



Transport Data for Modeling

Marek Šturc

European Commission - DG Environment

Directorate C: Climate Change & Air

Unit C5: Energy & Environment

TREMOVE

- Transport and emissions model
- Europe (EU27+)
- Transport demand, modal split, vehicle fleet structure, emissions of air pollutants & welfare level
- 1995-2030
- <http://www.tremove.org/>
- Tremove is “hungry” for data

March 2006

TREMOVE: “Lessons learned”

Lessons learned - Discussion

Available fleet data at EU level is not sufficient

A detailed, consistent and accurate dB is needed on vehicle fleets and mileages

EU project for construction of this dB expe

Lessons learned - Discussion

Discrepancies between EU statistics and national statistics, even on the most essential and aggregate figures

- Germany car pkm (15%)
- Spain truck tkm (~300%)
- ...

=> Time consuming search for consistent input data for TREMOVE

New Transport Data

- European database for the calculation and forecast of pollutant and greenhouse gases emissions
- for TREMOVE, COPERT, TERM, ...
- 2000-2005
- EU-27 + Croatia, Turkey, Switzerland & Norway
- Road vehicles + locomotives, inland ships, maritime vessels, non military airplanes
- Consortium will deliver results in April 2008



EnviCon

- Database will be publicly available

New Data: Example 1

Sector	Subsector	Technology	2000	2005
Passenger Cars	Gasoline >2,0 l	PRE ECE	10 210	10 268
		ECE 15/00-01	7 122	6 075
		ECE 15/02	4 423	2 802
		ECE 15/03	11 083	6 784
		ECE 15/04	79 656	29 618
		PC Euro I - 91/441/EEC	307 178	47 647
		PC Euro II - 94/12/EEC	167 517	41 416
		PC Euro III - 98/69/EC Stage2000	42 213	67 467
		PC Euro IV - 98/69/EC Stage2005	-	15 100
		PC Euro V (post 2005)	-	-
Light Duty Vehicles	Diesel	Conventional	122 444	93 518
		LD Euro I - 93/59/EEC	6 565	7 297
		LD Euro II - 96/69/EEC	14 438	15 714
		LD Euro III - 98/69/EC Stage2000	51 005	111 622
		LD Euro IV - 98/69/EC Stage2005	-	13 645
		LD Euro V - 2008 Standards	-	-
Heavy Duty Trucks	Rigid 20 - 26 t	Conventional	4 748	4 233
		HD Euro I - 91/542/EEC Stage I	653	734
		HD Euro II - 91/542/EEC Stage II	845	959
		HD Euro III - 2000 Standards	218	1 243
		HD Euro IV - 2005 Standards	-	-
		HD Euro V - 2008 Standards	-	-

New Data: Example 2

Passenger vehicles – Austria 2005

Number of Registered Vehicles		
Gasoline		2 145 831
Diesel		2 010 912

Total vehicle-kilometres (Million veh-km)		
Gasoline		22 845
Diesel		31 527

New Registrations		
Gasoline		107 681
Diesel		199 694

Urban Roads (Million veh-km)		
Gasoline		6 664
Diesel		9 196

Annual Mileage per Vehicle (km)		
Gasoline		10 646
Diesel		15 678

Rural Roads (Million veh-km)		
Gasoline		8 529
Diesel		11 769

Average Urban Speed (km/h)		30
Average Rural Speed (km/h)		67
Average Highway Speed (km/h)		118

Highways (Million veh-km)		
Gasoline		7 653
Diesel		10 562

Light Duty Vehicles

Directive 70/156/EEC *ANNEX II*

Definition of vehicle categories and vehicle types

- **Category M1:** Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat.
- **Category N1:** Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3,5 tonnes.

“Pour le fisc, ceci est une camionnette”



Problems in disaggregated data ...

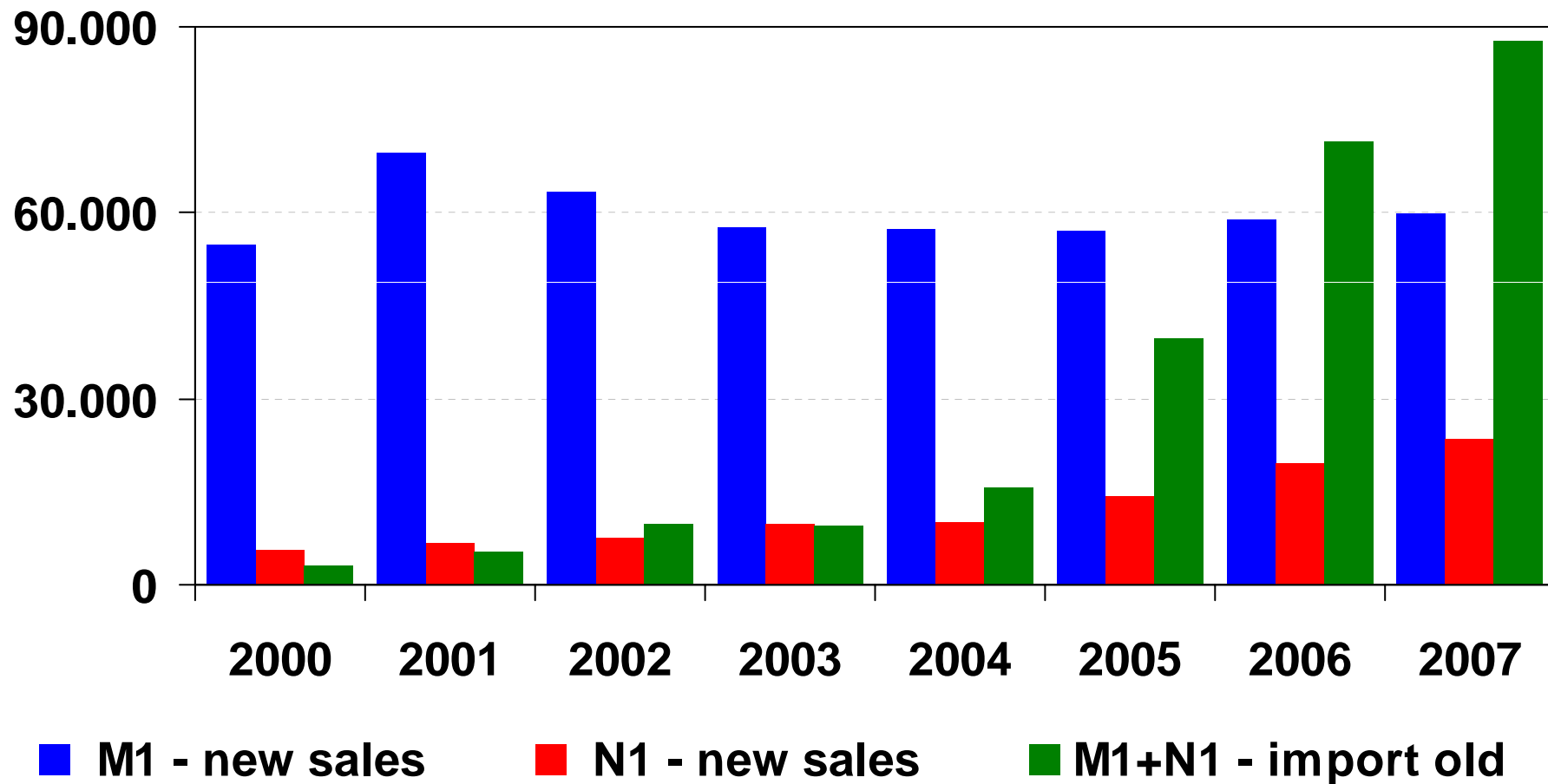
2007, Czech Republic: N1 vs. M1

	M1 - sales (new cars)	N1 - sales (new cars)	M1 - import (old cars)	N1 - import (old cars)
Audi	1 621	1 719		
BMW	1 355	1 323		
Porsche	89	81		
Volvo	813	827		
CR total	132 542	62 038	212 869	10 619

M1 – passenger cars

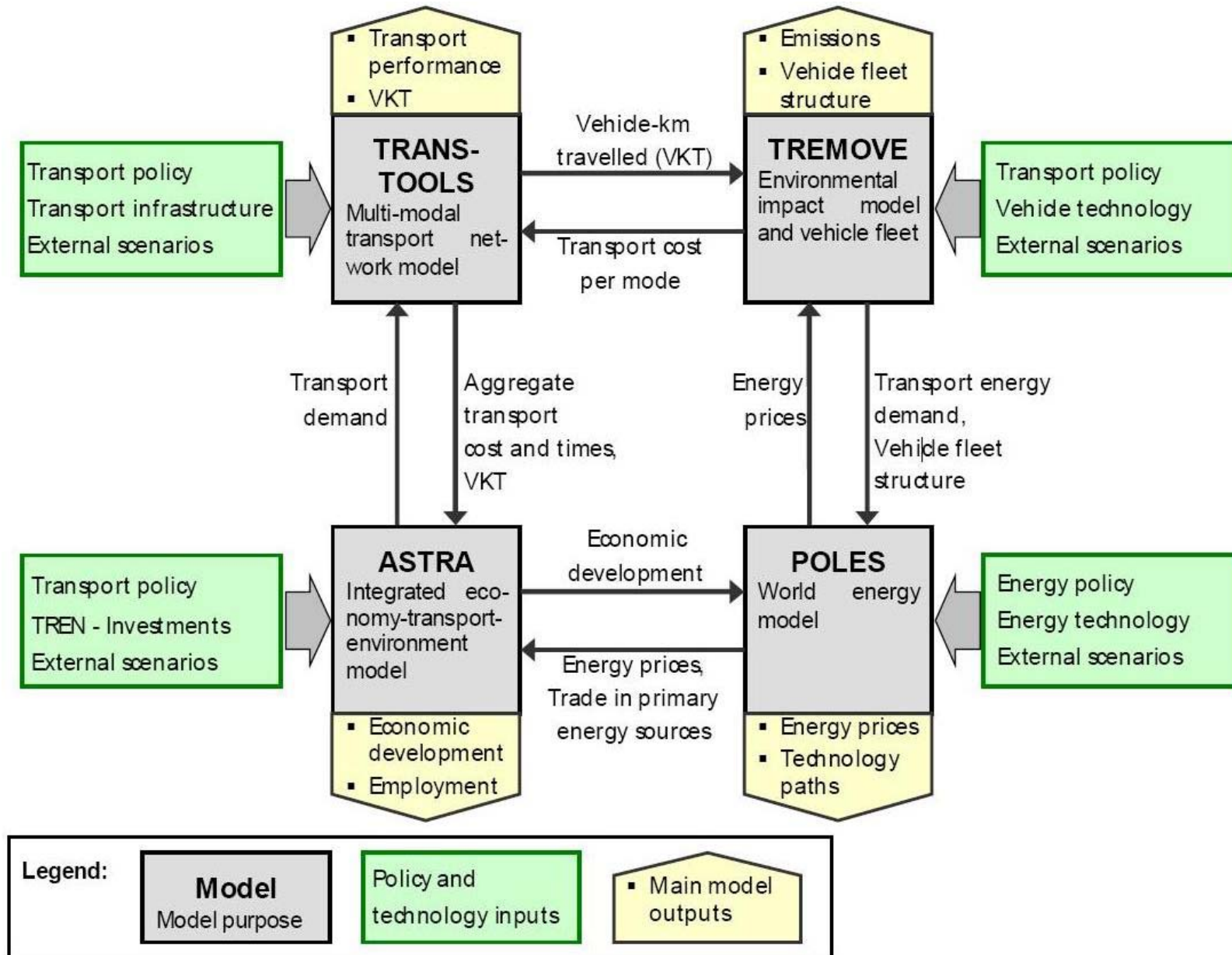
N1 – light utility vehicles

Slovakia: in addition to increased share of N1, after joining the EU the import of old vehicles quickly surpassed the sales of new vehicles.



Data source: <http://www.zapsr.sk/>

iTREN-2030 project



Useful links

Road data: <http://lat.eng.auth.gr/copert/>

Non-road data: <http://www.ex-tremis.eu/>

iTREN-2030:

<http://www.isi.fraunhofer.de/projects/itren-2030/>

TREMOVE: <http://www.tremove.org/>



Thank you!

marek.sturc@ec.europa.eu