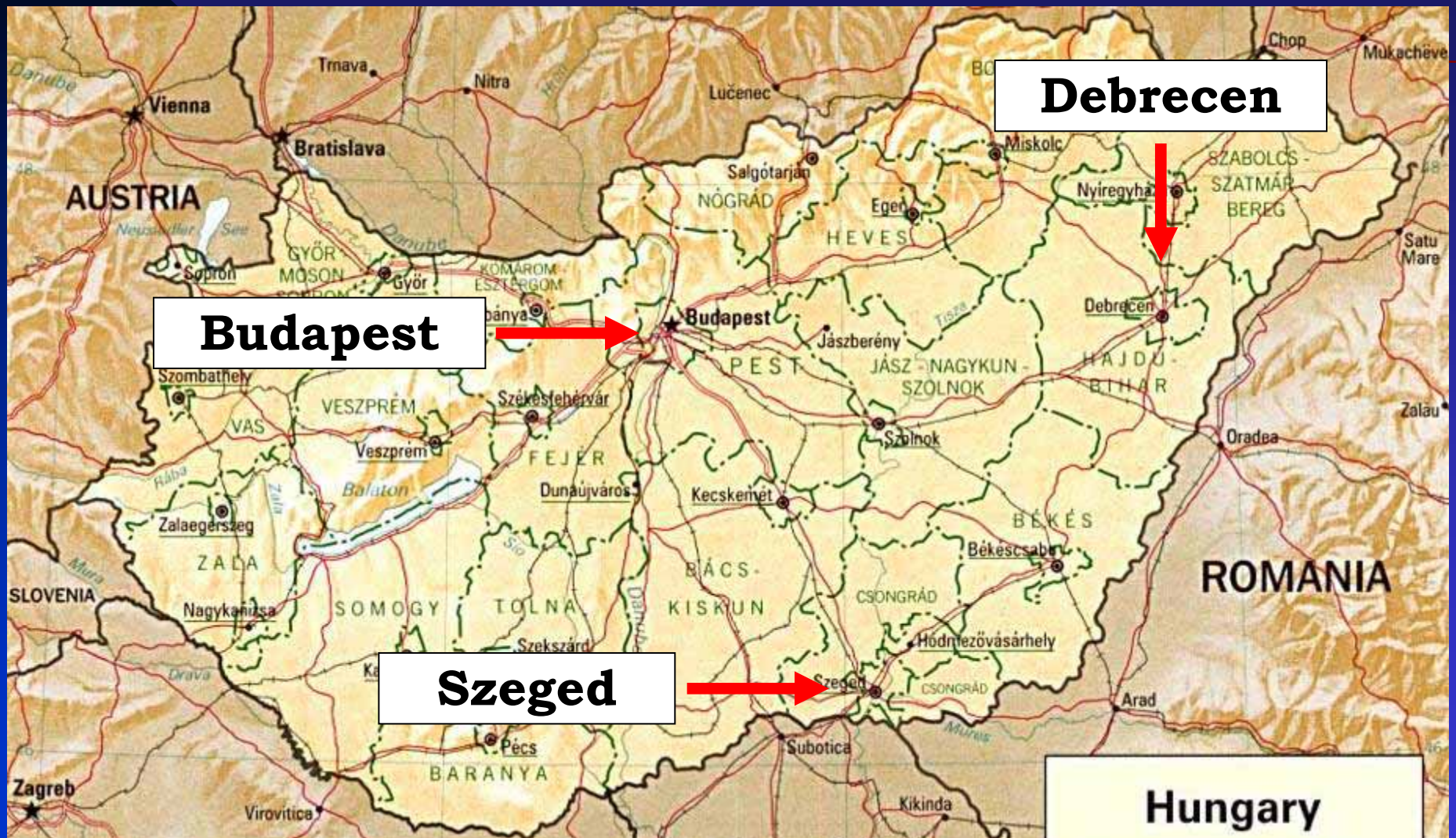


Overview of the development of the trolleybus systems in Hungary, 2008-09



Dr. Zoltán Ádám Németh
Senior traffic strategy
assistant
Project manager

Locations of trolleybus cities in Hungary



The main data

	Budapest	Szeged	Debrecen
inhabitants	1,712,000	169,000	206,000
network length	66 km	~17 km	~12 km
Number of routes	13	3+1 ⁽¹⁾	2+1 ⁽²⁾
Fleet (A/LF/LFA) ⁽³⁾	167 (99/32/-)	42 (17/11/1)	33 (4/22/-)
Number of passengers ⁽⁴⁾	77 M / year	19 M / year	~20 M / year
Ratio of the trolley mode of total passengers	5,9 %	23 %	~15 %

(1) – Route 8 is replaced by bus until early 2010.

(2) – Route 3E is partly self-propelled, served with duo-buses

(3) – A/LF/LFA: amongst them high-floor articulated, solo low-floor, articulated low-floor

(4) – Passenger number evaluations are different in each city



Budapest



A budapesti trolibusz-viszonylatok közlekedési hálózata



Trolleybus fleet in Budapest



■ Solo cars

- ★ 35+2 ZIU-9 in service (from 1977-84)
- ★ 1 IK-411T – Kiepe (1994)
- ★ 15 IK-412T – Kiepe (2002)
- ★ 16 Ganz-Solaris 12A (2005-07)

■ Articulated cars:

- ★ 84 GVM IK-280T (1987-89)
- ★ 15 IK-435T – Kiepe (1994)



Recent developments

- Refurbishment of IK-435T (2 in 2009) and GVM trolleybuses (5 in 2008, 5 in 2009). 5 IK-435T and 6 IK-412T is permanently set aside due to cracks in frame.
- Minor changes of the network due to construction of the metro line 4
- New route structure since 2008 (affected routes: 75-79 and 80-81). The peak vehicle release modified from 133 to 118.

Future projects

- There is a general stagnation at BKV.
- Further IK-435T's will be reconstructed in 2010.
- Because of the lack of projects, there is a possibility of a trolleybus grand-project element from KÖZOP.

Debrecen





3E — **VM Villamos Megálló** **TM Trolibusz Megálló**
Villamos és Trolibusz hálózat Debrecenben

Központ:
4025 Debrecen, Sálétrom u. 3.
Tel.: 52-502-640 Fax: 52-502-641

Forgalmi ügyelet:
Debrecen, Petőfi tér
Tel.: 52-311-632
Mobil: 06-30-625-3573
e-mail: forgpark@dkv.hu



Trolleybus fleet in Debrecen

- 1st generation (1989-91):
 - ★ 6+1 ZIU-9 in service
 - ★ 4 articulated IK-280T-Obus
- 2nd generation (2005-07):
 - ★ 5 GST-12
 - ★ 16 GST-12D
 - ★ 1 MAZ-103T



Recent developments

- 2 new high-speed switches (by Elektrizace železnic Praha a.s.)
- Detours due to road constructions
- The renewal of the trolley fleet finished in 2007
- Refurbishment of 5 old vehicles.
- DKV and Inter Tan-Ker took over the bus services in the city since 1st July 2009.
- No more separate monthly ticket for trams/trolleys and buses.

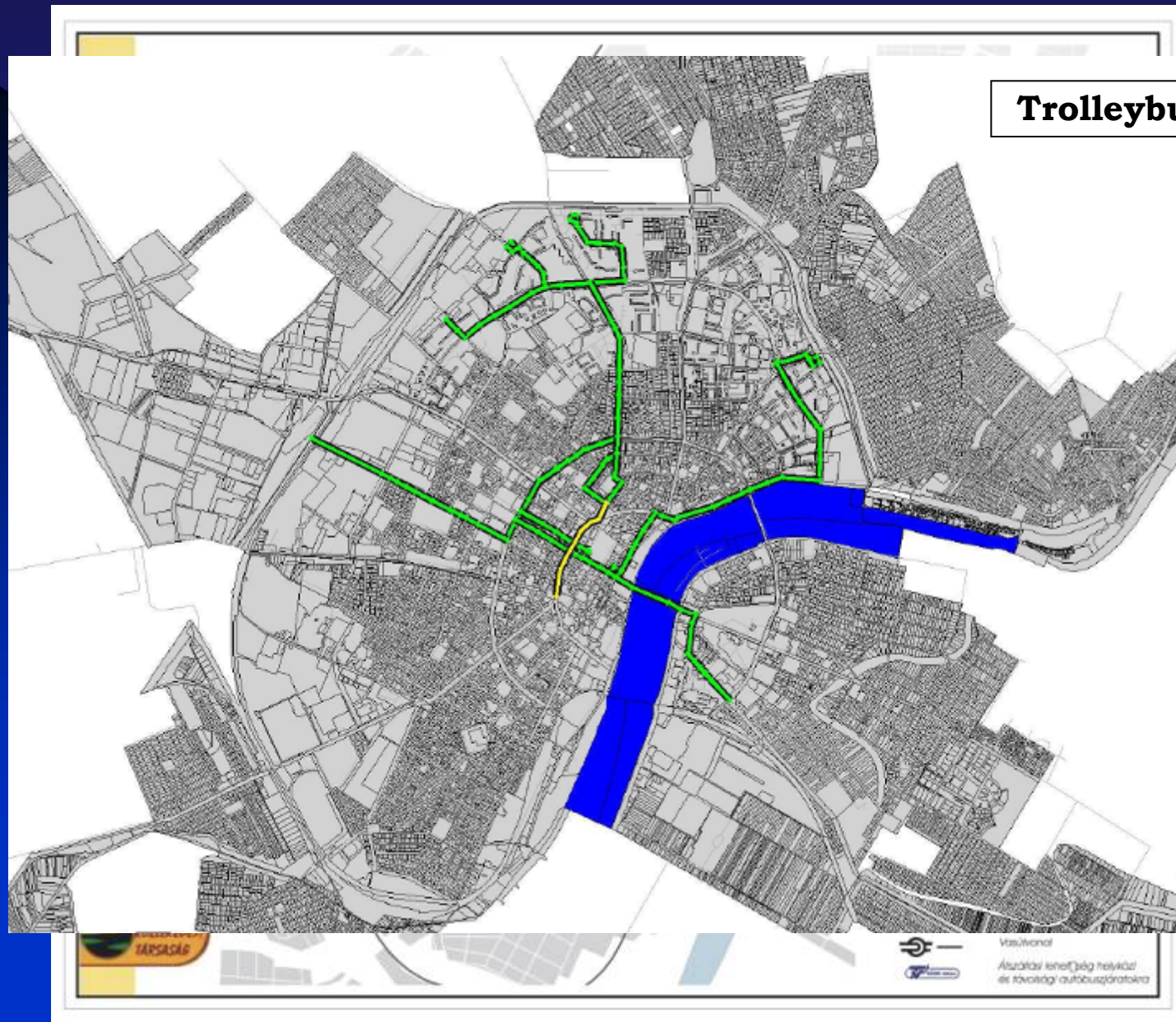
Future projects

- DKV is proposing new electric midi-buses on route 3E, due in spring 2010. This will be operated by the bus division, produced by Alfabus/Inter Tan-Ker.

Szeged



The electric network of Szeged: trams and trolleybuses



Trolleybus fleet in Szeged

Solo cars:

- ★ 8 Skoda 14Tr (+1 in reconstruction)
- ★ 5 Skoda 21Tr (+2 in construction)
- ★ 1 Volvo B7 Tr12
- ★ 5 Evobus O-530 Tr12 (+1 in construction)

■ Articulated cars

- ★ 1 Ik-280T (+1 in reconstruction)
- ★ 17 Skoda 15Tr (+1 in reconstruction)
- ★ 1 Skoda 22Tr



Recent developments

- Szeged celebrated its 30 years anniversary in 2009
- New 2000 m² maintenance hall
- Reconstruction of the washing facility
- New 1,6 MW power substation at Rózsa utca
- New terminus in the depot
- Reconstruction of terminus Makkosház (in progress)
- New high-speed switch at Bartók tér
- Two 14Tr trolleybus reconstructed for Haskovo (BG), one currently for Ustí nad Lábem (CZ)
- Trolleybuses reconstructed in 2009: 505, T-603, T-705, T-802, T-864



ELEKTROMOS KÖZÖSSÉGI KÖZLEKEDÉS FEJLESZTÉSE
SZEGED

PÕNE KENNYVISTEKS	
Villakene püüa rekonstrueerida	10270 vnt
Villakene püüa ehitada	4550 vnt
Töödaja võtta kättemaks	48,00 km
Üks kättemaks saadud	2,00
Üks kättemaks saadud	5 kättemaks
Üks kättemaks saadud	1,00
Üks kättemaks saadud	10,00

JELMAGYARÁZAT

- Mayland wattlebird
- Mayland honeyeater
- Tawny-capped honeyeater
- Yellow-capped honeyeater
- Yellow-capped honeyeater





Future projects



- **Route 8 (contracted, due in Jan. 2010)**
- **Route 10 (contracted, due in July 2010)**
- **New substations Szilléri sgt, Felső Tisza part, Csanádi utca, refurbishment of substations Zrínyi utca, Csáky utca (contracted, due in 2010)**
- **10 new articulated trolleybuses (procurement in preparation, due in 2010-12)**
- **Reconstruction of the Újszeged part of the old-bridge**
- **4 new low-floor trolleybuses due in 2010**
- **Refurbishment of 3 high-floor vehicle and a nostalgia car**
- **Bus-corridor at Grand-boulevard, reconstruction of Mars tér junction (in development)**

Industry



- Ganz-Transelektro
 - ★ Still exists its remains, can produce spare parts (e.g. pneumatic retrievers)
- Ganz-Skoda
 - ★ 2008: assembly of Irisbus 25Tr trolleybuses for Timisoara
- SZKT (Szeged)
 - ★ Reconstruction of diesel buses (Volvo, Citaro, Skoda 21Tr)
- Auto Rad Controlle (ARC)
 - ★ New articulated trolleybus prototype



Thank you for the attention!