

ITF work on MoMo:

Urban and Freight Modules

Rio+20 Voluntary Commitments to Sustainable
Transport

April 2013

GDP and Macroeconomic context

- GDP module: neoclassical growth model covering 170+ countries to feed the passenger and freight transport modules
- **4 growth scenarios**
 - High or low convergence to global technology frontier
 - Closing of “output gap”
 1. *Per capita income convergence*
 2. *Change in relative sizes of economies*
- **Oil price** scenario logic (using IEA scenarios)
 - High GDP -> high oil prices
 - Low GDP -> low oil prices



Urban Motorized Travel Model

- Separate model of urban passenger travel focussing on effects of income, fuel price and public transport and road supply on the level and distribution of demand for cars, 2-wheelers and public transport.
- MoMo compatible through a tool to account for weight of urban demand in country demand.
- UN classification of urban agglomerations.
- Simulate km per capita by city type and by mode:
 - **Surface**
 - **Urban Density**
 - **GDP/capita (PPP)**
 - **Fuel Prices**
 - **Road and Public Transport Provision**



Urban Motorized Travel Model

- First application: Latin American Cities
- Methodology adaptable to other regions as transport related variables for a sample of cities becomes available (near future: India).

Intermediate Models	Source of Information
Urban GDP by Agglomeration Type (National Population-National GDP Concentration)	Mc Kinsey City Scope
Surface/ Density (population growth-surface growth)	CAF/Demographia
Urban Population Simulation 2025-2050	Following UN Methodology
Road Provision (km/capita) /Public Transport (km operated /capita) (density, GDP)	Relations for Latin America that will be revised for each region (CAF)
Car ownership Model (S-based curves depending on fuel prices, road provision, GDP per capita, public transport provision).	GIZ (fuel prices) Relation between ownership and surface to car per capita km (CAF) Car ownership historic data country city governments
Moto ownership Model (S- based curves depending on fuel prices, road provision, GDP per capita, public transport provision).	Relation between ownership per capita km (CAF) Moto ownership historic data country city governments

Freight Module

- GDP expressed as production and trade converted to transport volumes (tkm)
- **Modal choice probabilities** assigned to goods and distances
- *High convergence (high GDP scenario) is based on openness (share of trade in GDP)*
 - *Higher value added goods -> demand for air freight*
 - *Larger economy -> more products traded*
 - *Different geography, new corridors*



Thank you

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