International Transport Forum

Urbanisation and Low Carbon Sustainable Transport

Aimée Aguilar Jaber

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OECD

ITF Urban Transport Model

Global passenger transport trends and impacts increasingly defined by changes in these variables in urban areas:

- Economic activity
- Land Use
- Fuel prices
- Road infrastructure
- Public transport service (Quality and quantity)

ITF Urban Transport Model

What we did:

- Simulated urban evolution based on average agglomeration classes (UN definition)
- Created an “urban front-end” to the IEA Mobility Model (MoMo).
- Modeled mobility, modal shares, CO2 emissions

ITF Urban Transport Model

What we cover:

- Motorised passenger inland transport
- Latin America (currently)

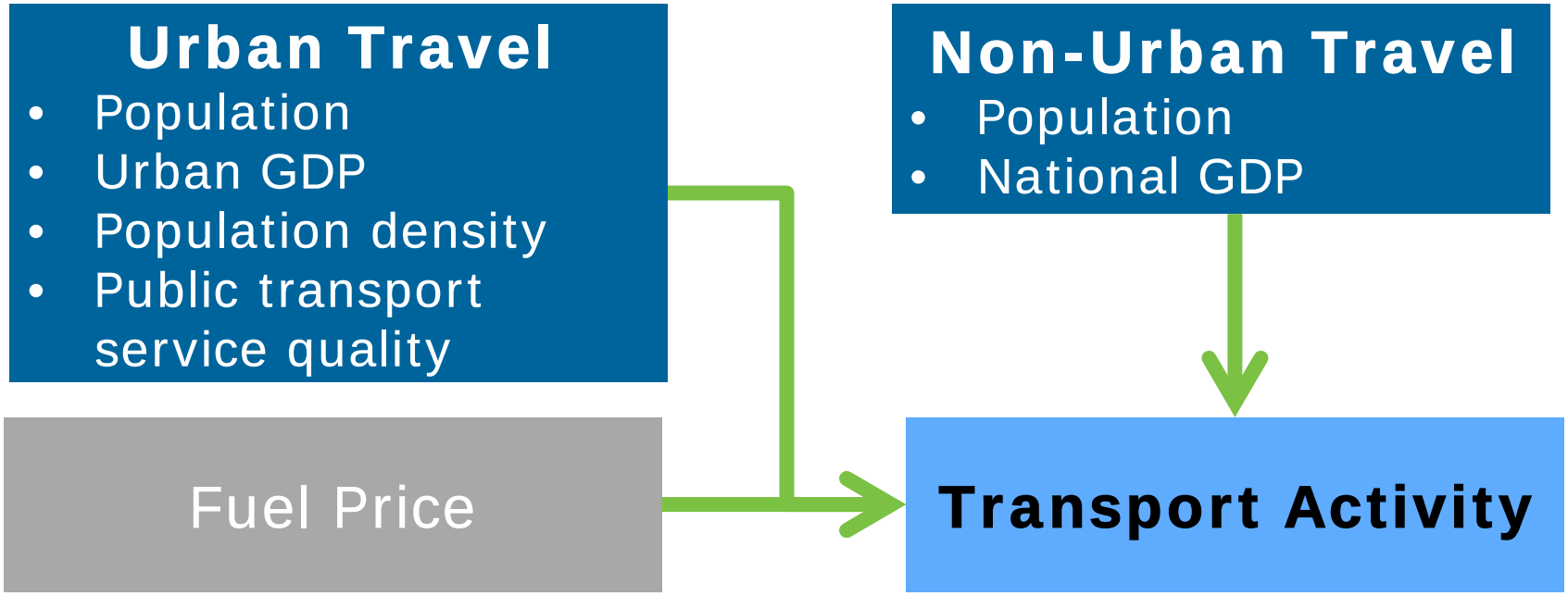
ITF Urban Transport Model

What data we used:

- Development Bank of Latin America (CAF) Urban Mobility Observatory
- McKinsey Global Institute (MGI) Cityscope
- United Nations Population and Urbanization Prospects data

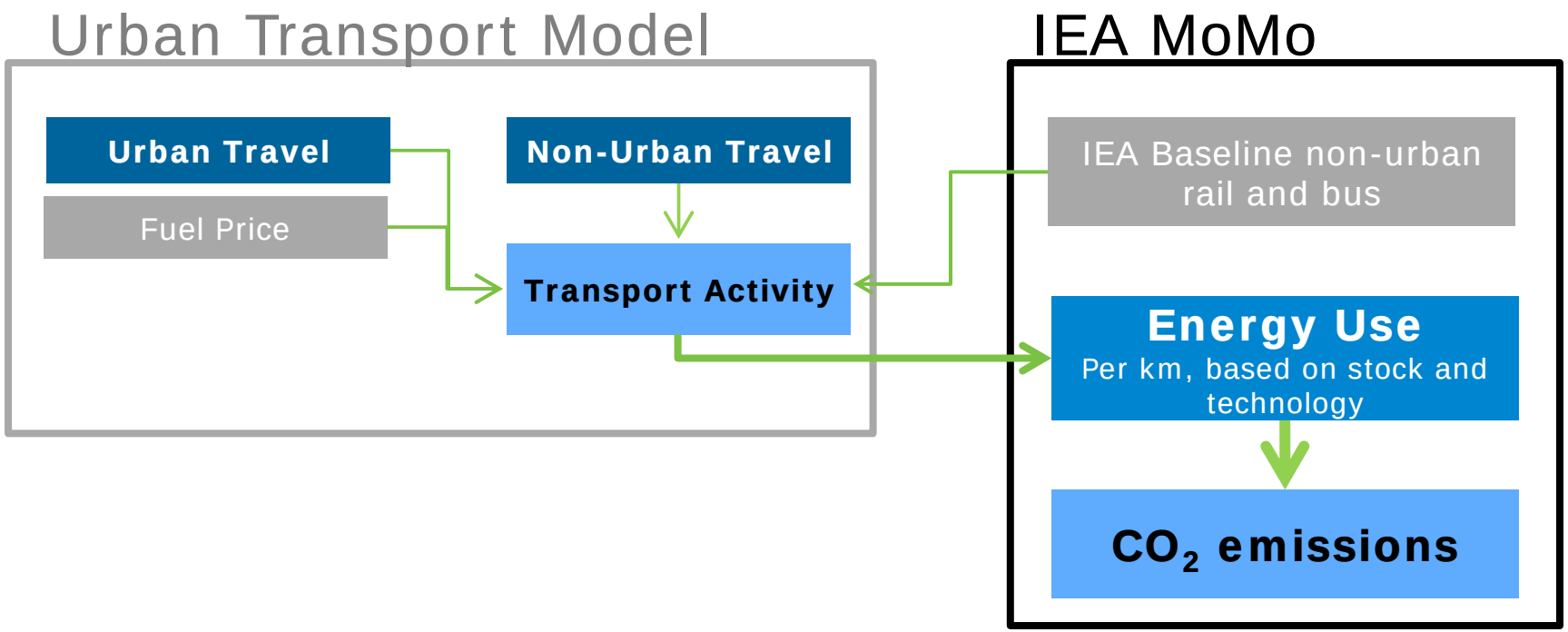
ITF Urban Transport Model

How it works:



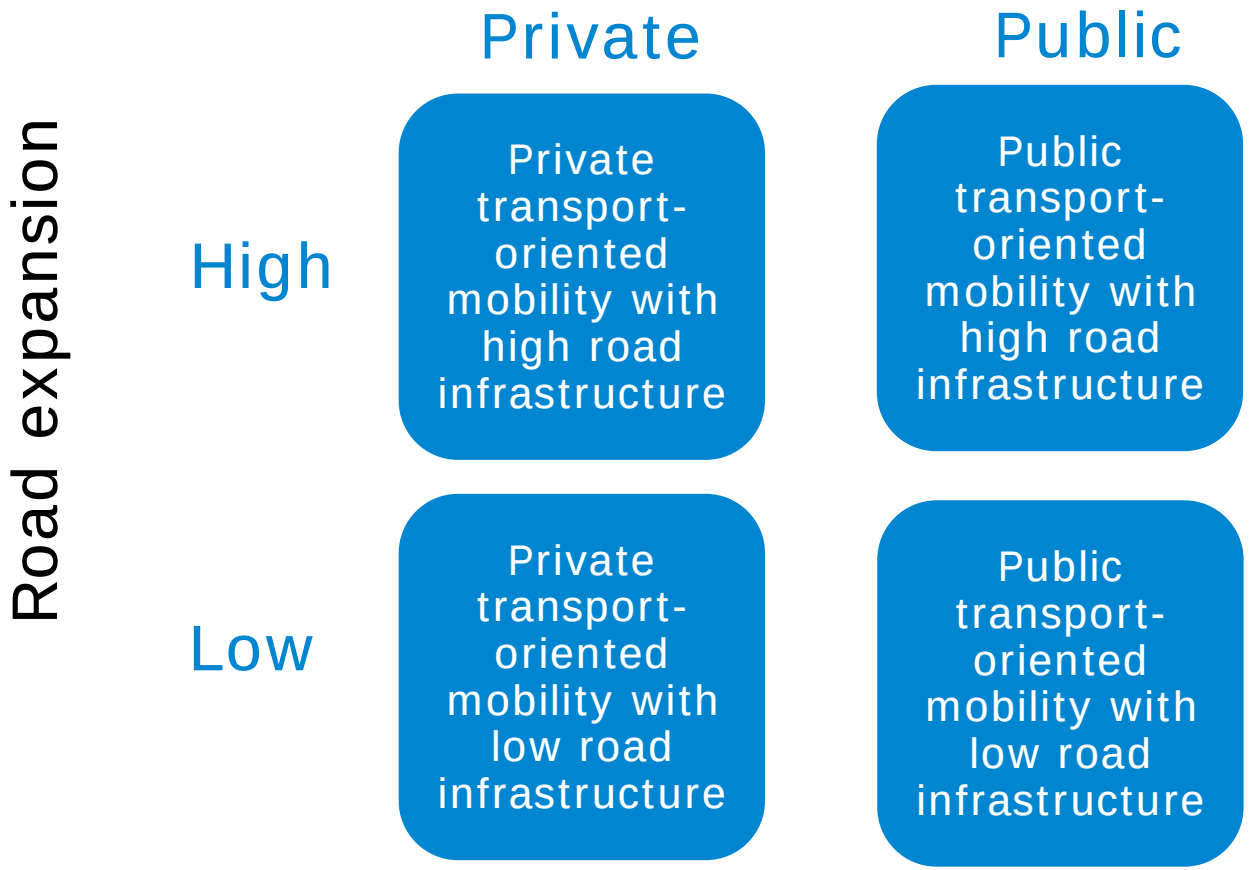
ITF Urban Transport Model

How it works with IEA MoMo:



Four Scenarios

Type of transport modes fostered by urbanisation



Four Scenarios

Type of transport modes fostered by urbanisation

Private

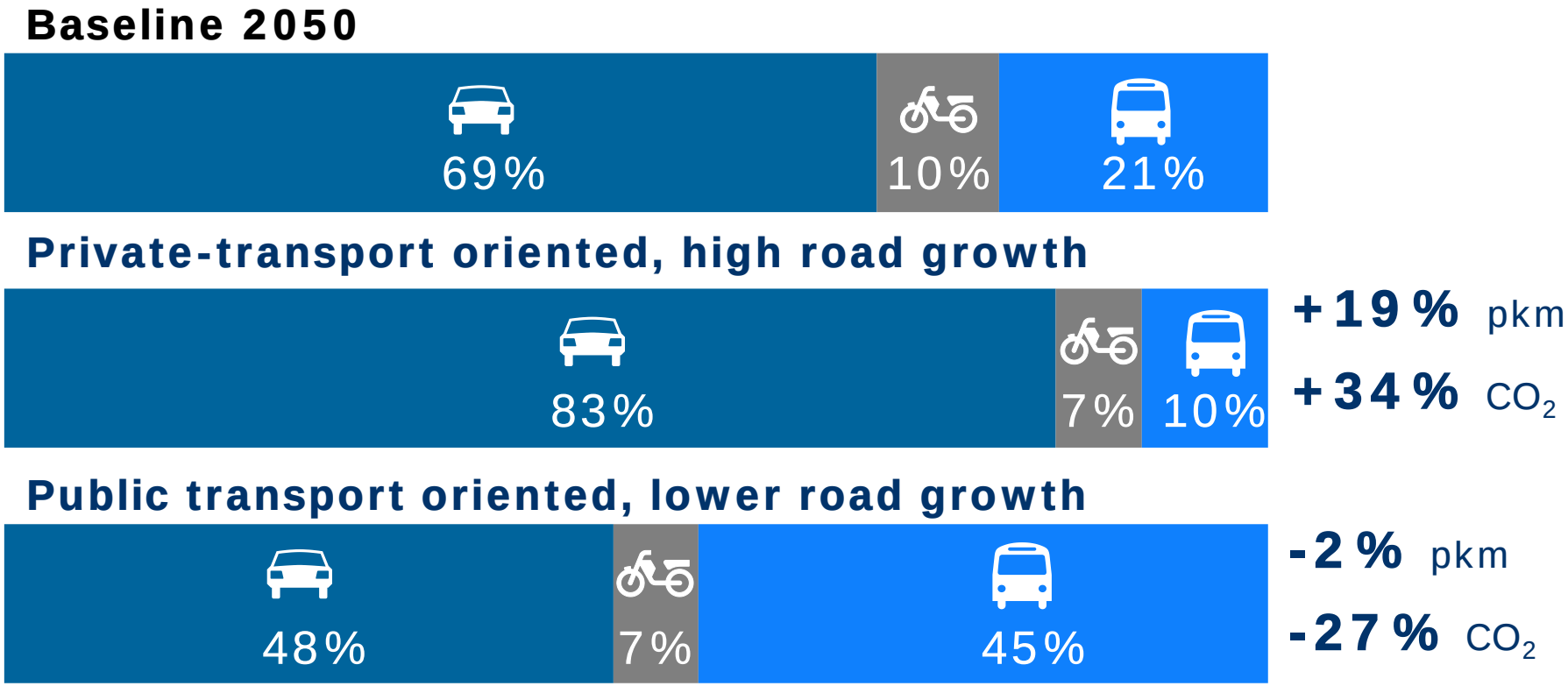
- High urban sprawl
- Low transport service expansion
- Moderate improvement of public transport quality

Public

- Low urban sprawl
- High fuel prices
- High transport service
- Significant improvement of public transport quality

Mobility and CO_2: 2050

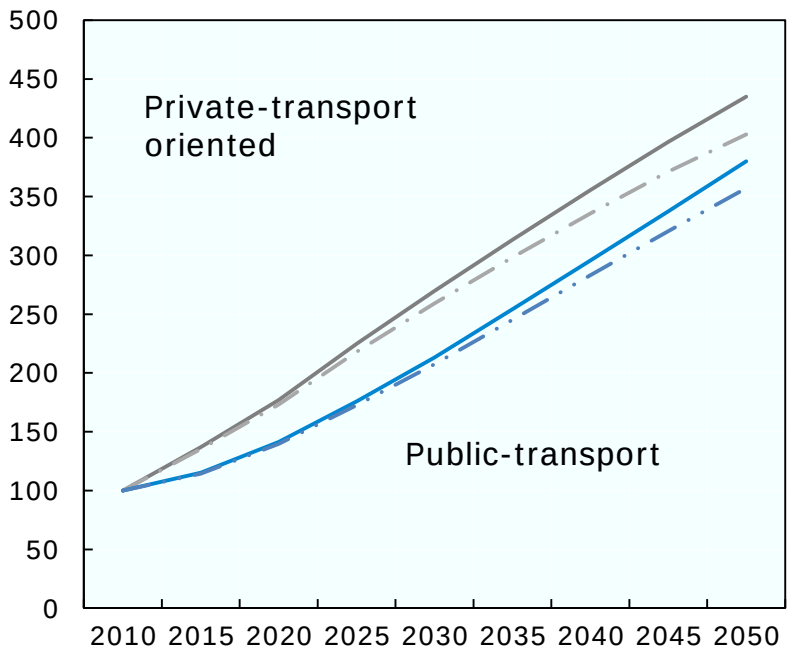
Long-term transport planning and policies translate into significant changes. Three scenarios (% of total p-kms)



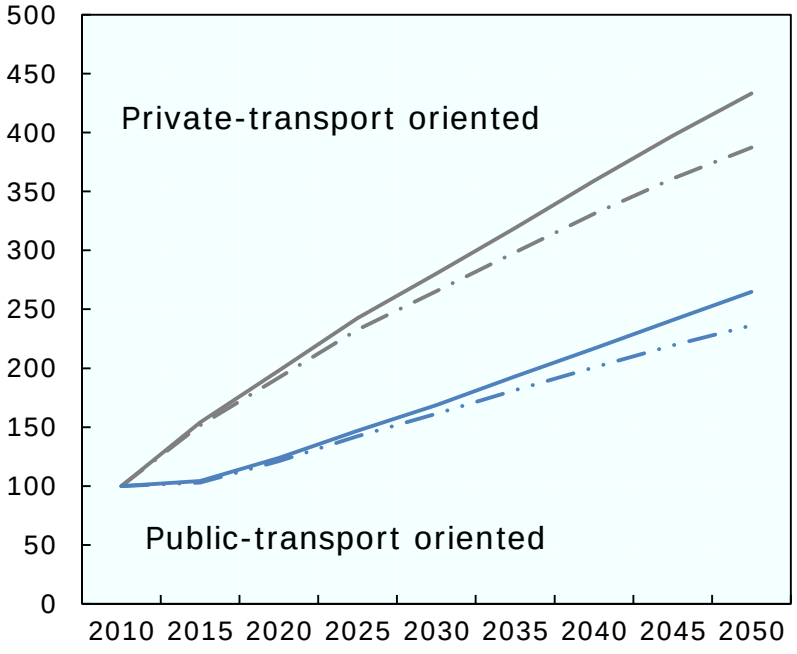
Mode shares (total p-kms)

Sustainability: Convergence in Mobility, Divergence in CO_2

Growth in P-kms
Index (2010=100)

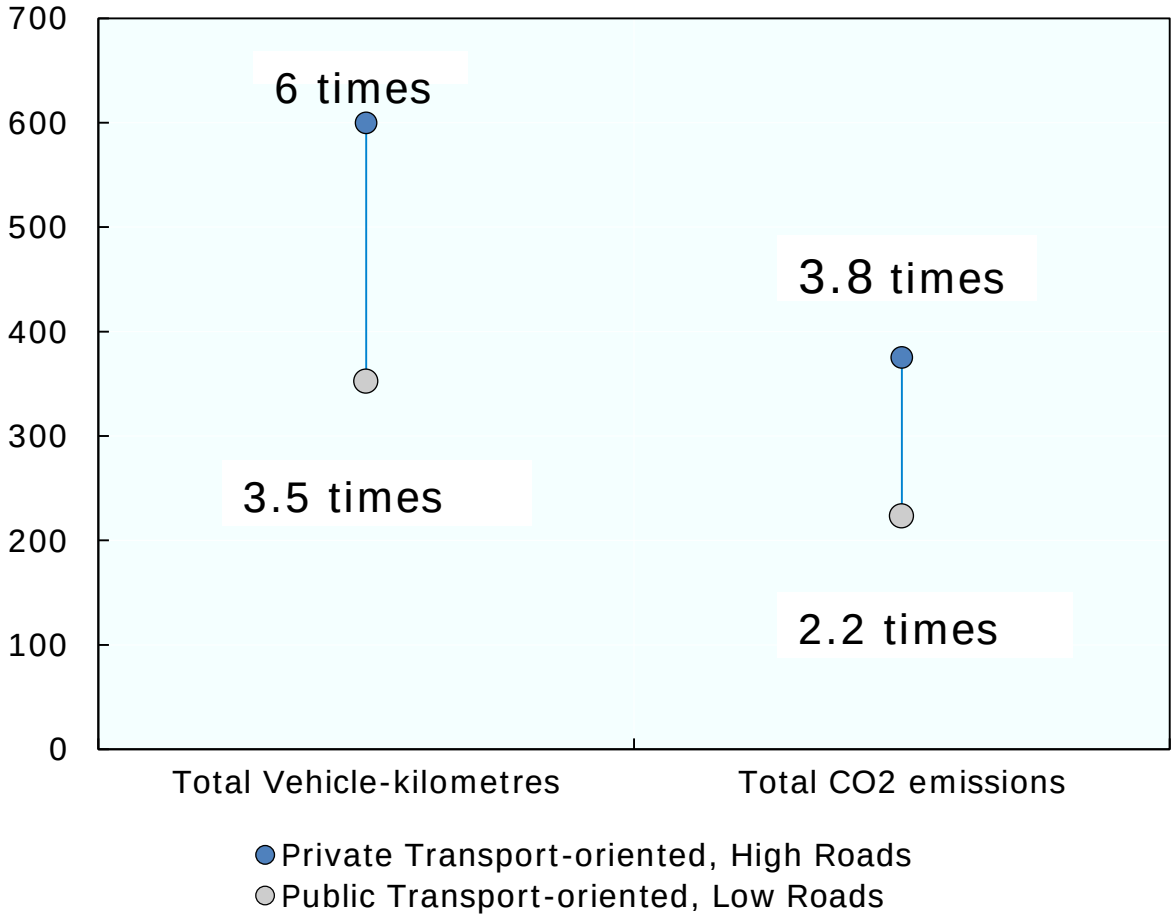


Growth in CO2 emissions
Index (2010=100)



Impact on total passenger inland transport outcomes

for Latin America, 2050



Growth 2010-2050

Index (2010=100)

CO_2 emissions between +30% and -23% relative to the Baseline

Conclusions

- Public transport-oriented urbanisation could help slow growth in vehicle-kilometres travelled without sacrificing overall passenger mobility and reducing CO_2 emissions.

- Long-term strategic planning is needed, rather than isolated actions.

Final Remarks and Future plans

- Detail on assumptions and scenarios: ITF Transport Outlook 2013 (to be realeased in December).
- Tool for exploring multidimensional settings of urbanisation and magnitude/time-frame of their effect on future aggregate transport trends, related CO_2 emission evolution.
- Modal shift is linked to changes in urban configuration and policy paths.
- More specific policy analysis through these type of models could be possible but requires very careful examination of evidence and study on how to introduce it into the framework.
- Short and medium term plans for ITF: Expand methodology to China and India (and then other Asia).

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Thank you

Aimée Aguilar Jaber
T +33 (0)1 45 24 94 98
E aimee.aguilarjaber@oecd.org

Postal address
2 rue Andre Pascal
75775 Paris Cedex 16

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