



# The UNDA project and the ForFITS model

Working Party on Intermodal Transport and Logistics (WP.24) and Working Party on Rail Transport (SC.2)

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# UNDA project

Characteristics, objectives and expected achievements



## Project characteristics

- Duration: 3 years (January 2011 – December 2013)
- Leading agency: UNECE
- Implementing entities: ECA, ECLAC, ESCAP & ESCWA

## Objectives and expected achievements

- Support for policy decisions aimed at the mitigation of GHG emission in inland transport
- Development of a monitoring and assessment tool for CO<sub>2</sub> emissions in inland transport, including elements concerning:
  - vehicles and types of propulsion systems
  - energy sources
  - transport infrastructure
  - Road, rail, and inland waterways
  - The model is closely related to transport , energy and CO<sub>2</sub> emission statistics
- Capacity building workshops in all UN Regional Commissions are included, with the aim to explain the analysis tool and its use



# UNDA project

## Milestones



### Global Status Report (finalized and published, [available on-line](#))

- Overview of available numerical information (statistics, technical analyses), concerning transport, energy and GHG emissions (mainly CO<sub>2</sub>)
- Analysis of policies aimed to the mitigation of GHG emissions in transport
- Review of models dealing with the analysis of transport GHG emissions and mitigation policies
- Recommendations for the improvement of transport statistics and the ForFITS model

### Concept note containing the draft methodology ([available on-line](#))

- Reviewed by selected experts
- Contains the definition of the main characteristics of the modelling tool

### Meeting of the reviewers and International Expert Meeting (April 2012)

- Presentation of the draft Global Status Report
- Presentation of an outline of the ForFITS model
- Discussion of comments received from the review panel

### Model development

- Started in July, building on the previous milestones
- **Model prototype expected by the end of the year 2012**



# UNDA project

## Future steps



### Development of the modeling tool (2012)

- Development of the prototype
- Overall verification and validation
- Identification of interested partners for case studies

### Regional calibration (early 2013)

- Preparation of the user manual
- Regional verification and validation
- Application to case studies and pilot phase

### Dissemination and capacity-building (2013)

- Organization of capacity-building workshops and training sessions
  - with other UN Regional Commissions
  - with interested partners

### Final Step (end 2013)

- Project evaluation





# ForFITS

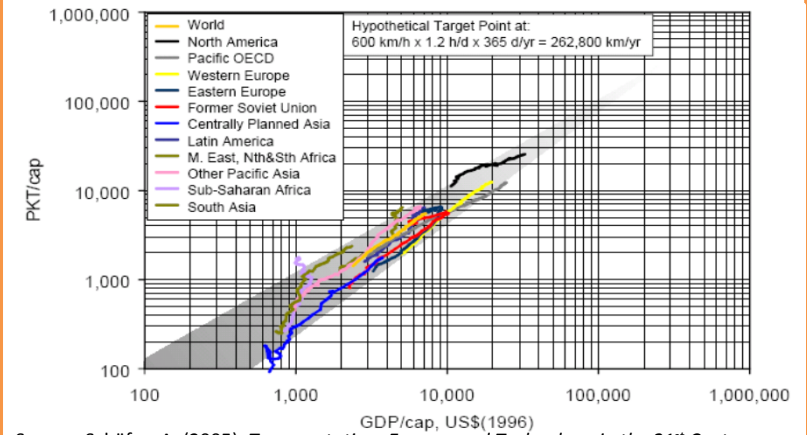
Framework and demand generation

## ASIF (Activity, Structure, Intensity, Fuel cons.) framework

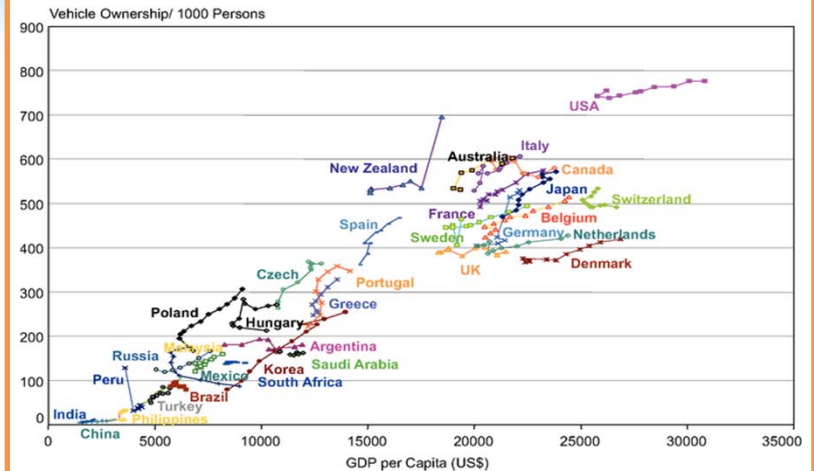
- It allows the evaluation of transport activity, fuel consumption and fuel-based emissions (CO<sub>2</sub>) (as well as travel-based emissions, eventually)
- It assures transparency (no black-box: all relationships are based on data that can be clearly identified with measureable information and/or statistics)

## Demand generation based on demographic and socio-economic data

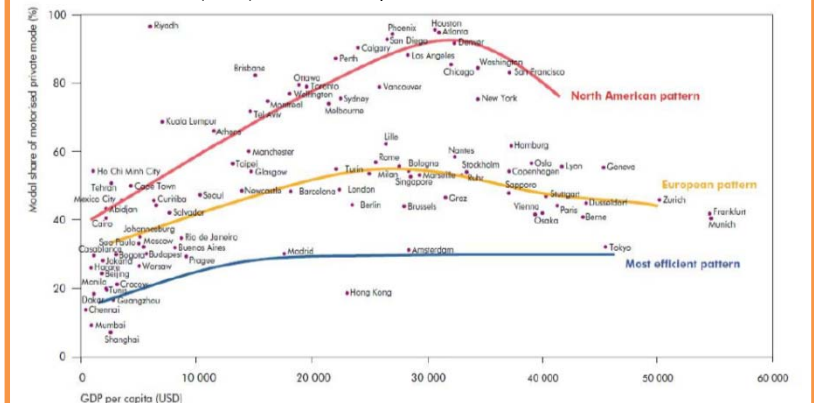
- Tkm function of GDP and as a result of characteristic patterns of development (e.g. focus on the extraction of primary materials, industry and manufacturing, services)
- Pkm, car ownership, use of public transport from GDP per capita, fuel prices, and characteristic development patterns (e.g. related with urban density)
- Way simpler than origin and destination (whose accuracy depends on the data available...)



Source: Schäfer, A. (2005), *Transportation, Energy, and Technology in the 21<sup>st</sup> Century*



Source: World Bank (2004), *World Development Indicators*



Source: IEA (2008), *Energy Technology Perspectives*



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# ForFITS

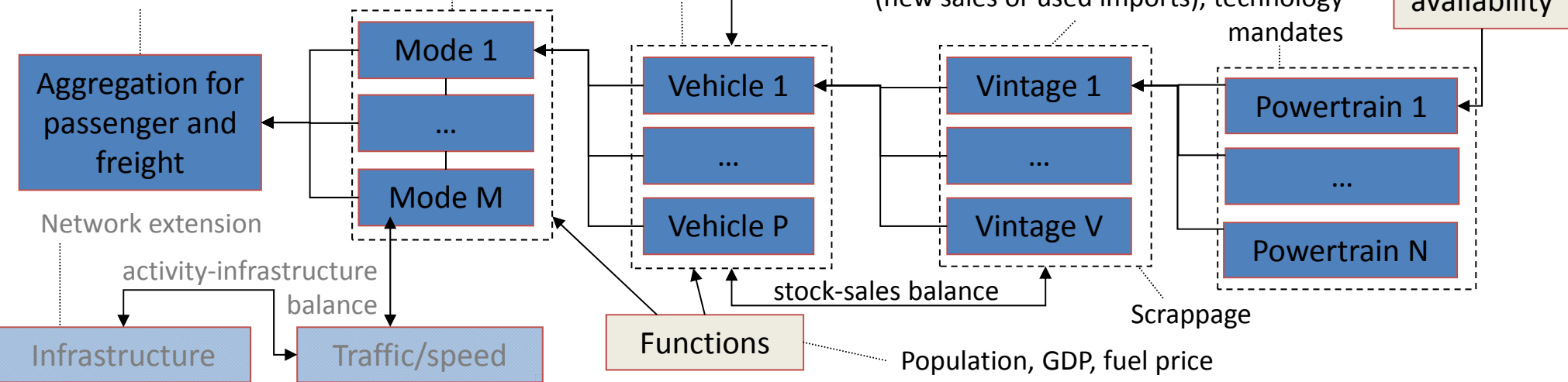
## Simplified structure

- Vehicles classified by... **service** (passenger, freight), **mode**, **class & powertrain**
- Fuels classified by **blend** and **pathway**
- **Different areas** (e.g. urban or not) in each region/country

Road & rail (passenger & freight) transport included as modes and in different vehicle classes, e.g.:

- Road freight: service trucks, medium & heavy long-haul trucks
- Passenger rail: trams, metros, intercity and high speed passenger trains

Vehicle number, load, vehicle activity (stock), passenger and freight activity, fuel consumption, emissions, total costs





# For more information...



## UNDA project

[http://www.unece.org/trans/theme\\_forfits.html](http://www.unece.org/trans/theme_forfits.html)

- Review on statistics, mitigation policies, and modelling tools

[http://www.unece.org/fileadmin/DAM/trans/doc/themes/2012 - UNECE -  
\\_Global Status Report October 2012 - final version.pdf](http://www.unece.org/fileadmin/DAM/trans/doc/themes/2012_-_UNECE_-_Global_Status_Report_October_2012_-_final_version.pdf)

- Methodology

[http://www.unece.org/fileadmin/DAM/trans/doc/themes/2012 - UNECE -  
\\_Draft Concept document on ForFITS.pdf](http://www.unece.org/fileadmin/DAM/trans/doc/themes/2012_-_UNECE_-_Draft_Concept_document_on_ForFITS.pdf)

- International Expert Meeting

<http://www.unece.org/?id=29350>

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