

Conference TES 2010, Subotica, Serbia

Needs for Integrated Mobility Patterns

Bystrík BEZÁK

www.svf.stuba.sk

May 12 -14, 2010

Central Point



Amber Road



Silk Road



Old Roman Gateway - Carnuntum



Genius Loci of the Territory



Connection over the Danube



January 1st, 1993 – Sovereignty of Slovakia



May 1st, 2004 – EU membership



1.1.2009

Euro ...



Structure at the Slovak University of Technology



SLOVAK UNIVERSITY OF TECHNOLOGY

Faculty of

Civil Engineering

*Electrical Engineering and
Information Technology*

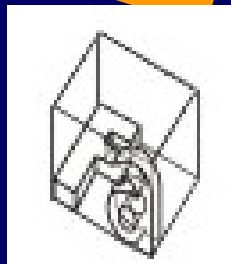
Architecture

Mechanical Engineering

*Chemical and Food
Technology*

*Materials Science
and Technology*

*Informatics and
Information Technology*



The Faculty of Civil Engineering STU in Bratislava



18 03 2004



The Faculty of Civil Engineering STU in Bratislava

**founded in 1938 as the first faculty
of the Slovak University of Technology
originally located in both Košice and Martin.**



**December 5th 1938 first lectures
presented by the three departments**

- Building Construction and Transportation
- Water and Cultural Engineering
- Surveying



Bachelor degree courses

are available in the following fields:

1. Civil and Transportation Engineering
2. Water Resources Management and Hydraulic Structures
3. Geodesy and Cartography
4. Building Structures
5. Environmental Engineering
6. Civil Engineering (in English language)



Master's degree courses

1. Civil and Transportation Engineering
2. Water Resources Management and Hydraulic Structures
3. Geodesy and Cartography
4. Architecture and Building Structures
5. Economics and Building Industry Management
6. Materials Engineering
7. Building Services
8. Building Technology
9. Environmental Engineering
10. Civil Engineering (in English language)



PhD. study

1. Theory and Construction of Building Structures
2. Applied Mechanics and Mechanics of Solid and Deformable Bodies
3. Hydrology and Water Resources Management
4. Hydraulic Engineering
5. Sanitary Engineering
6. Geodesy and Geodetic Cartography
7. Theory and Construction of Civil Engineering Structures
8. Industrial and Branch Economics, Economics of Trade and Industry
9. Non-Metallic and Building Materials Science
10. Building Technology
11. Applied Mathematics



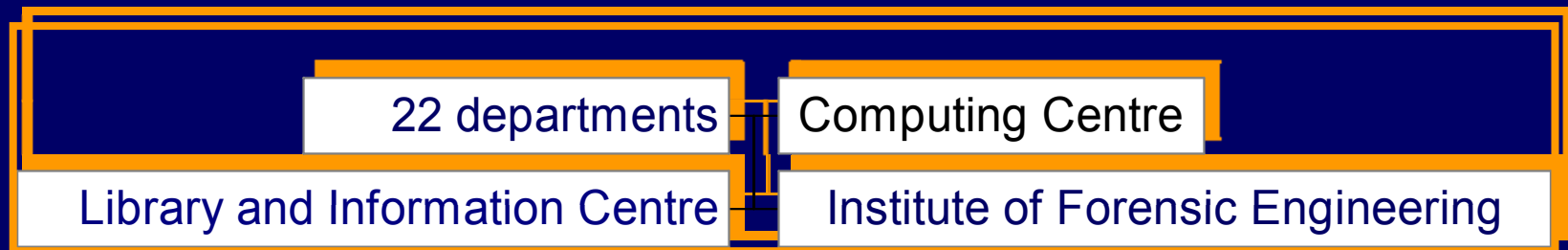
The Faculty has a credit-based modular-unit system

Bachelor's degree	- 180 credits	(3 years)
Master's degree	- 120 credits	(2 years)
PhD degree	- 240 credits	(4 years)



Our faculty is a leader in research and education in the fields of civil engineering and geodesy in Slovakia

consists of





Departments of our Faculty

- Concrete Structures and Bridges
- **Transportation Engineering**
- Theoretical Geodesy
- Surveying
- Geotechnics
- Land and Water Resources Management
- Hydraulic Engineering
- Building Structures
- Architecture
- Steel and Timber Structures
- Structural Mechanics
- Mapping and Land Consolidation
- Economics and Building Industry Management
- Physics
- Material Engineering
- Building Technology
- Sanitary Engineering
- Building Services
- Mathematics and Descriptive Geometry
- Humane Sciences
- Languages
- Physical Education

Circulating Workshop – City and Traffic...



...next in Maribor Slovenia

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TOPIC

Urban traffic management and restraint



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America Pires da
Costa
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Maria Lohan
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Anaëla Ribeiro
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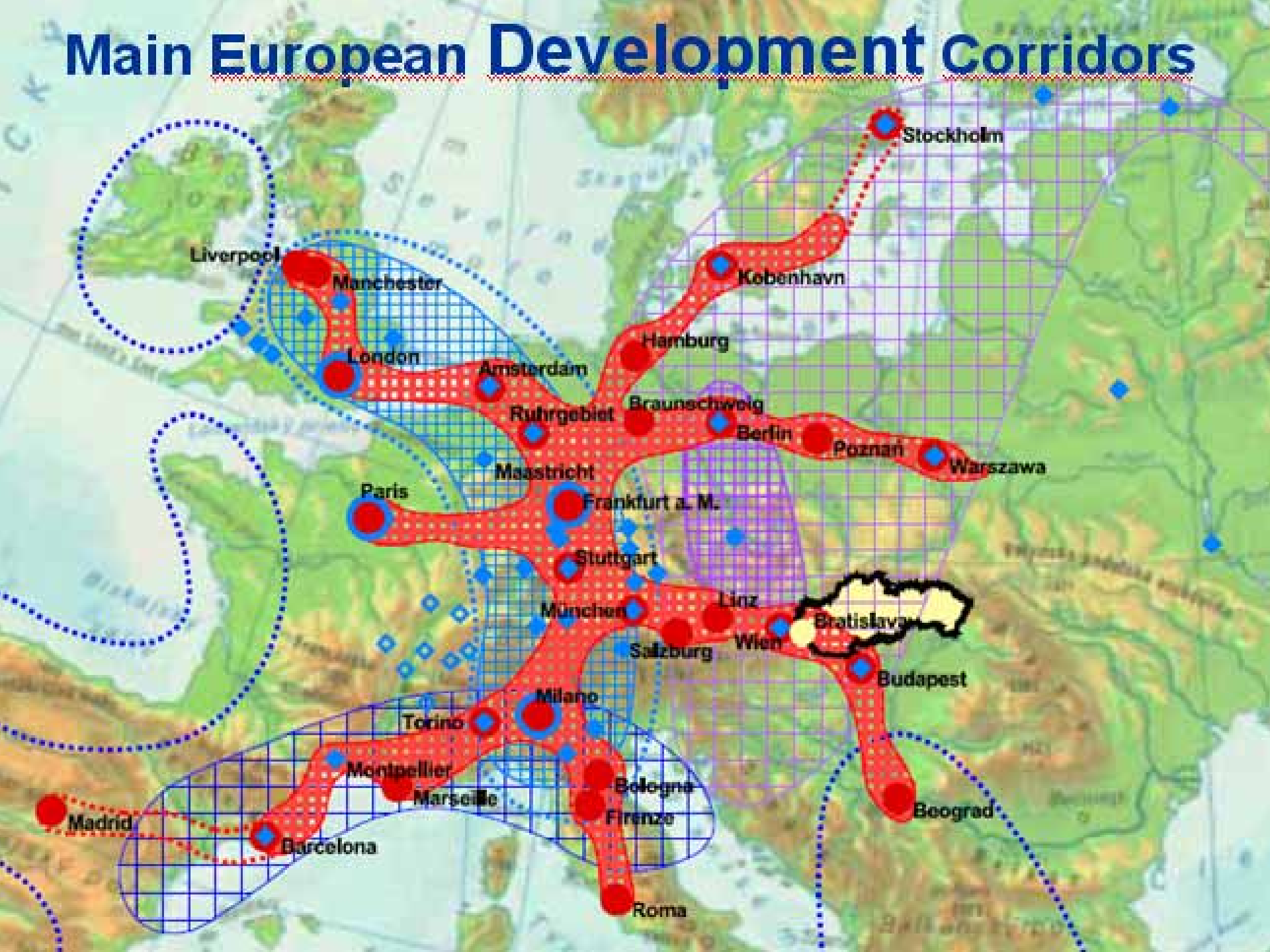


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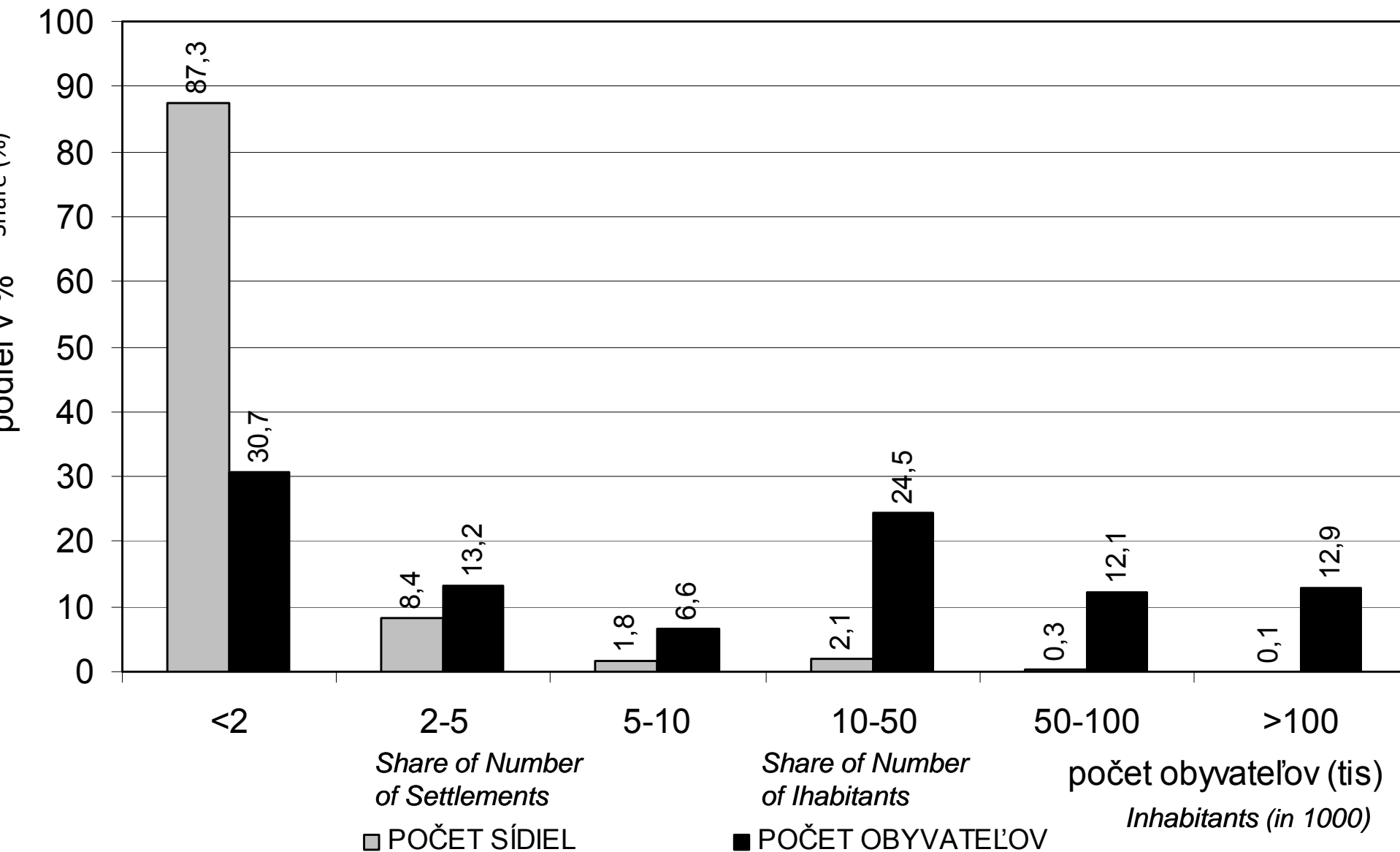
The Settlements Structure and European Transport Network in Context to Slovakia



Main European Development Corridors



Structural Characteristics of the Different Categories of Settlements Classified by Size in Slovakia



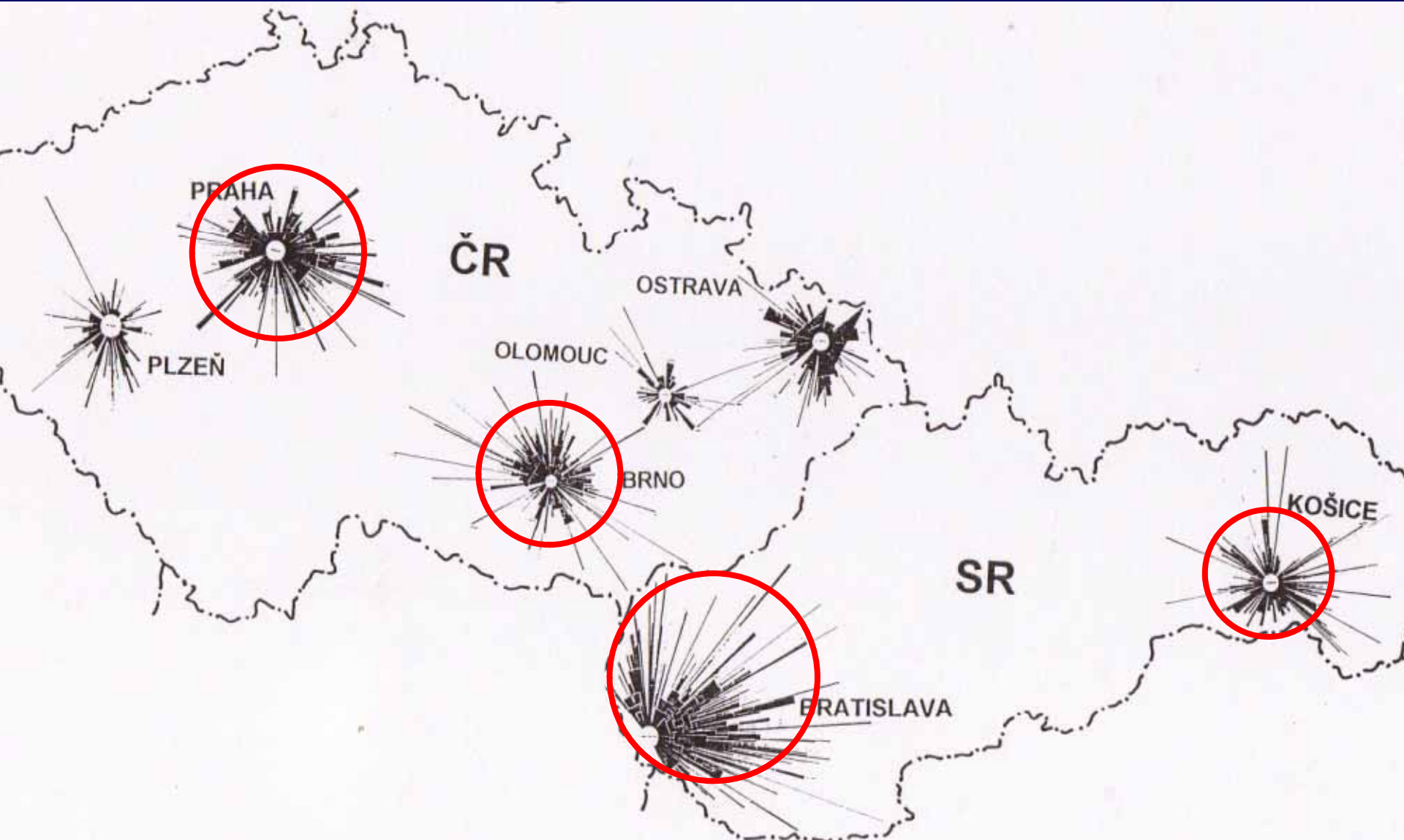
Scope of the Research in the Years 1980 to 1990:

Commutation to the Selected Cities

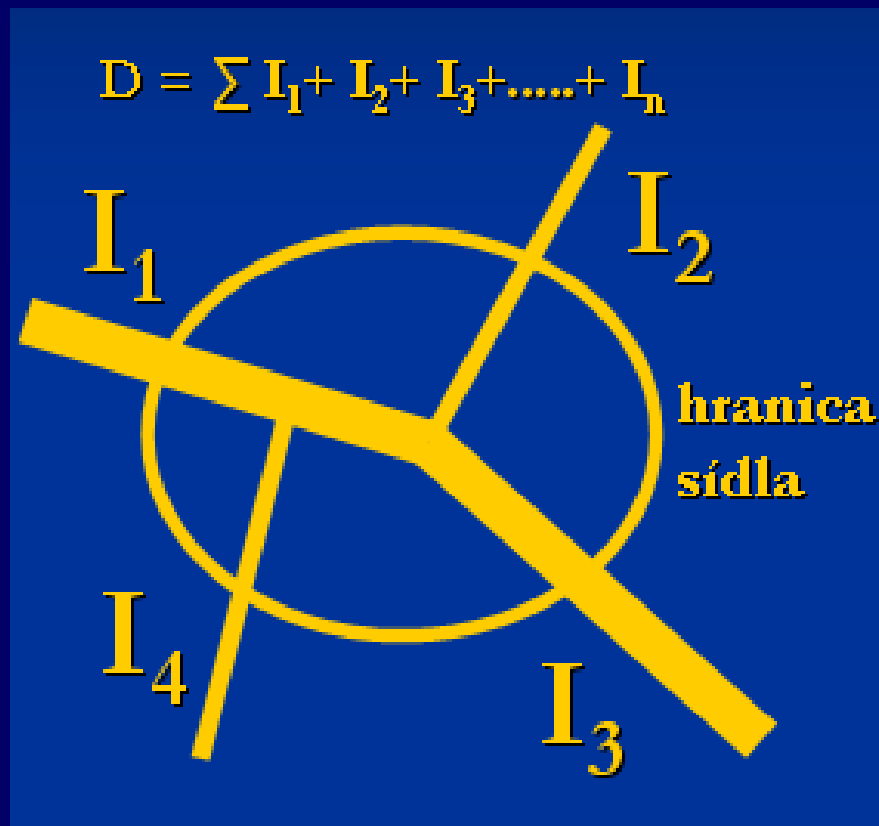
Development of Changes in the Road Traffic Volumes in the Different Categories of Cities

Development of Dependence Between the Specific Characteristics of PT Vehicles and Types of Cities Classified by Size

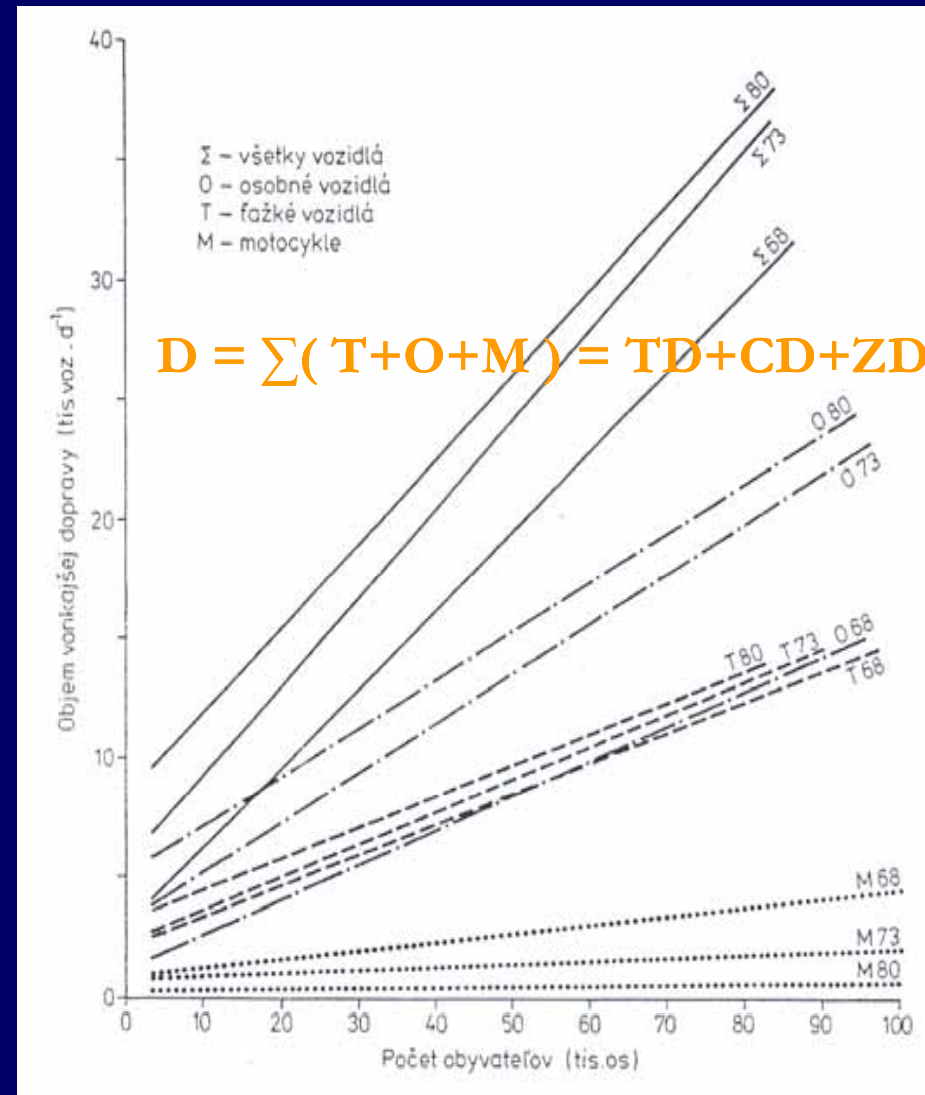
Commutation to the Selected Cities in Czech and Slovak Republic in the Year 1980



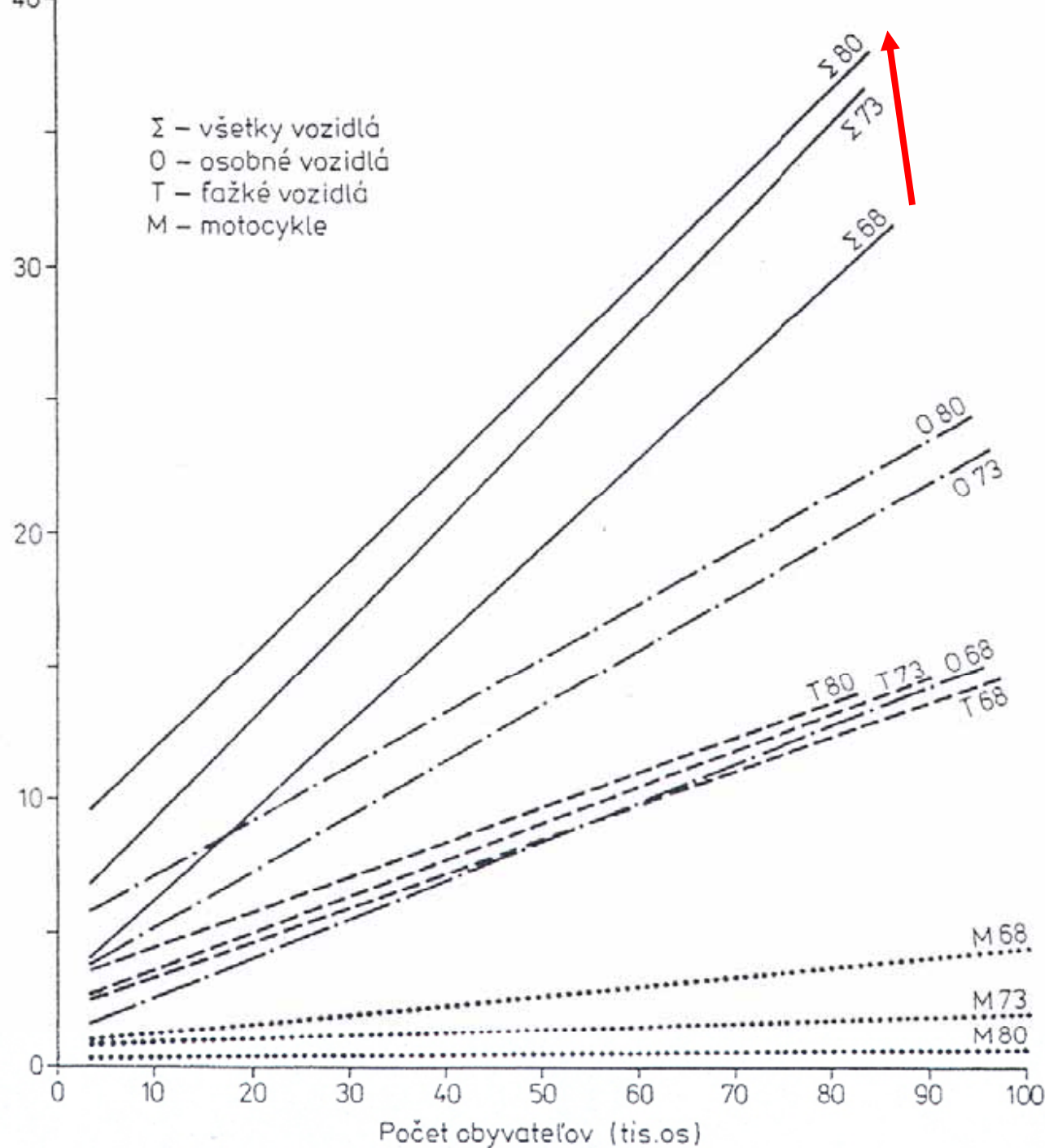
Development of Changes in the Road Traffic Volumes in the Different Categories of Cities in Slovakia



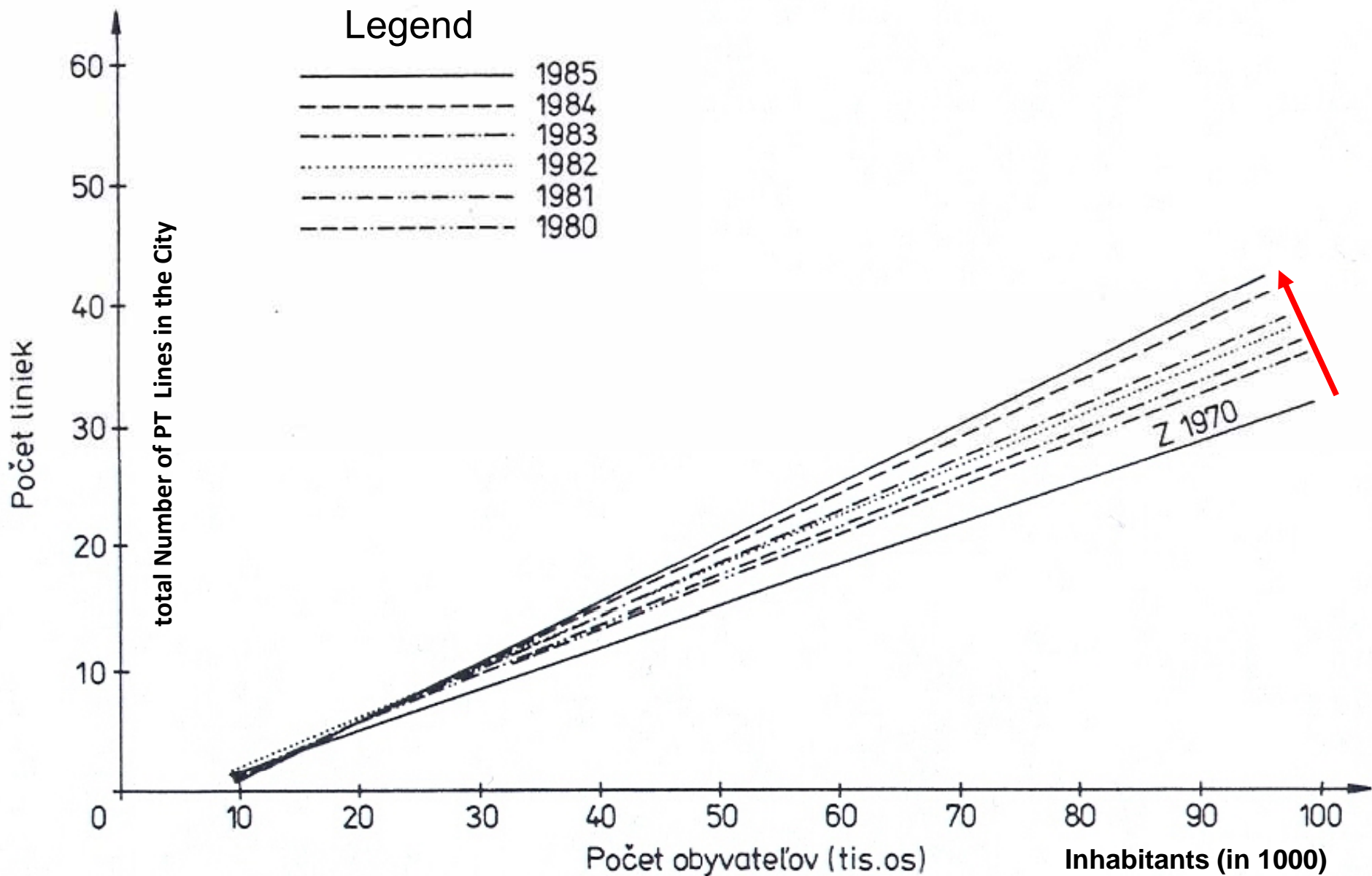
$$\begin{aligned} D_{68} &= 2912,18 + 0,32718 PO & R_{68} &= 0,759 \\ D_{73} &= 5554,56 + 0,36880 PO & R_{73} &= 0,749 \\ D_{80} &= 2912,18 + 0,32718 PO & R_{80} &= 0,743 \end{aligned}$$



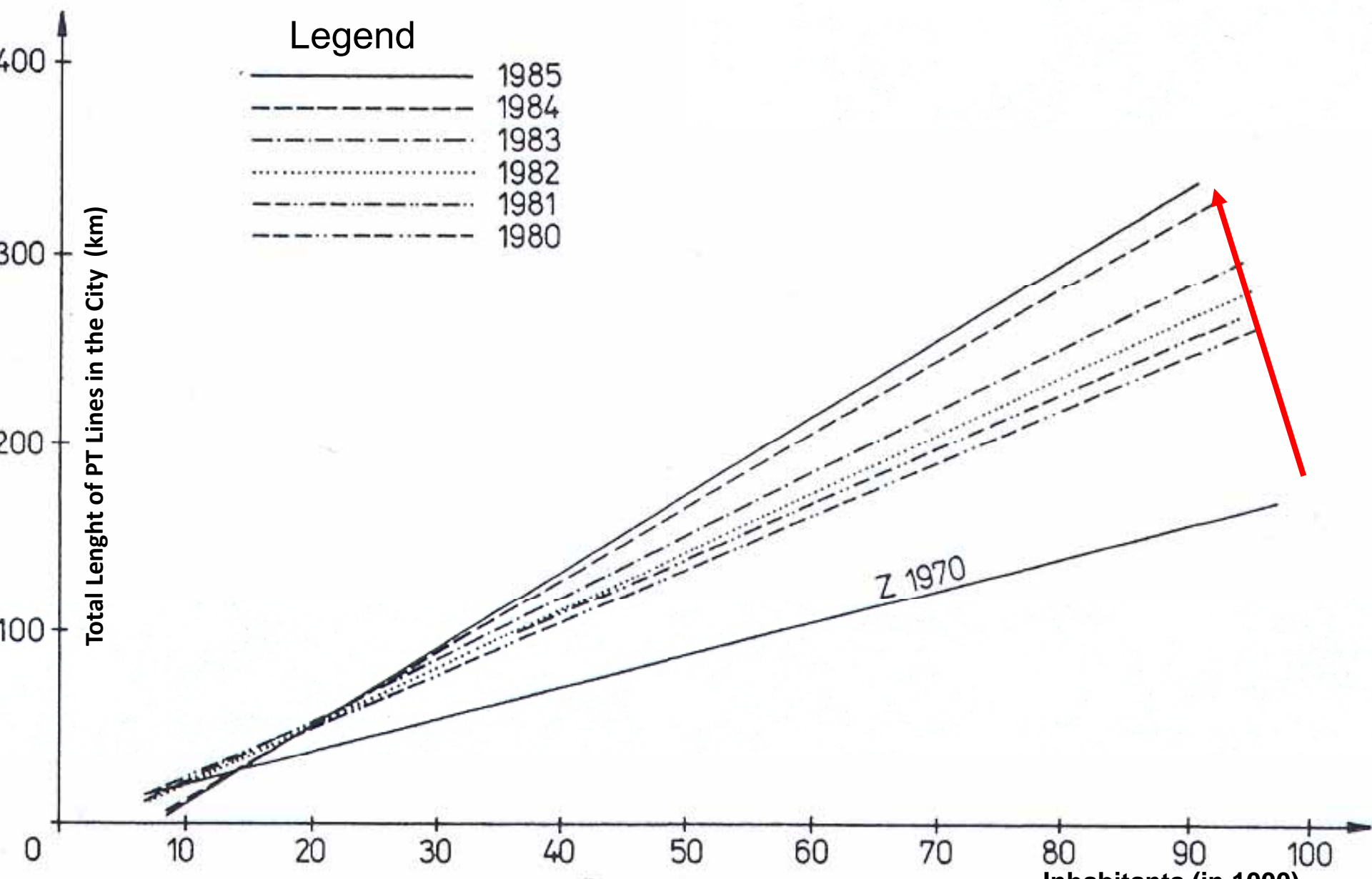
Development of Change in the Road Traffic Volume in the Different Categories of Cities in Slovakia



Development of Dependence Between the Number of PT Lines and Types of Cities Classified by Size



Development of Dependence Between Total Length of PT Lines and Types of Cities Classified by Size



The Changes of Specific Spatial and Traffic Characteristics after 1989:

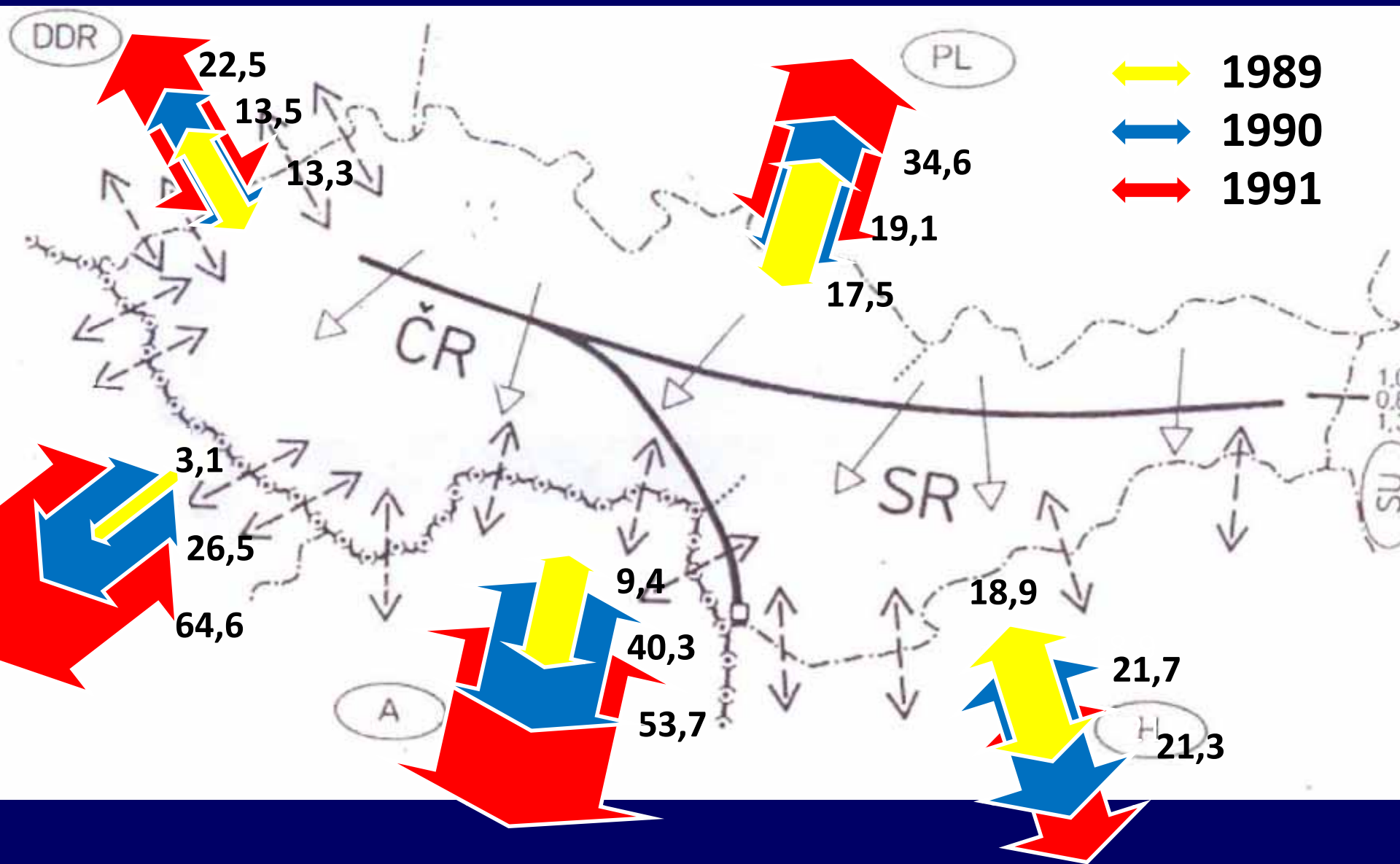
Variations of Cross-Border Passenger Transport in Czechoslovakia in the Years 1989 to 1991

Variations of Cross-Border Passenger Transport Across the Borders in Capital of SR Bratislava in the years 1989 to 1992

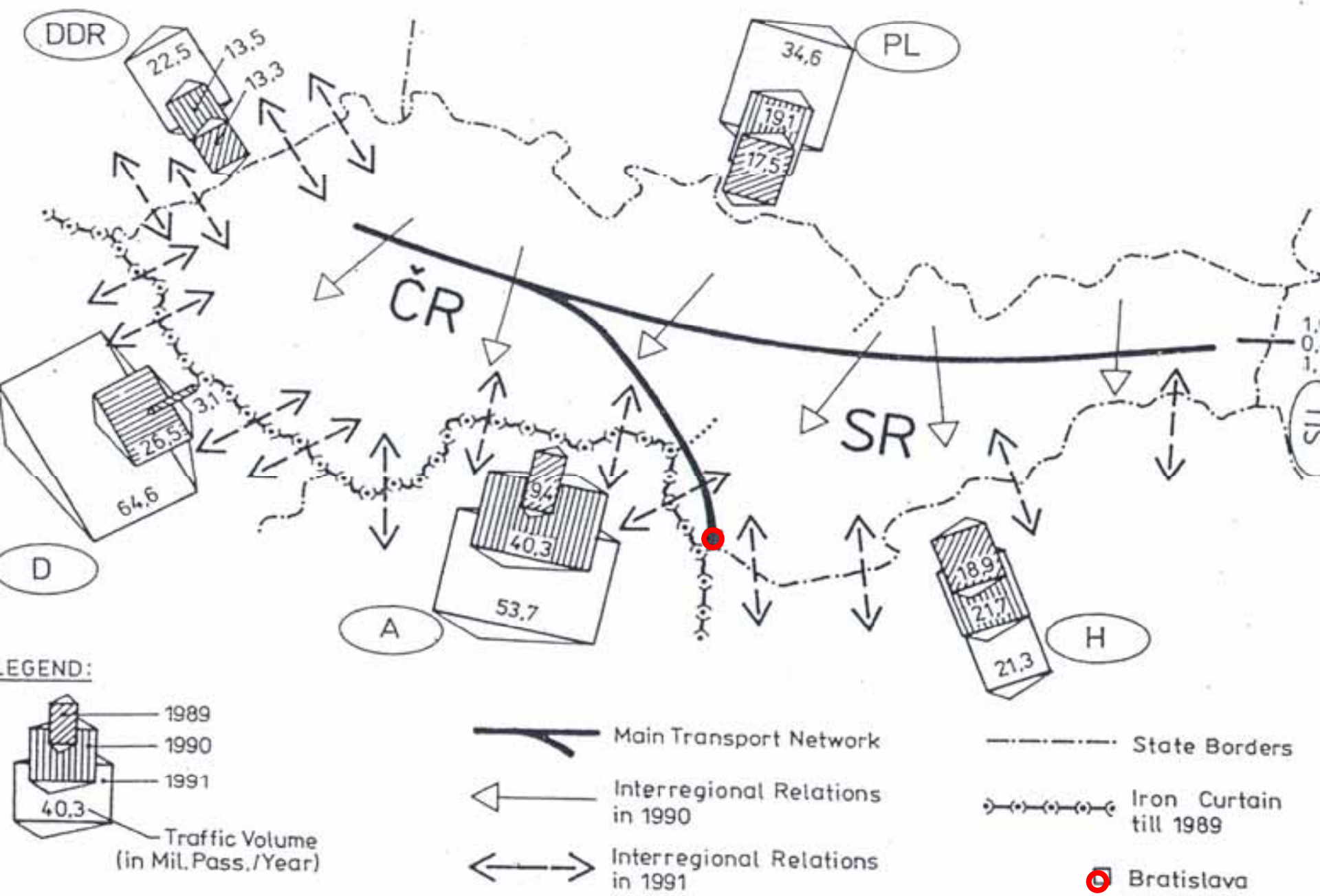
Development of Changes in Modal Split Across the Czechoslovak Borders in the Years 1991-1992

Development of Volume of Cross-Border Passenger Transport in Slovakia in the Years 1989 to 2003

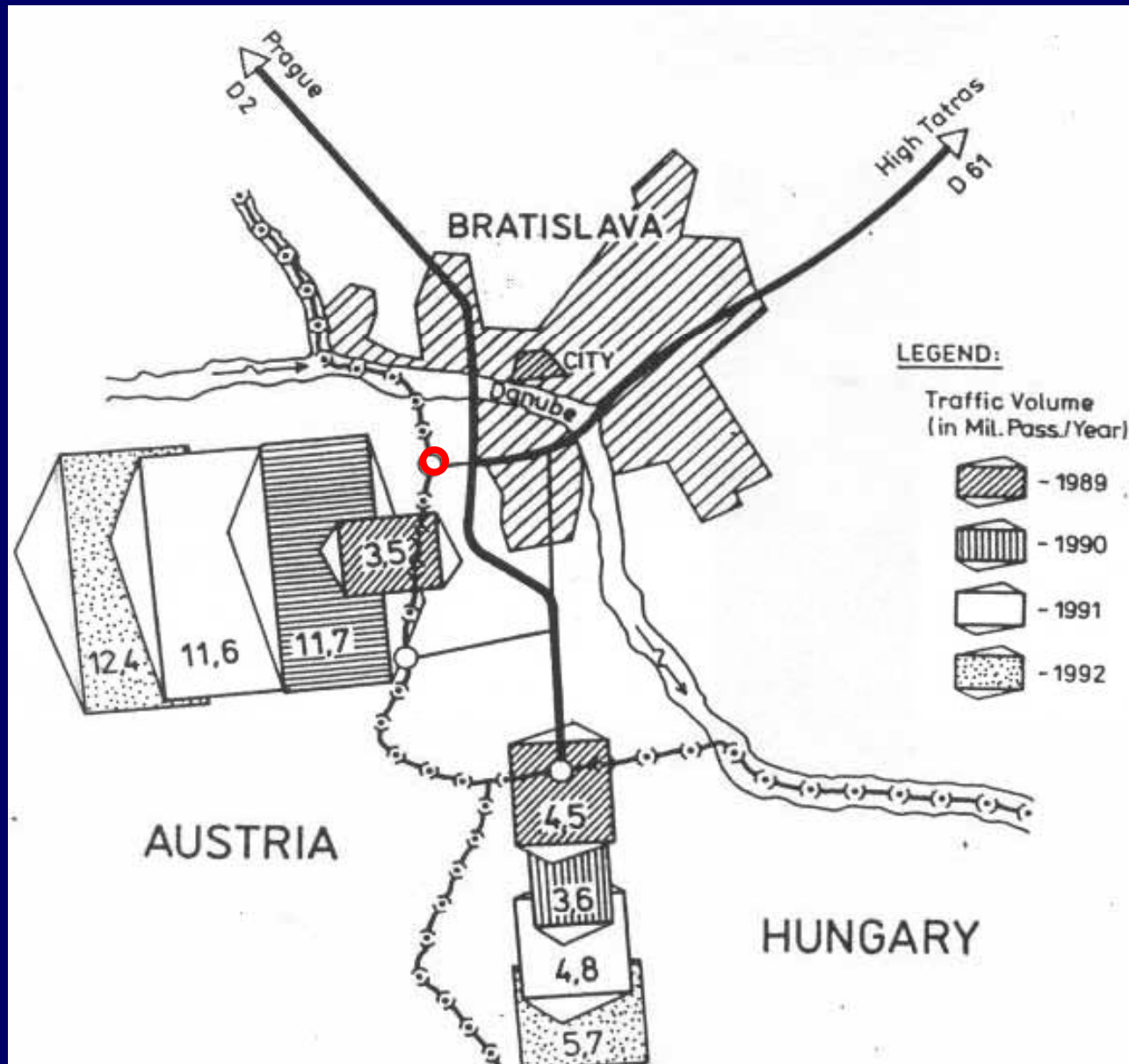
Variations of Cross-Border Passenger Transport in Czechoslovakia in the Years 1989 to 1991



variations of Cross-Border Passenger Transport in Czechoslovakia in the Years 1989 to 1991



Variations of Cross-Border Passenger Transport Across the Borders in Capital of SR Bratislava in the years 1989 to 1992



Development of Changes in the Modal Split of Passenger Transport Across the Czechoslovak Borders in the Years 1989-1991

LEGEND:

Mode of Transportation

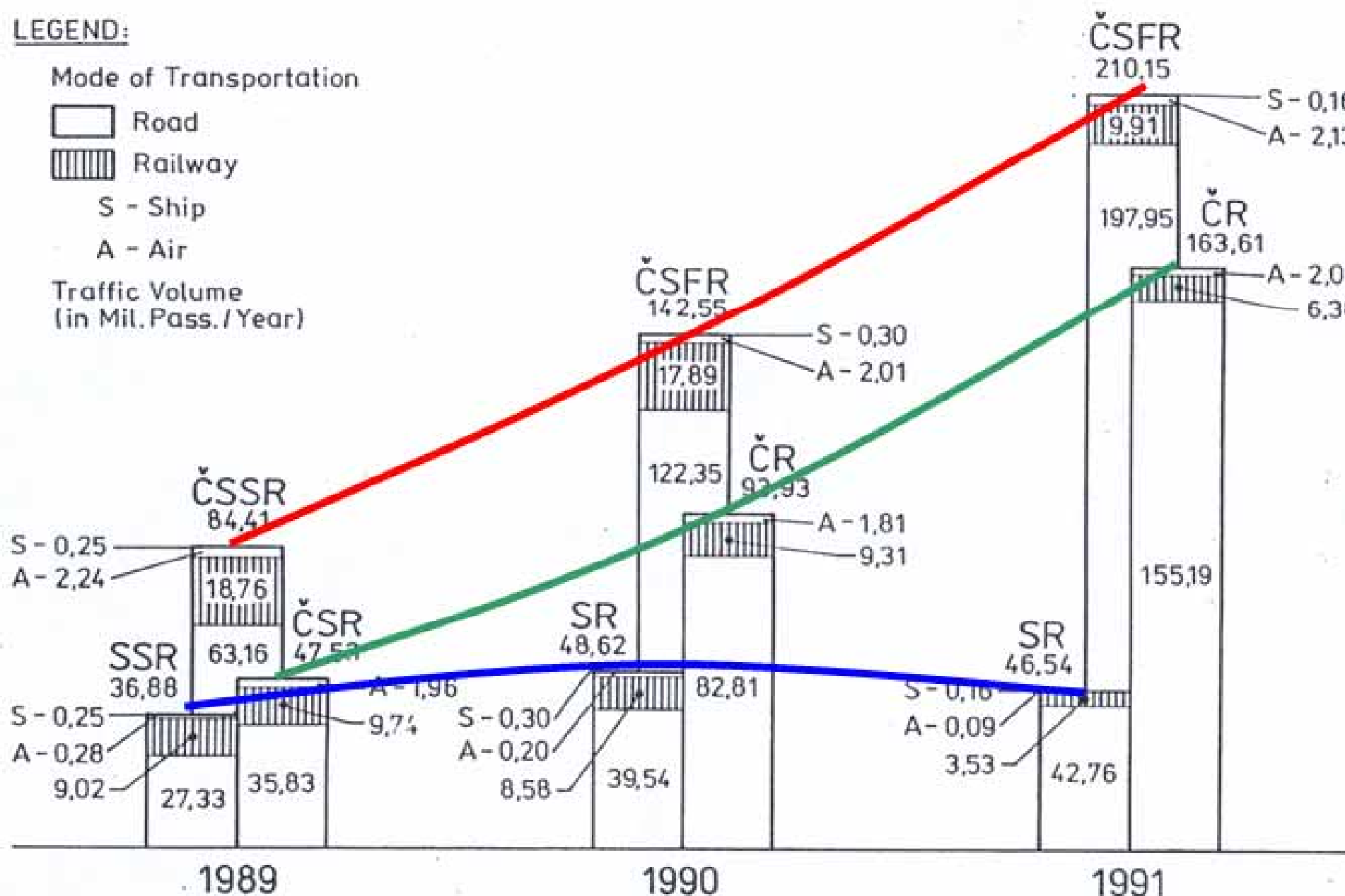
□ Road

▨ Railway

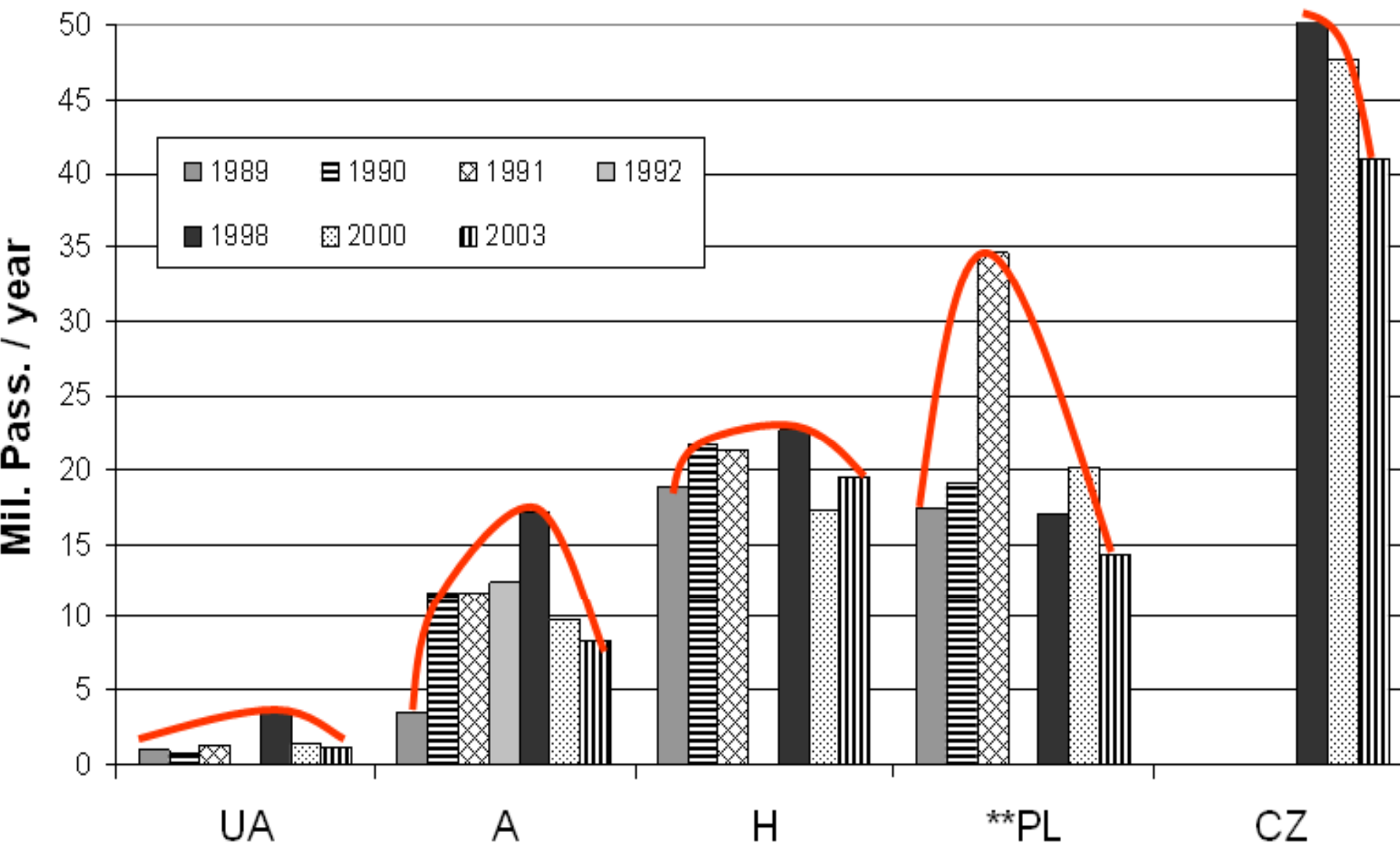
S - Ship

A - Air

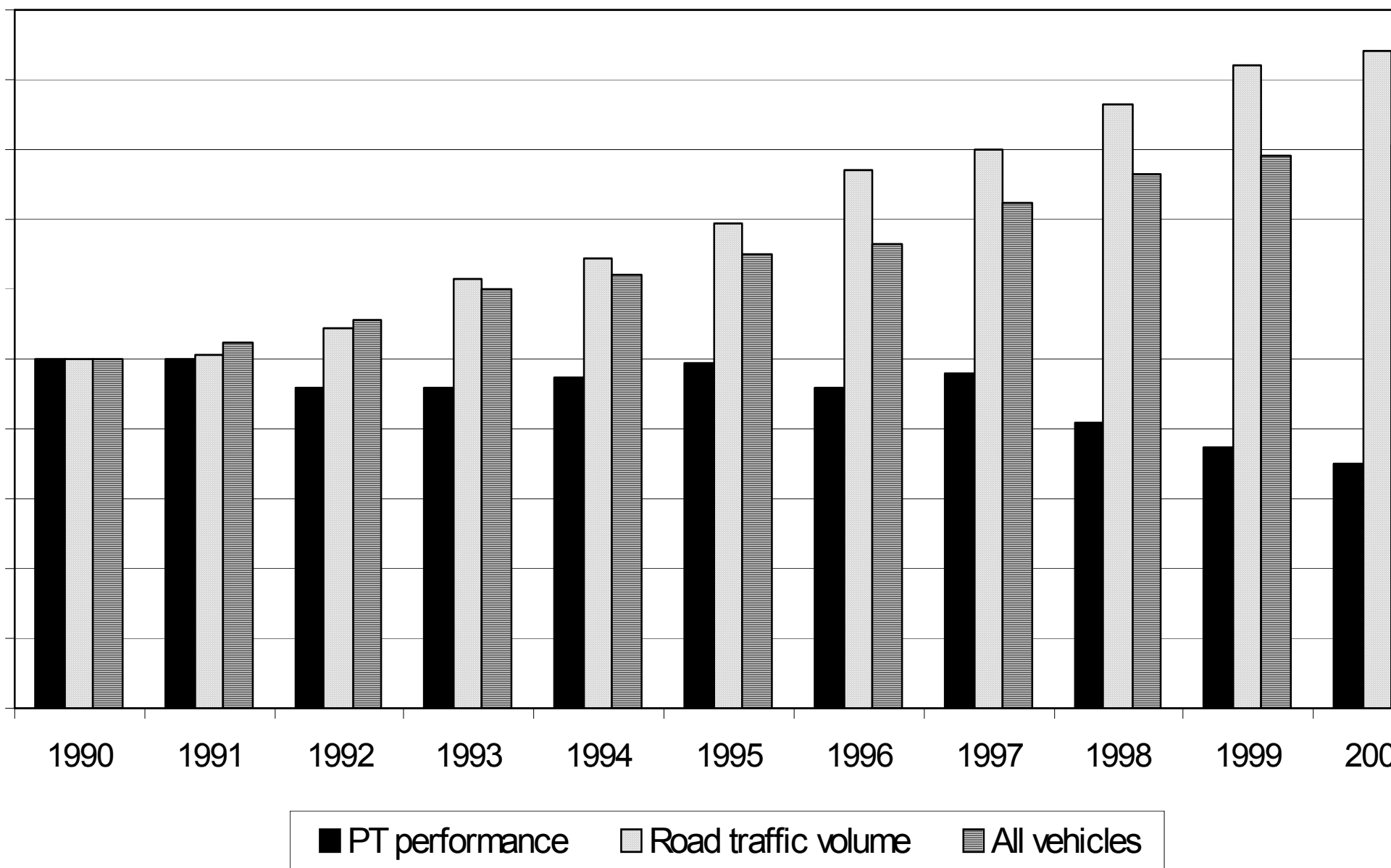
Traffic Volume
(in Mil. Pass. / Year)



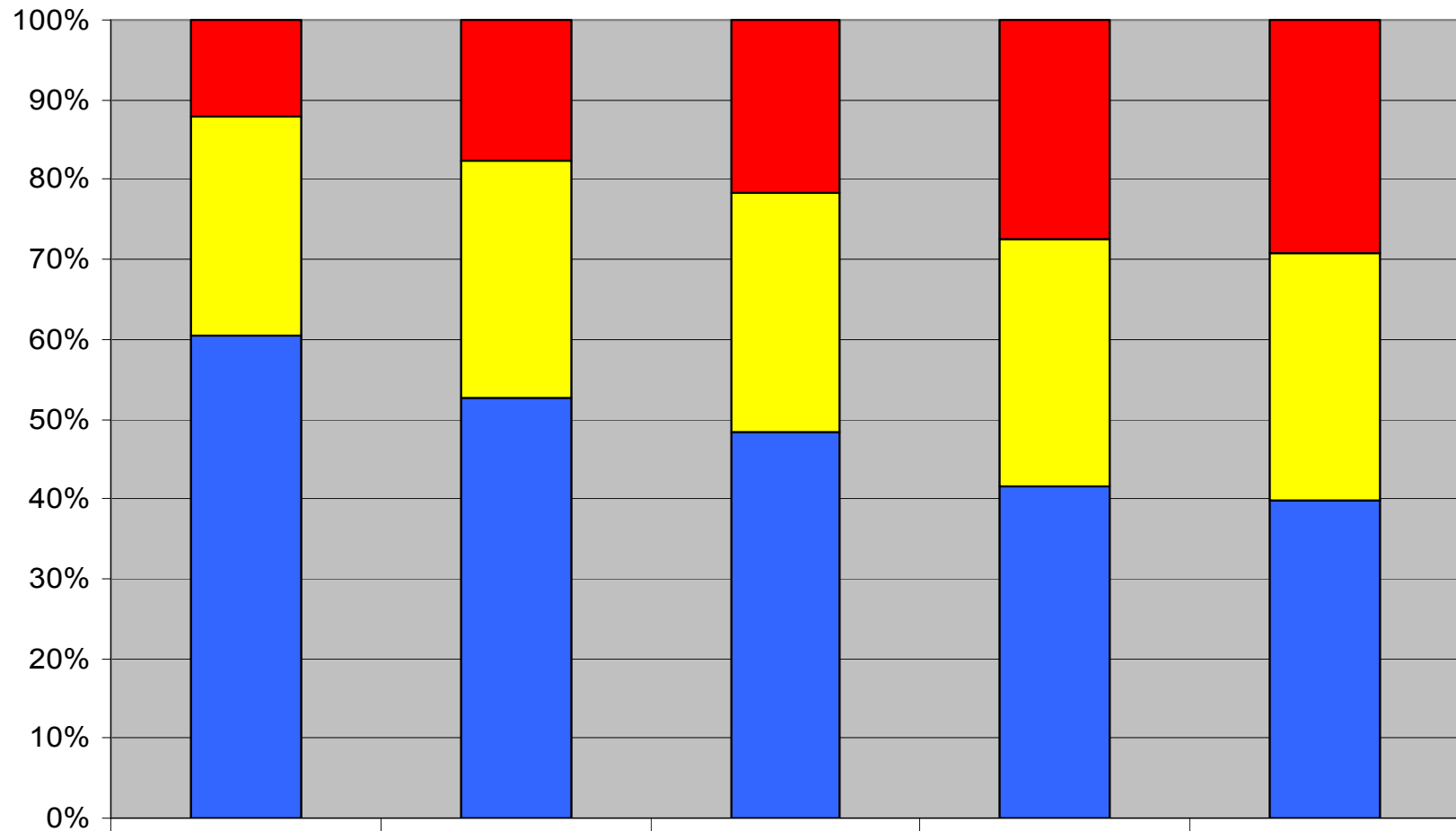
Development of Volume of Cross-Border Passenger Transport in Slovakia in the Years 1989 to 2003



Index of Road Traffic Volume, Public Transport Performance and Number of all Vehicles in Bratislava

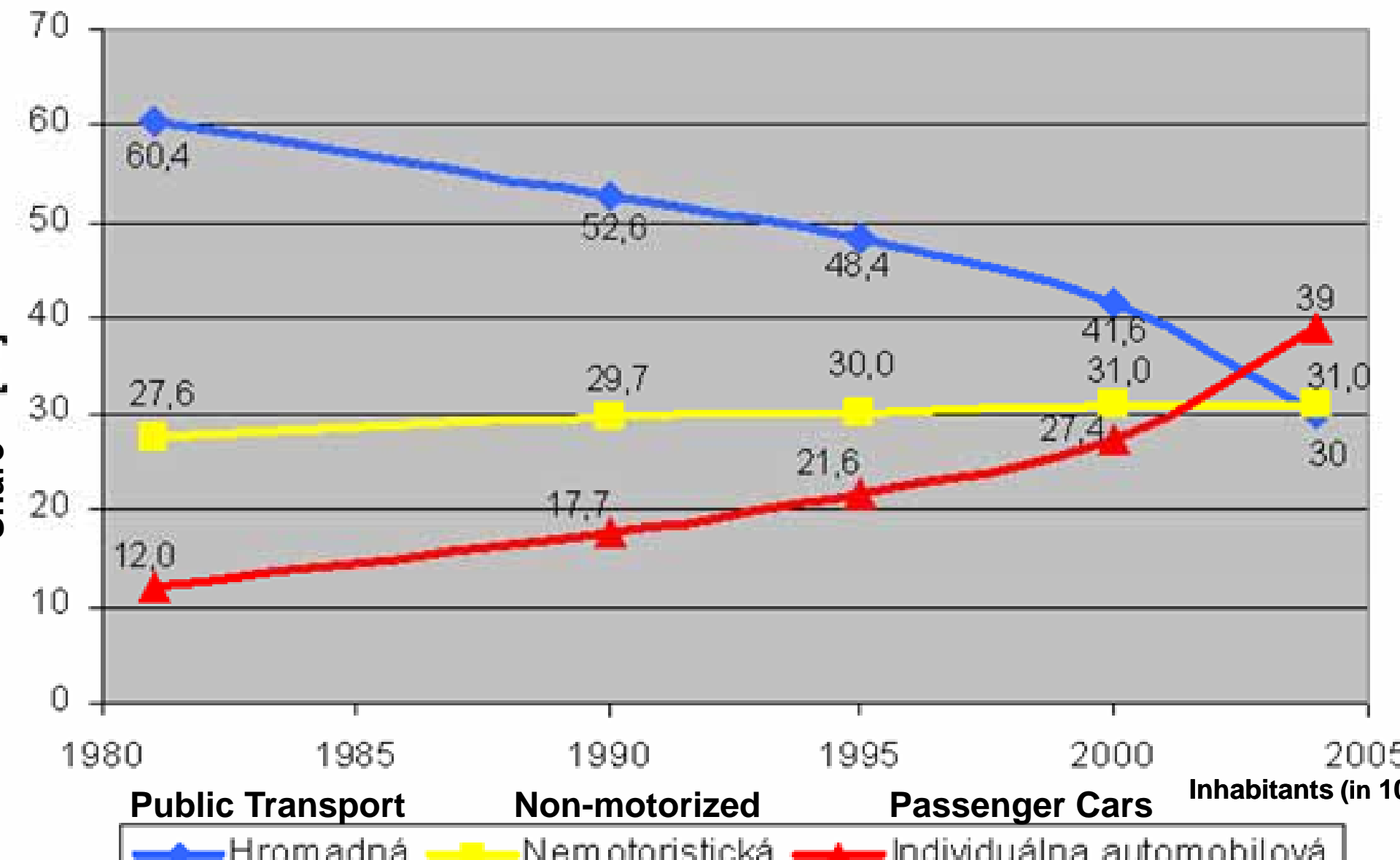


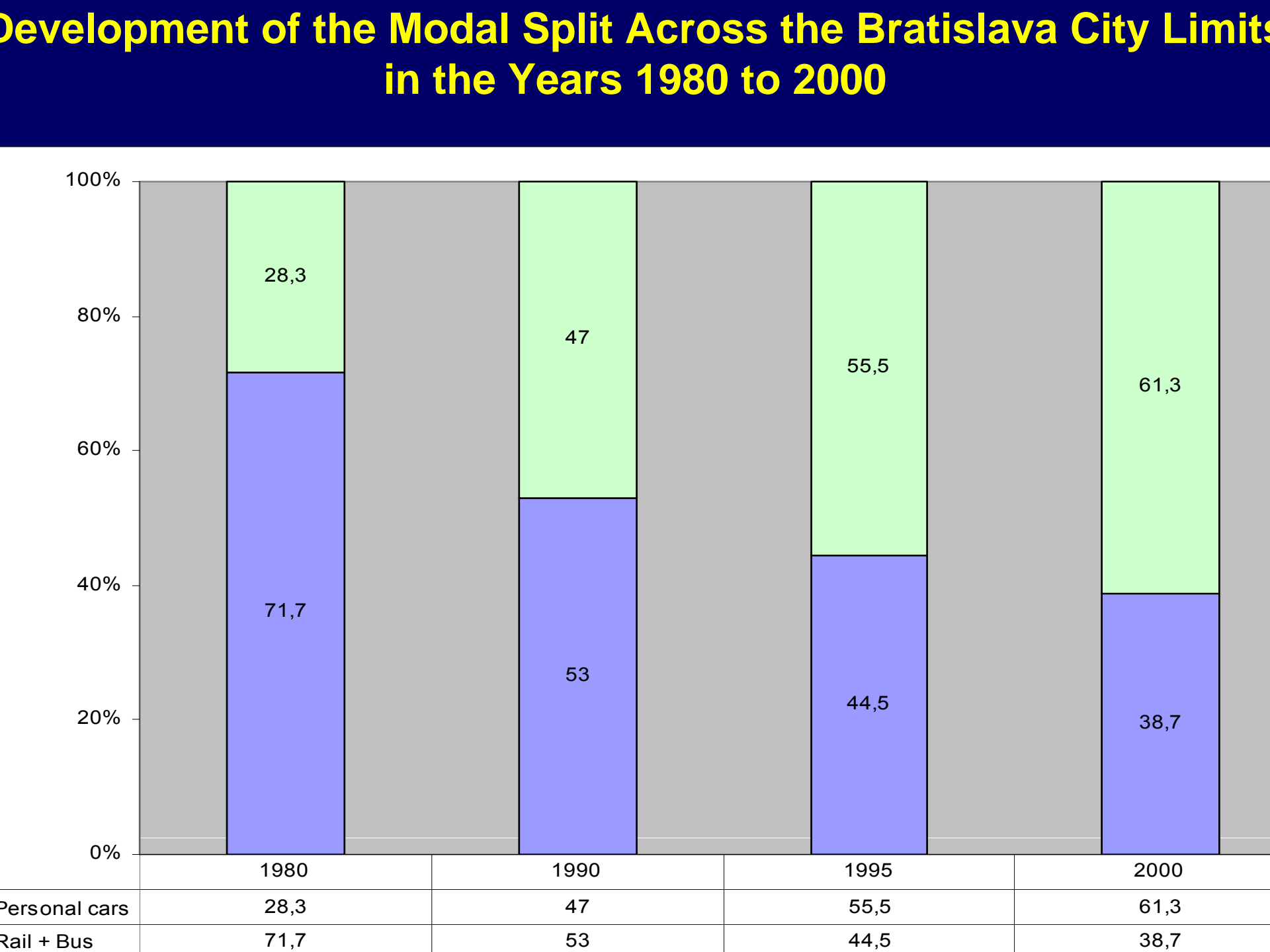
Development of the Modal Split in the City Transport in Bratislava in the Years 1981- to 2004



ID	12	17,7	21,6	27,4	29,2
ND	27,6	29,7	30	31	31
HD	60,4	52,6	48,4	41,6	39,8

Paradoxical Development of Modal Split in the territory of Bratislava in the years 1980 to 2004





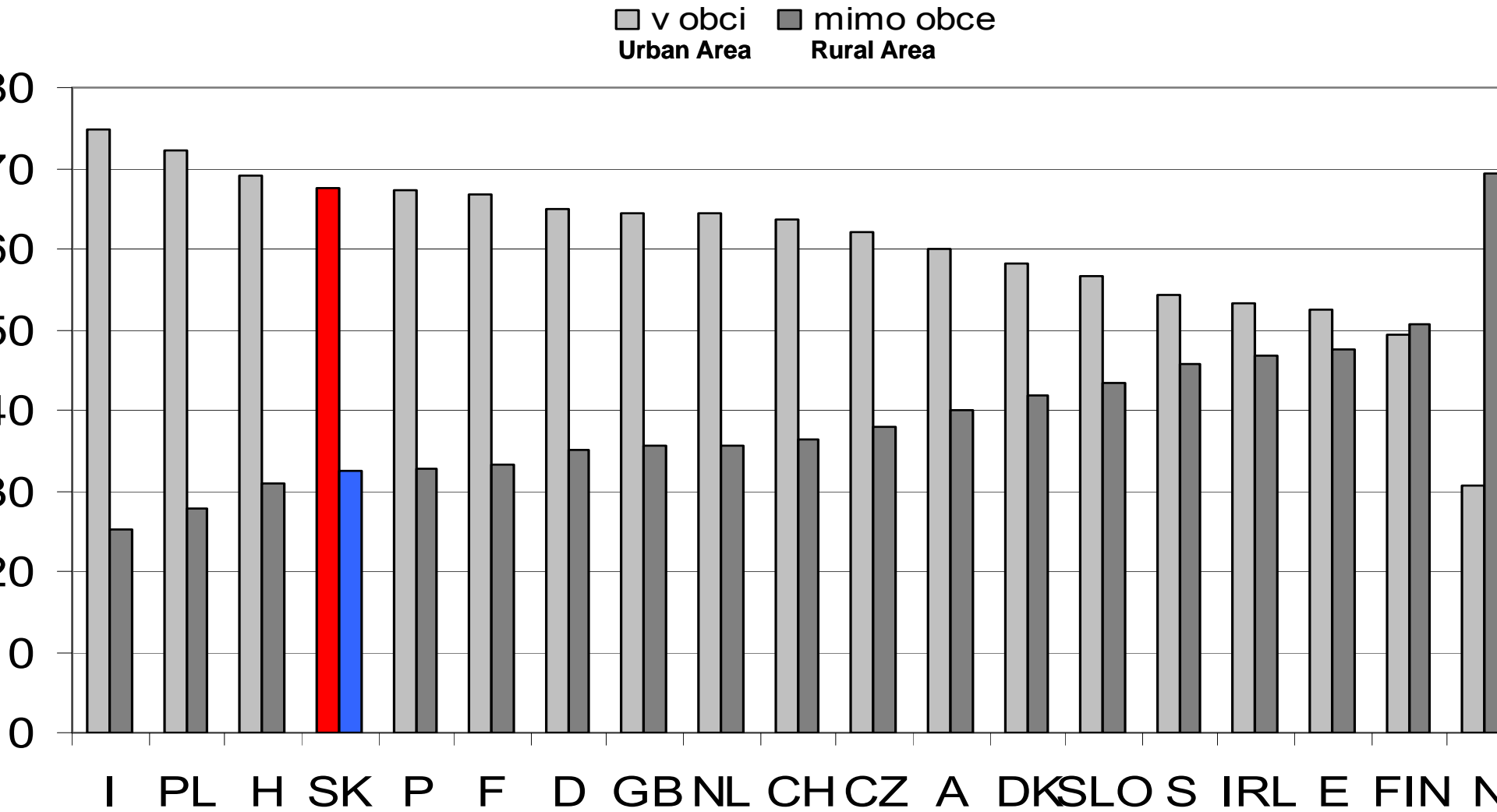
Congested Streets and Crowded Public Space in the City Centrum of Bratislava



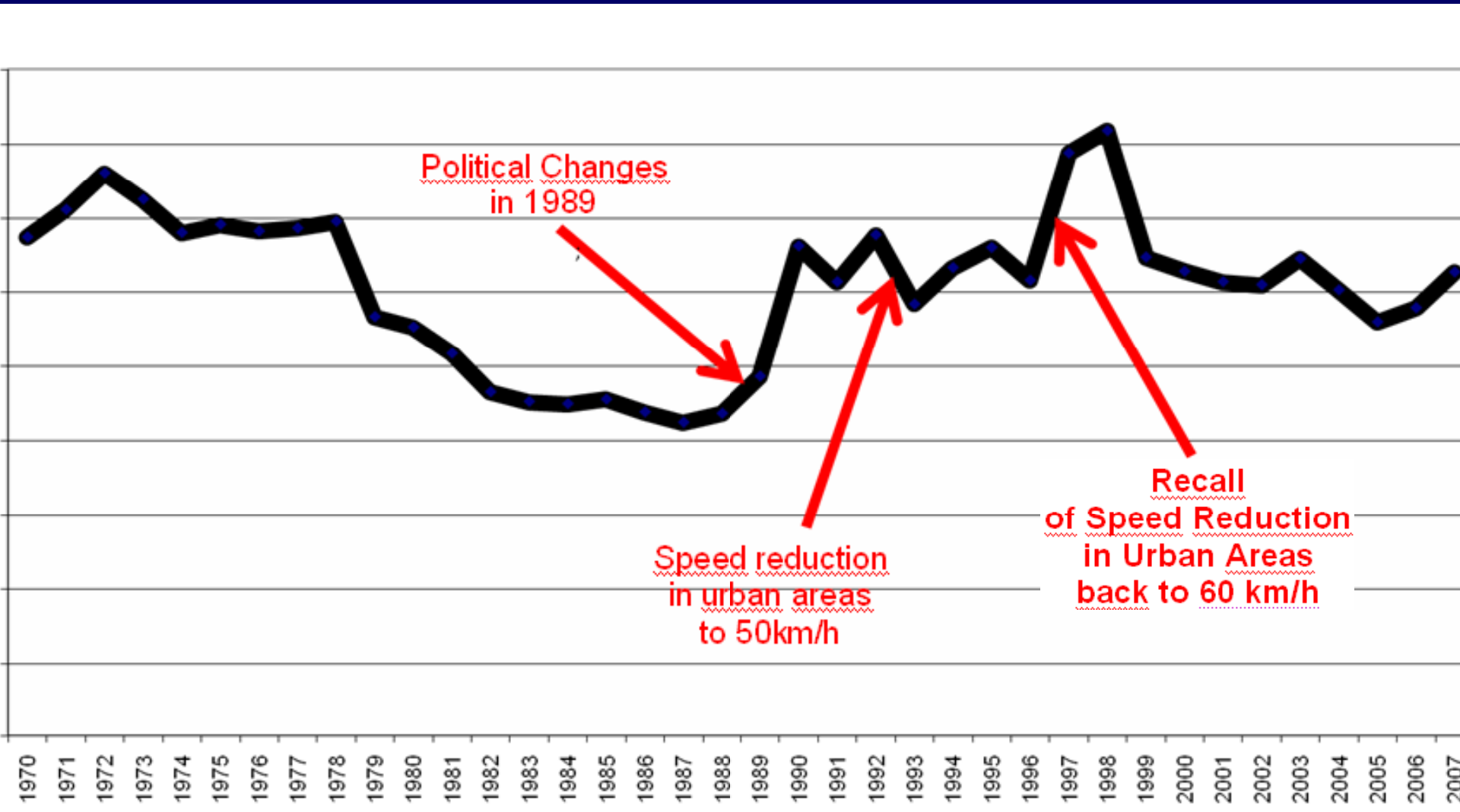
Congested Streets and Crowded Public Space in the City Centrum of Bratislava



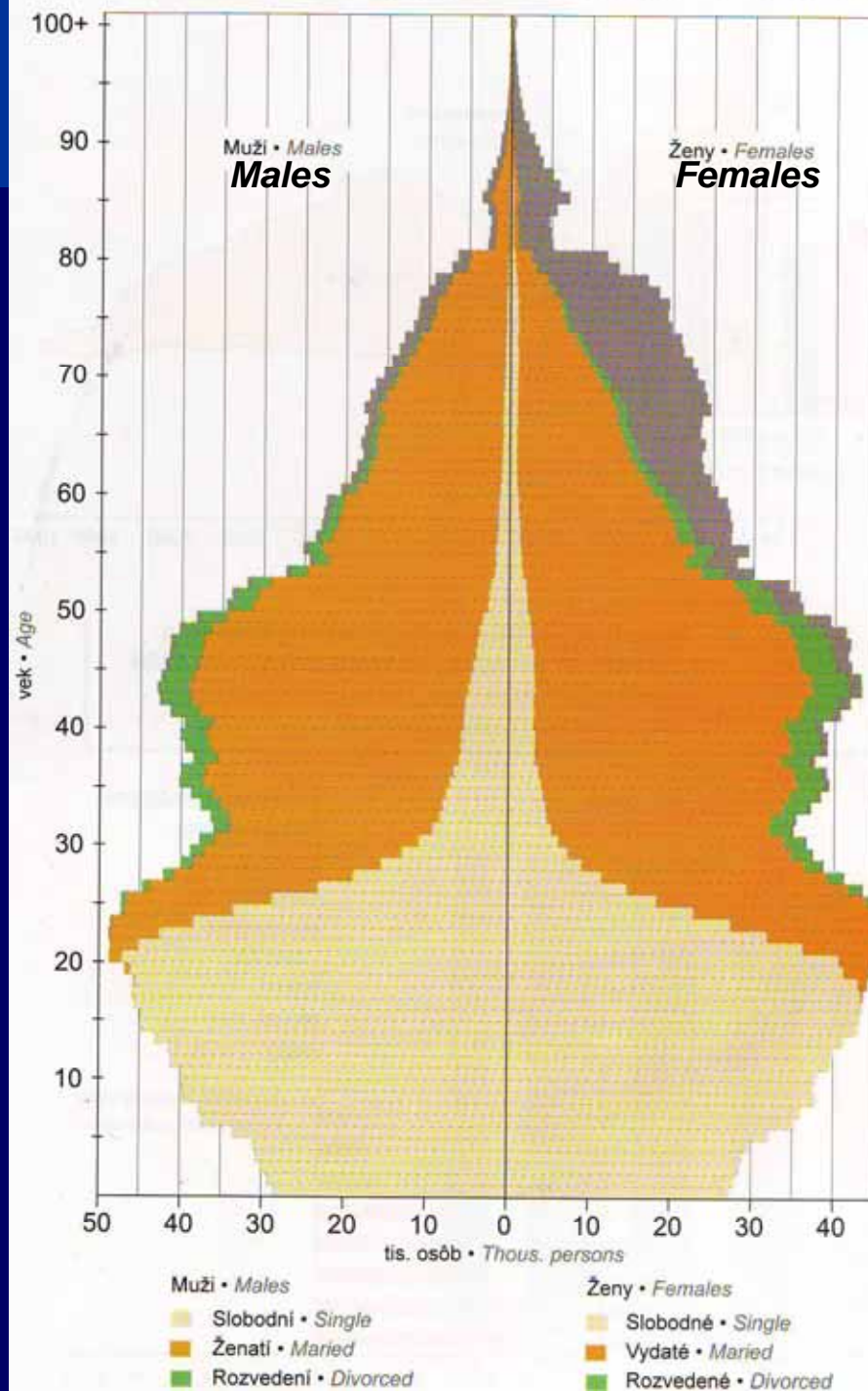
Comparison of Number of Personal Accidents in Different Countries



Development of Number of Killed Persons in Road Traffic in Context to Social and Organisational Factors



Changes in Demographic Profile of Slovakia



Dispersion of Individual Habitation into Surrounding of Cities



Scope of the Recent Research of Specific Spatial and Traffic Characteristics 1989:

Relation Between City Size and Total Road Traffic Volume

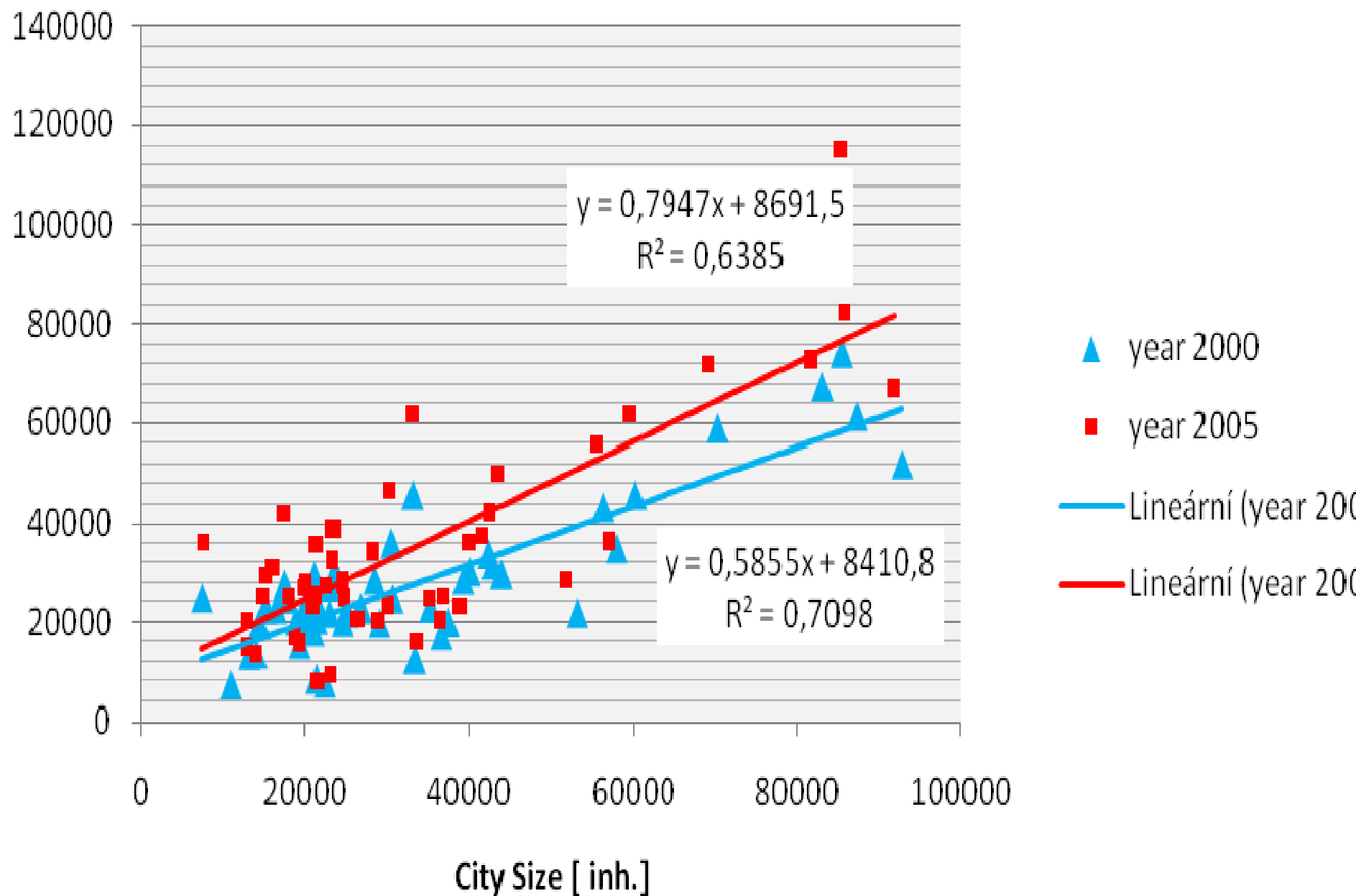
Development of City population Growth in Slovakia in the Years 1970 to 2005

City Population Change in the Selected Cities of Slovakia Classified by Size

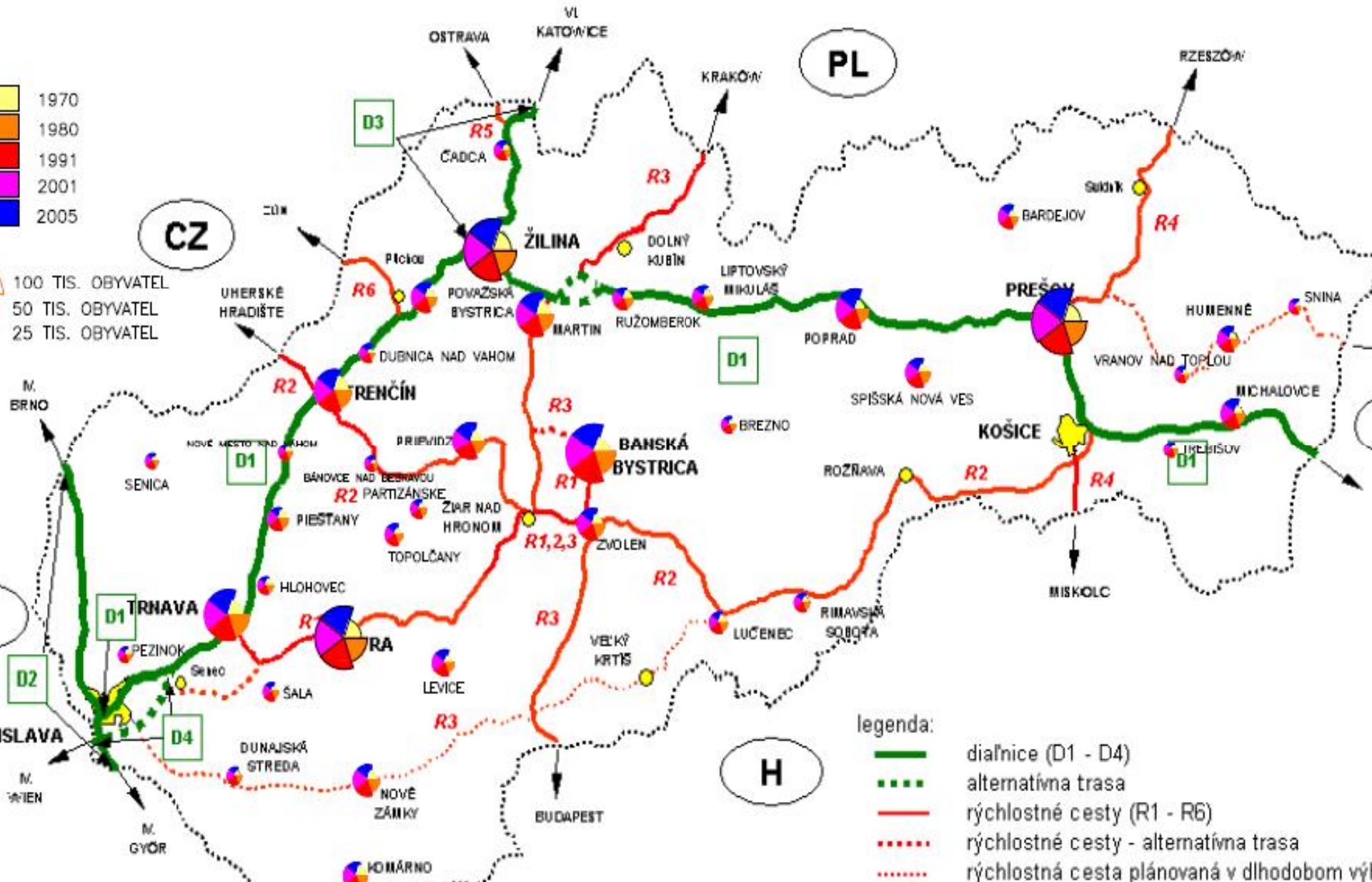
City Population Change in the Selected Cities of Czech Republic Classified by Size

Sub-urbanisation and Changes in the City Density⁴⁸

Relation between City Size and Total Traffic Volume

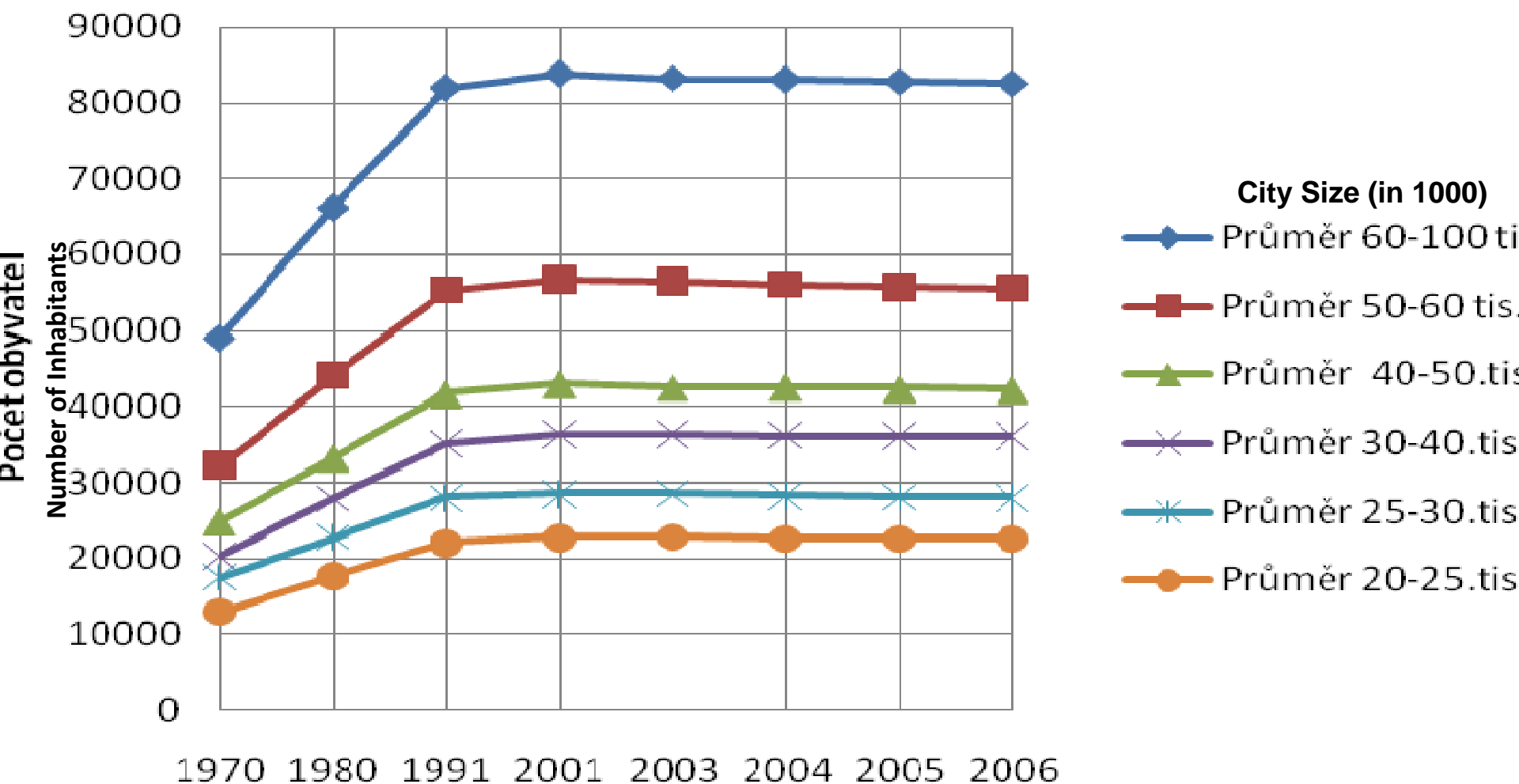


in Slovakia in the Years 1970 to 2005



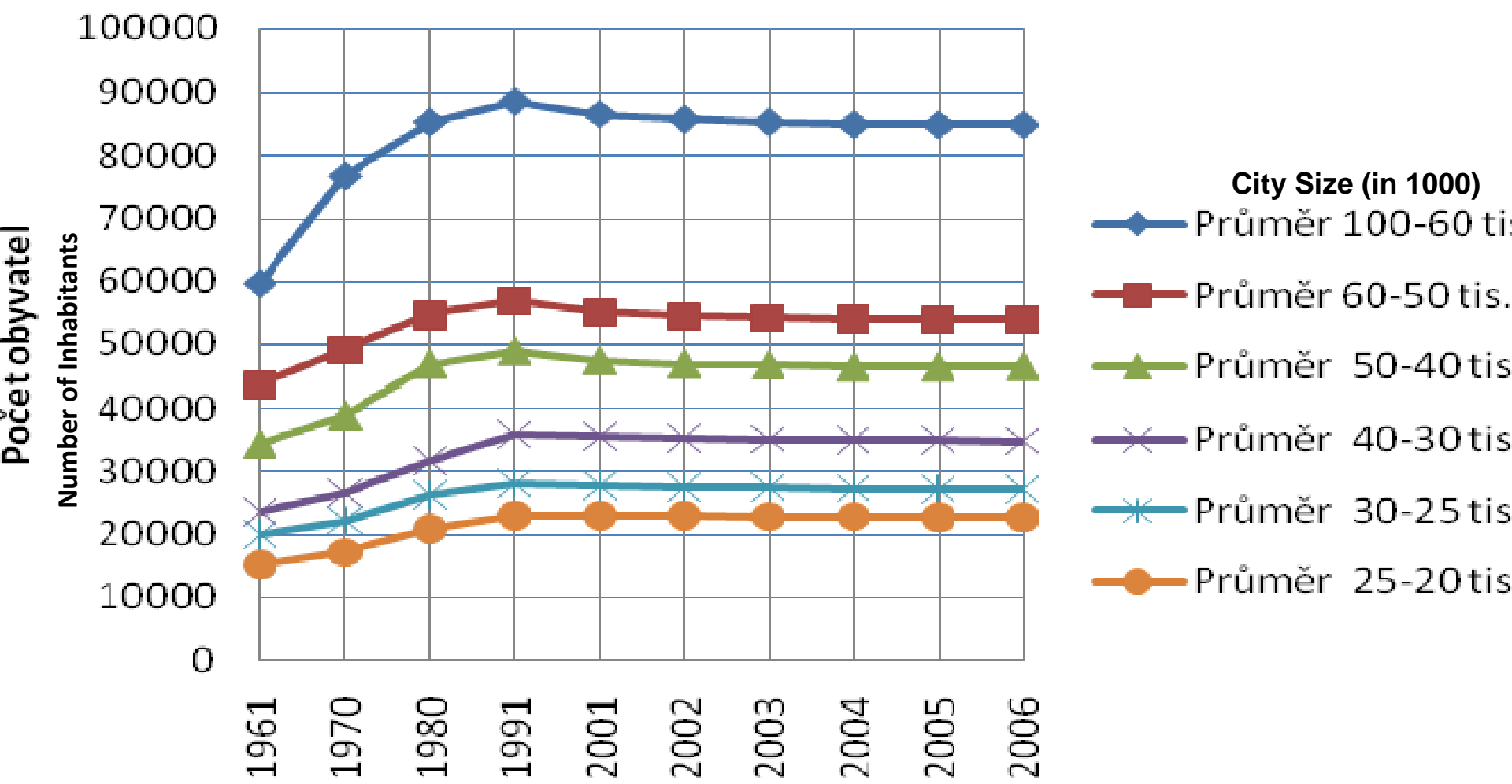
City Population Change in the Selected City Size in Slovakia in the Years 1970 - 2006

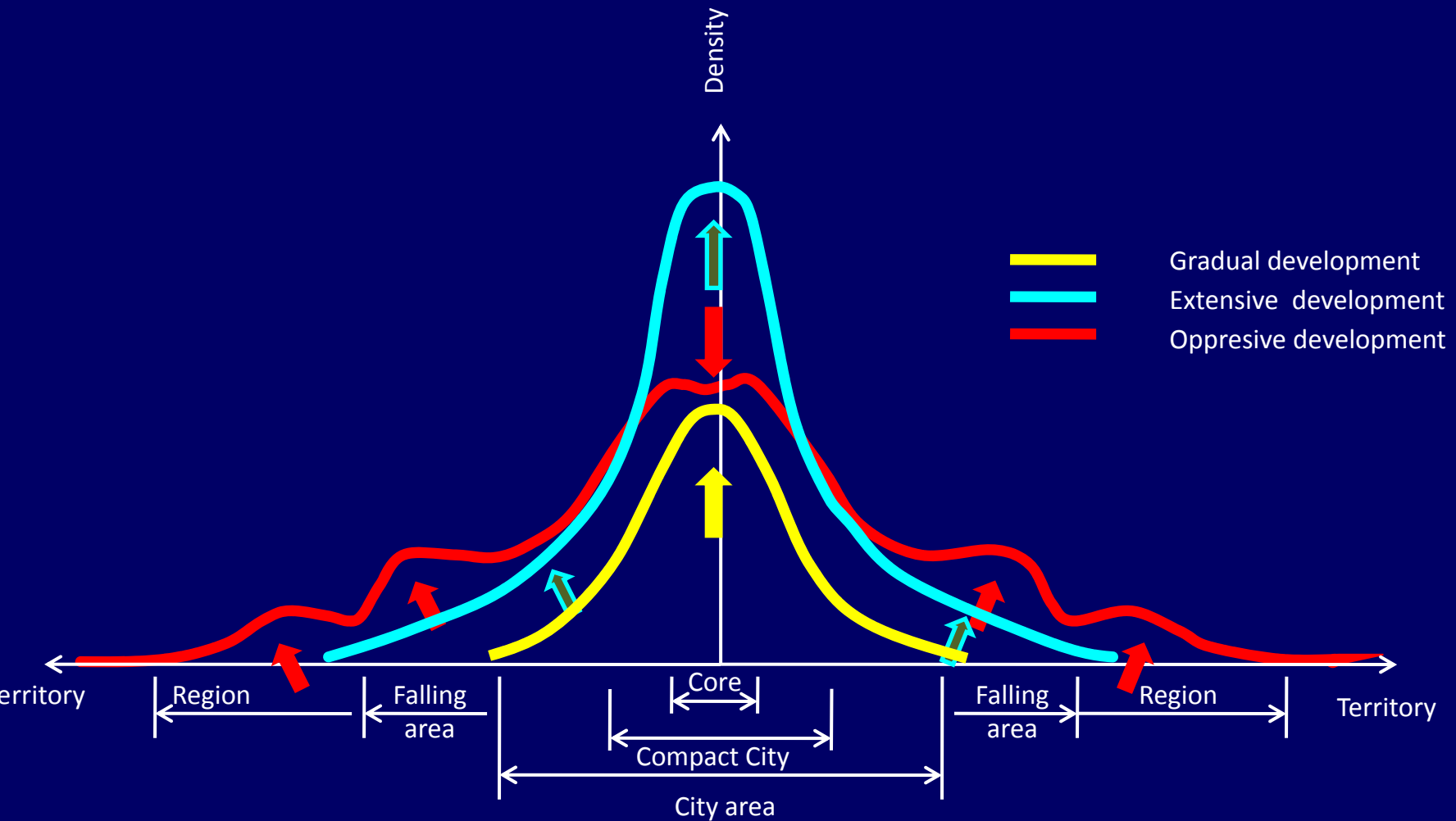
Výpoj průměrných hodnot jednotlivých skupin obcí
SR podle počtu obyvatel



City Population Change in the Selected City Size in Czech Republic in the Years 1970 - 2006

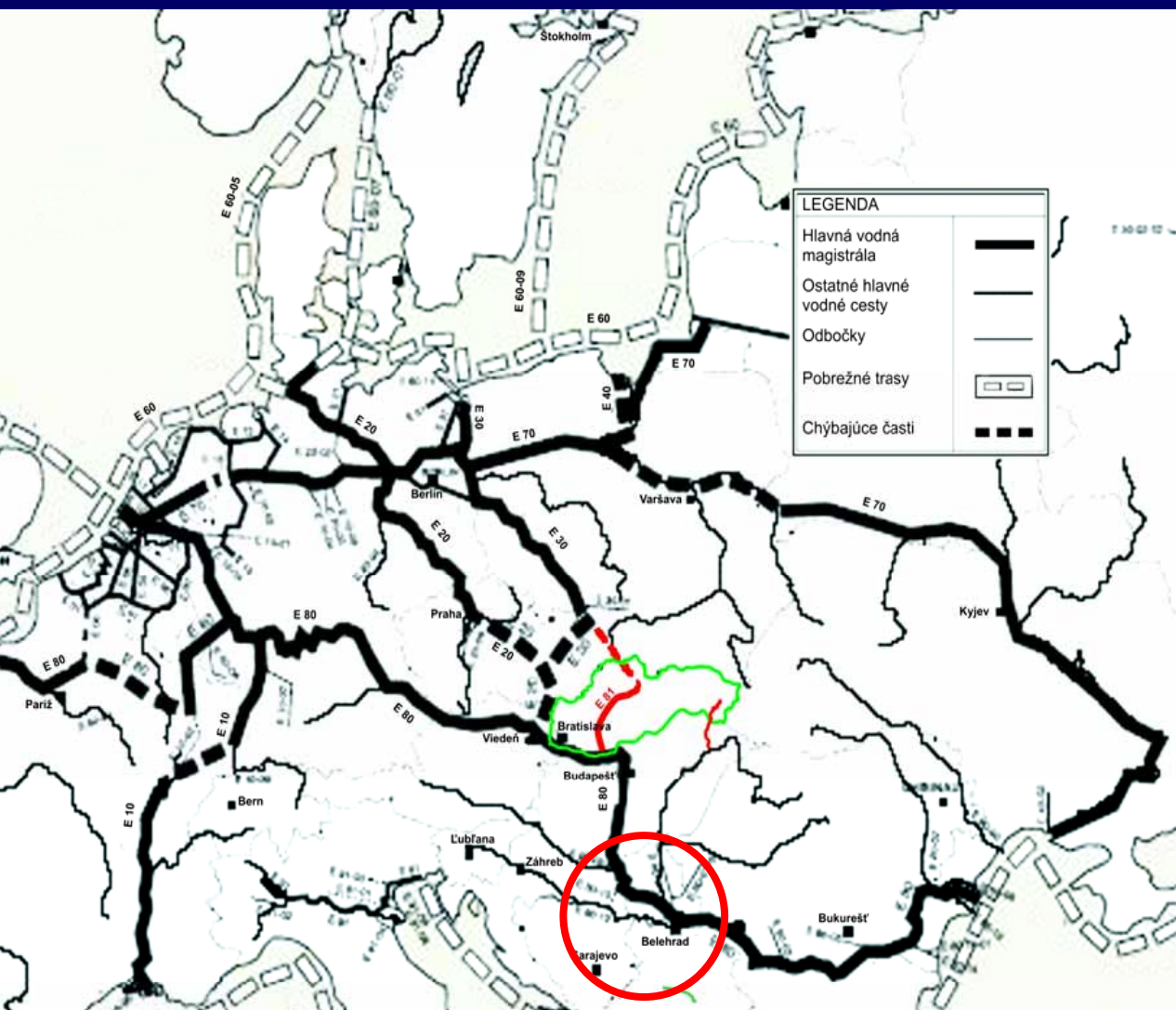
Vývoj průměrných hodnot jednotlivých skupin obcí ČR podle počtu obyvatel





Sub-urbanisation and Changes in the City Density

The Danube Strategy of EU...



... the possibility for closer mutual co-operation

Central European Danubian Region

Geographical and position factors

Accessibility of the territory

Cultural and social diversity

Economic development

Migration of nations

Cross-border cooperation

Transport infrastructure

Research and Education

Action Plan for Danube Strategy ...

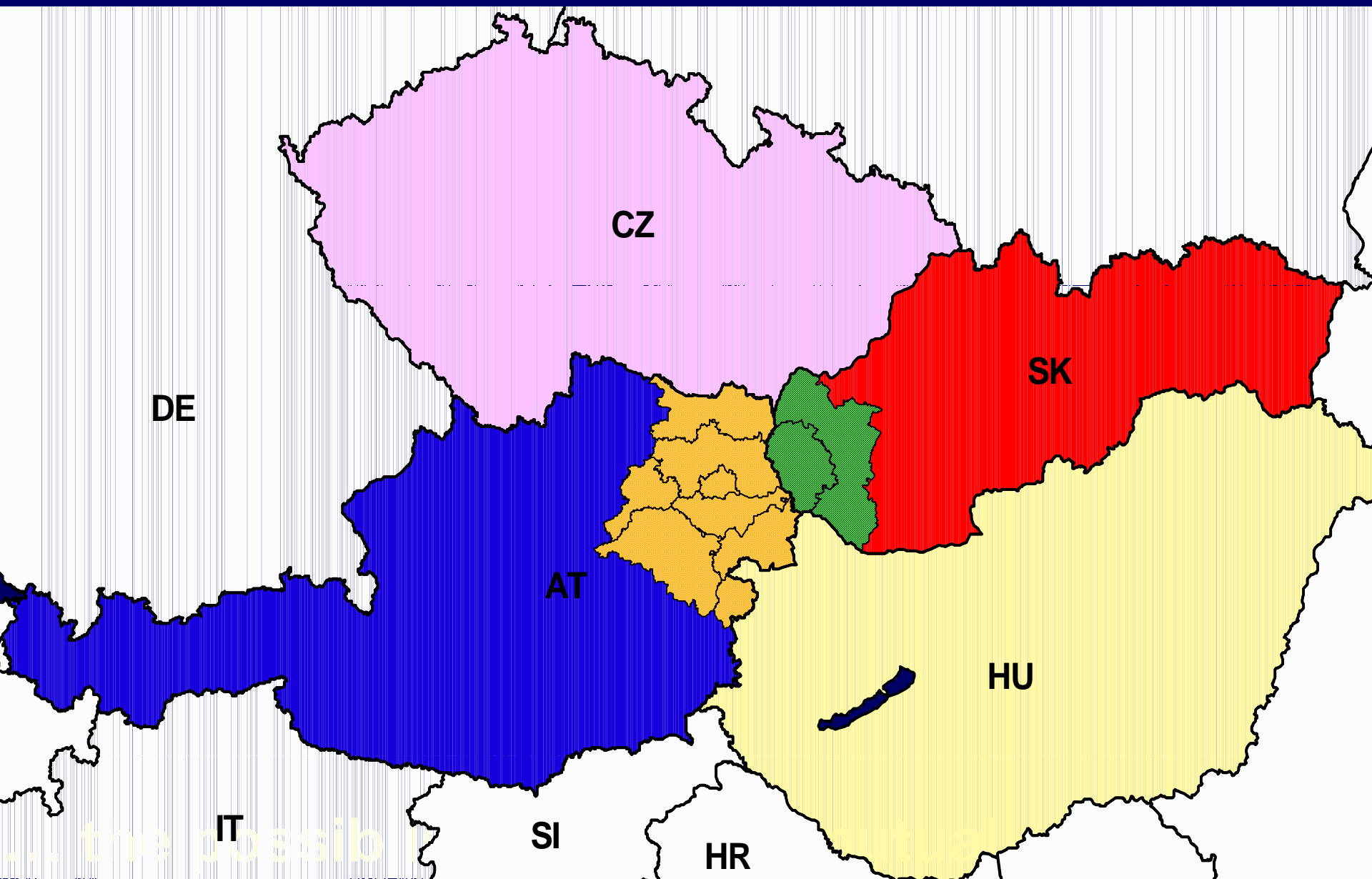
Project 1

Analysis of the Potential for Integrated Intermodal Transport in the Danube Region

Project 2

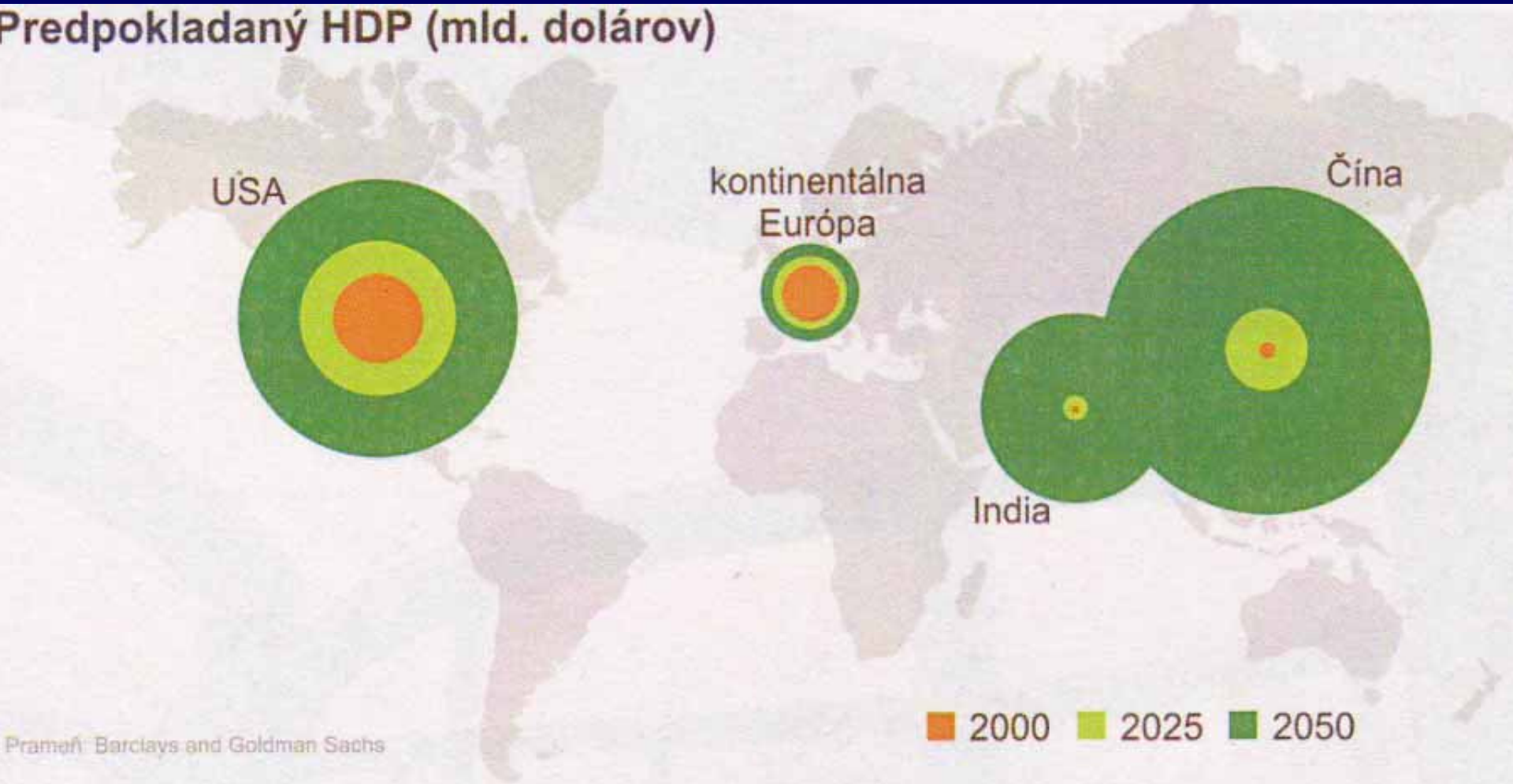
Infrastructure for Integrated Intermodal Transport in the Danube Region

Project 1 - CENTROPE – VKM Traffic Modell



Development of the GDP in USA, China, India and Continental Europe

Predpokladaný HDP (mld. dolárov)



. the potential for Transeuropean Transport Infrastructure - Projekt 2

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since
1992

.... every 3 years

... the possibility for closer mutual co-operation



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The next : May 26 – 27, 2011 in Bratislava, Slovakia

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Thank you for your attention!



