



## Sustainable Development and Public Transport

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**The context:  
rapid urbanization,  
rapid motorization,  
rising but disparate incomes**



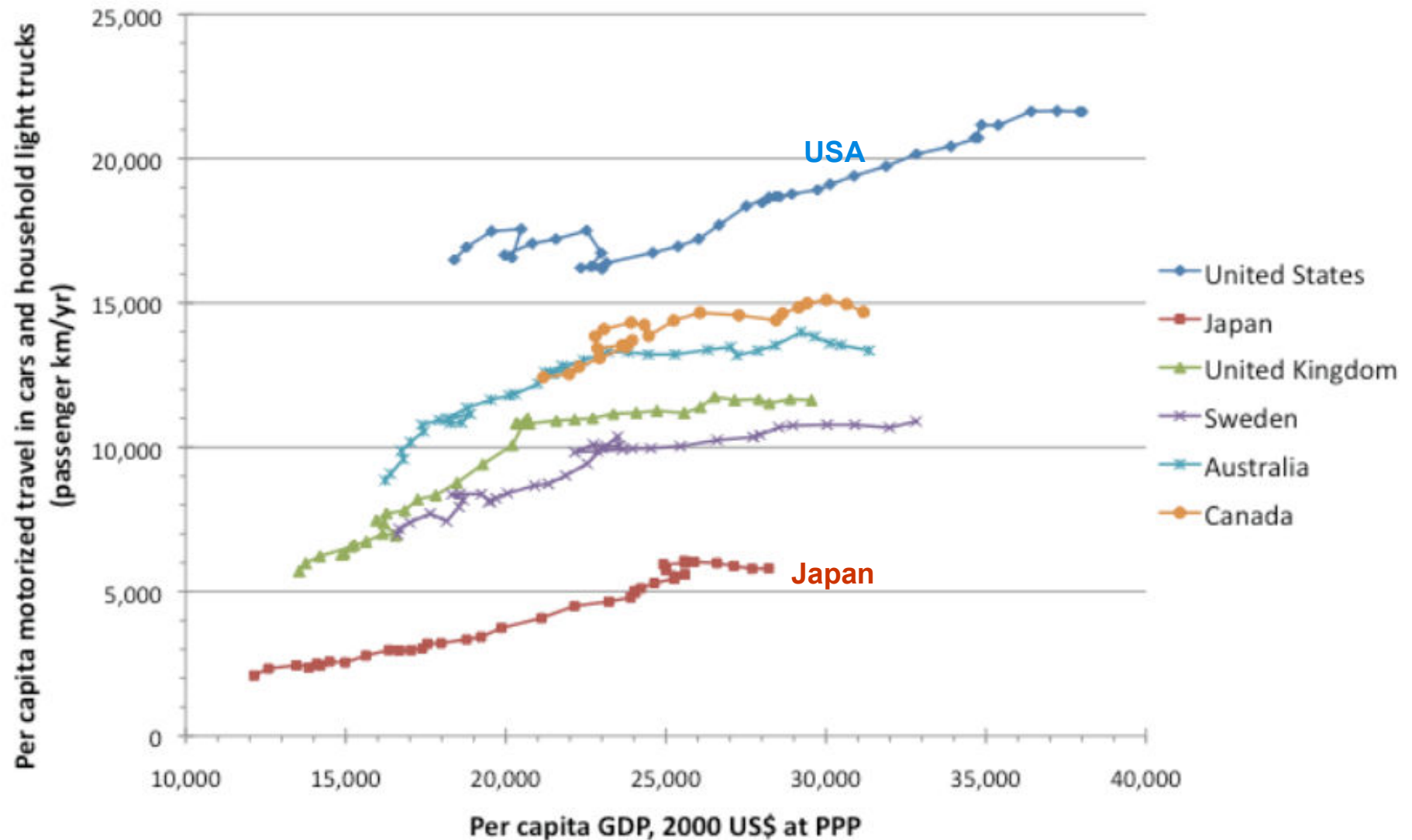




**with a large share of the world's people unable to afford private motor vehicles in our lifetime**

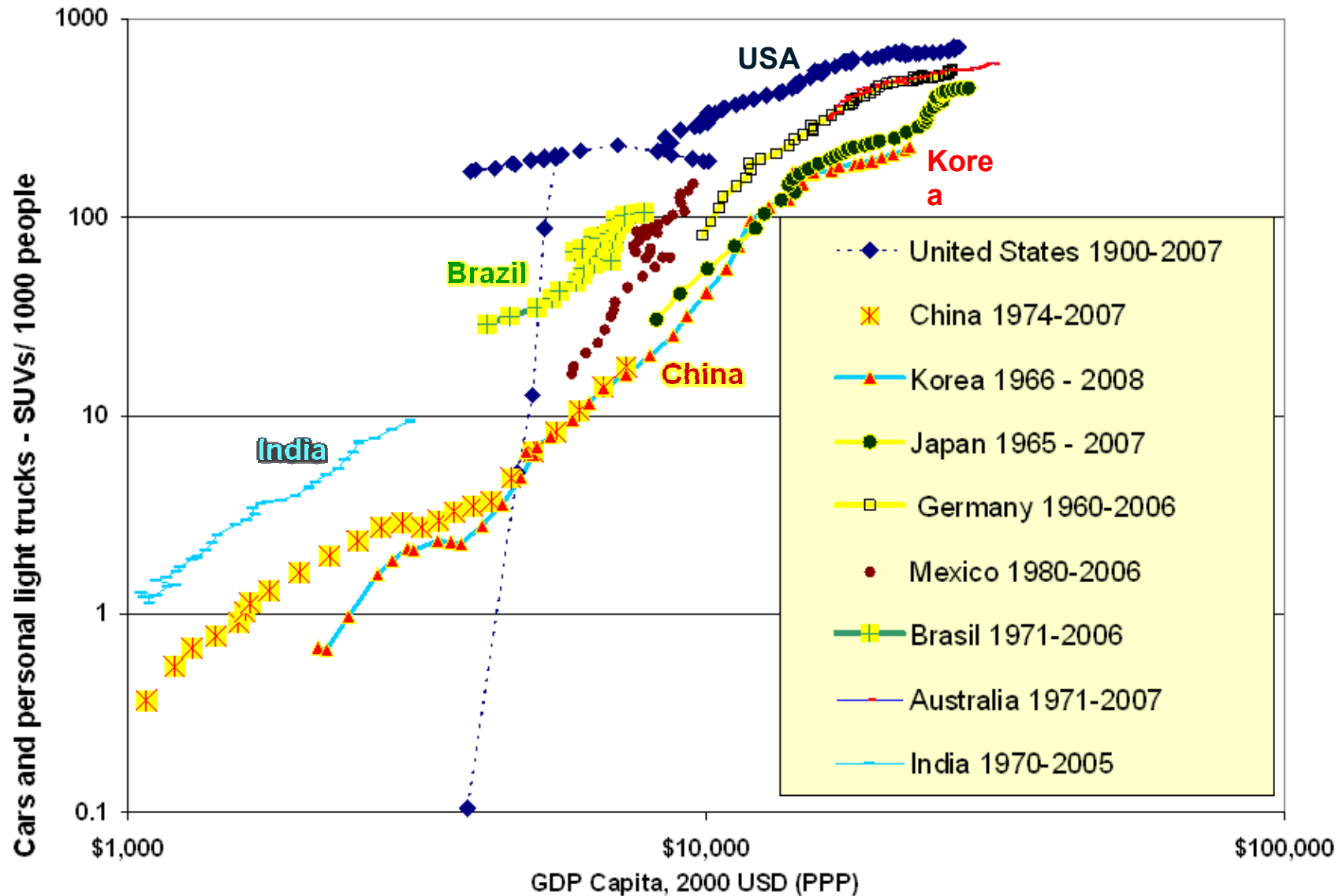
Photo: Carlos Pardo

# Which path will developing countries follow?

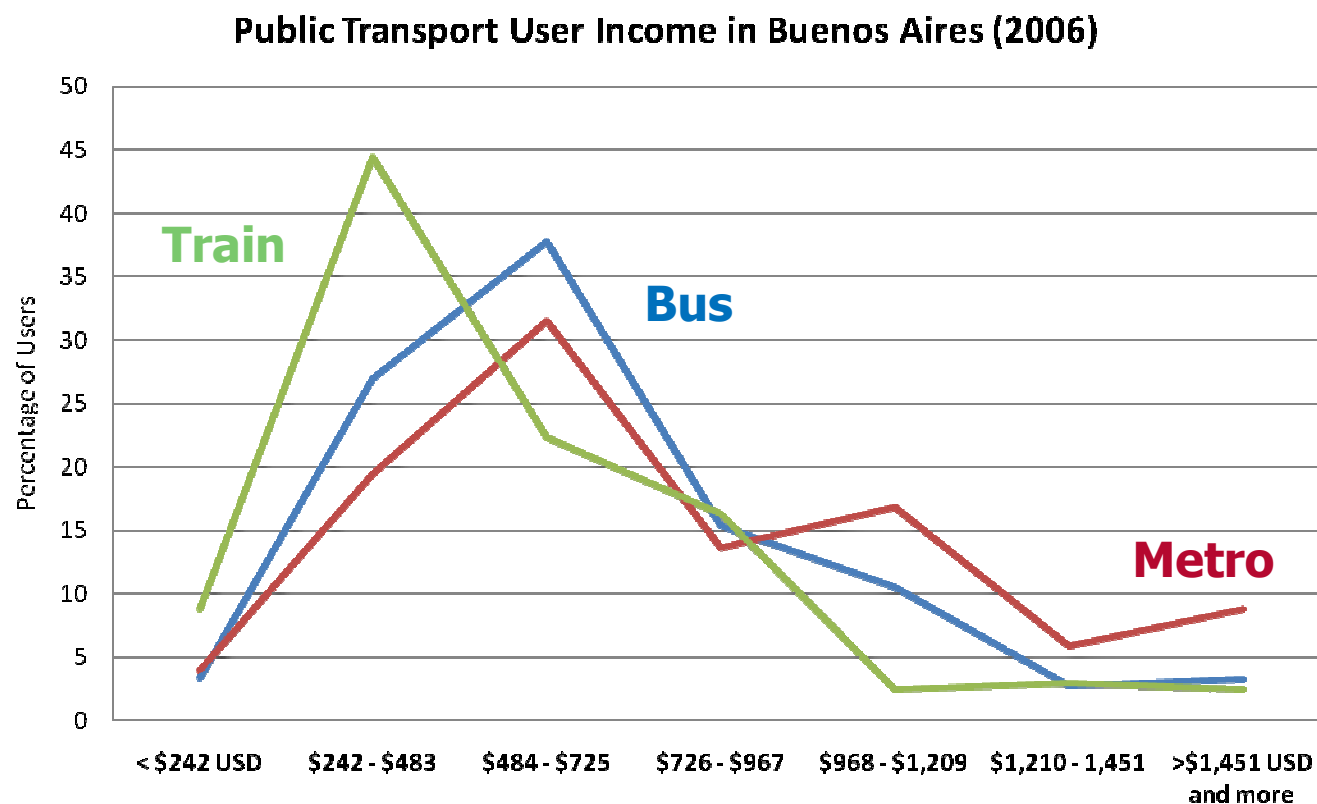




# Motorization grows with income, but not on a single path



# Public Transport Is Essential for Especially for the Poor

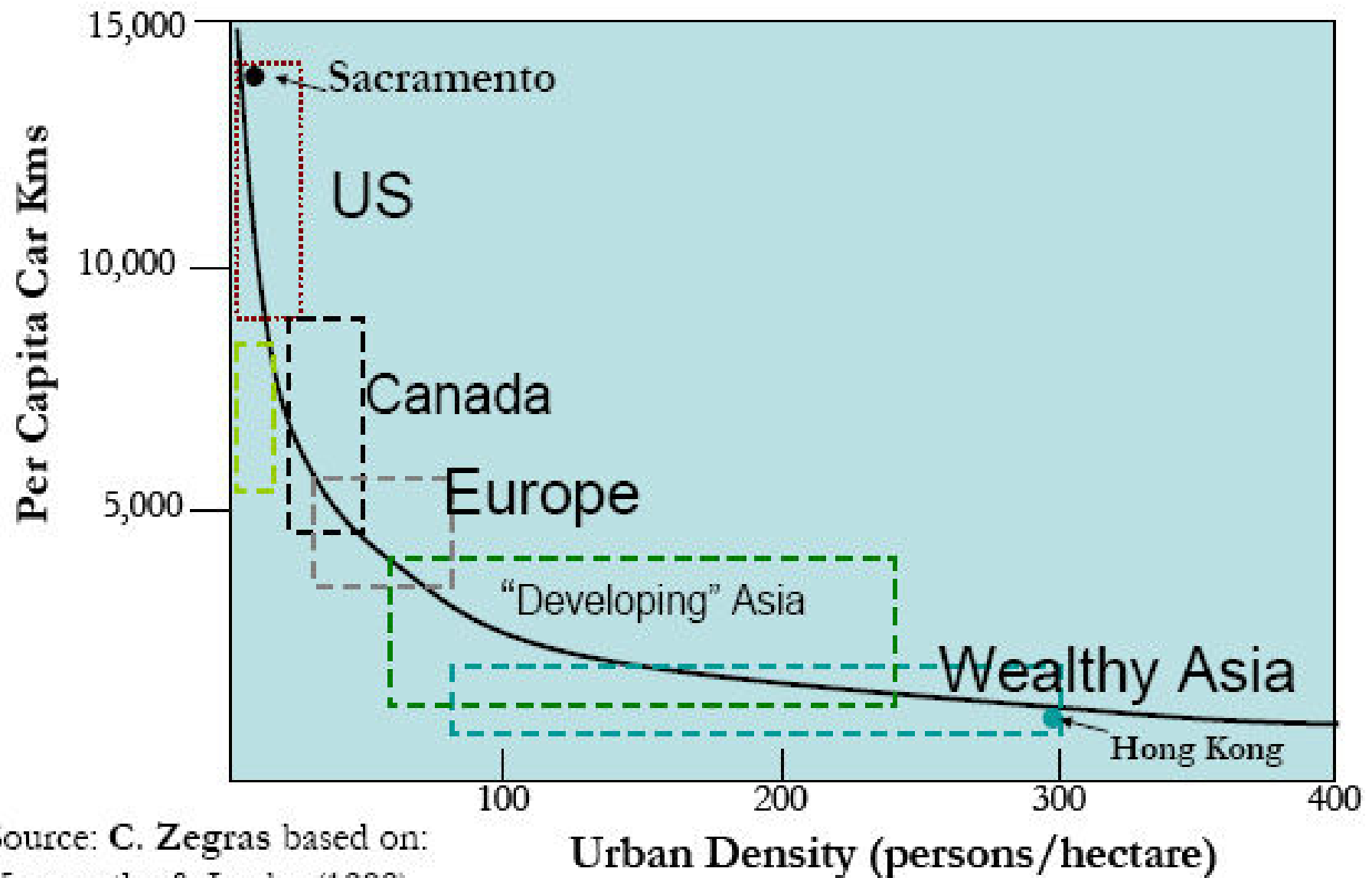


Argentine Peso (ARS) in 2006 USD values

Source: CAF – Observatorio de Movilidad Urbana



## Which model of urbanization is being followed?



Source: C. Zengras based on:  
Kenworthy & Laube (1999)

## For whom are transport systems being designed and managed?



Photo: Carlos Pardo



Photo: Carlos Pardo



Photo: Carlos Pardo



Photo: Carlos P

บัตรผู้จบ ม.3, ม.6, ปวช./หรือ



**Are transport services designed to meet the needs of women, children, the elderly & disabled?**



Source: Carlos F. Pardo



Photo: Carlos Pardo



Photo: Carlos Pardo

ment Policy

**and to protect public health and safety?**



Photo: Carlos Pardo



# A choice for decision-makers...

## Unmanaged motorization

- subsidies for motor fuel
- expansion of high speed roads
- motor vehicles displace cyclists, pedestrians, public transport
- disorganized public transport
- unmanaged sprawl, urbanization
- high inequality of access



## Or Sustainable transport

- support for quality public transport
- protected road space for buses, pedestrians, cyclists, public space
- rail or bus rapid transit organized in high demand corridors
- transit oriented development
- more equitable access for all





# High carbon unsustainable path





## Design for exclusive high cost mobility



**Encourages separated land uses**

**Makes jobs inaccessible to those lacking private motor vehicles**

**Robs pedestrians & cyclists of social status, pushes them into gutter**





**Without sustainable transport, lower income people end up choosing between poor housing, long and costly access to jobs, or low wages close to home...**





## Motor fuel subsidies

For every unit transferred to poor, 3-5 times more goes to higher income people\*

Boost equity with higher fuel taxes, support for health, education, user-side subsidies

## Induced demand

Access to rural roads improves education, healthcare access

But expansion of urban roads boosts traffic, worsens equity

Expansion of transit, walking, biking boosts use of those modes



\* Source: IMF Survey – Rethinking Fuel Subsidies 2007





Photo: Carlos Pardo



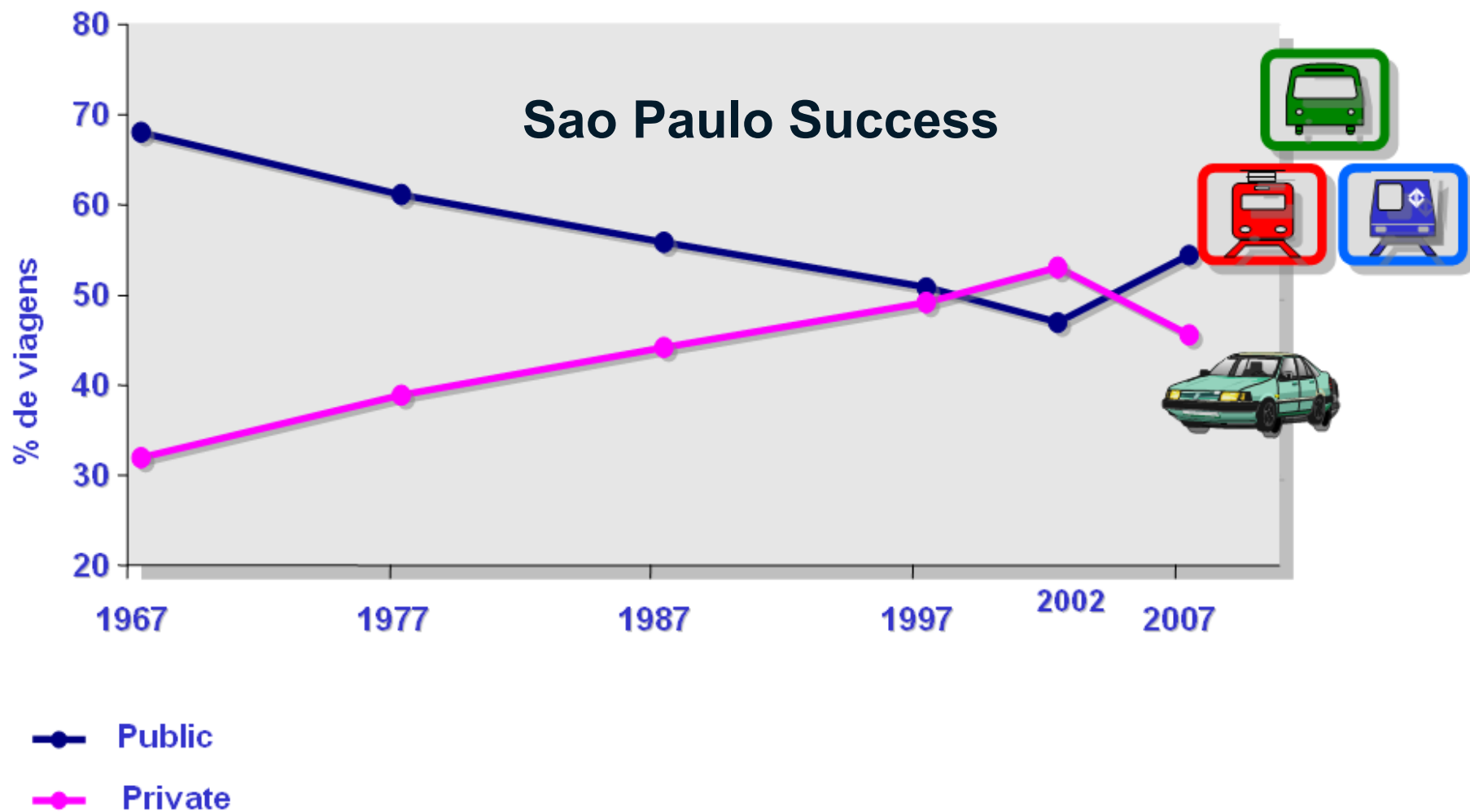
Credit: Michael Reptogio



## Design for the young & old, rich & poor, able & disabled



# Car dependence can be reversed



SOURCE: OD 67/77/87/97/02/07

Graph: Sao Paulo Municipality



# Singapore

transit trip share:

40% in 1975

65% in 2010

With the majority of  
transit trips on buses

Land Transport Authority





# Bogota success

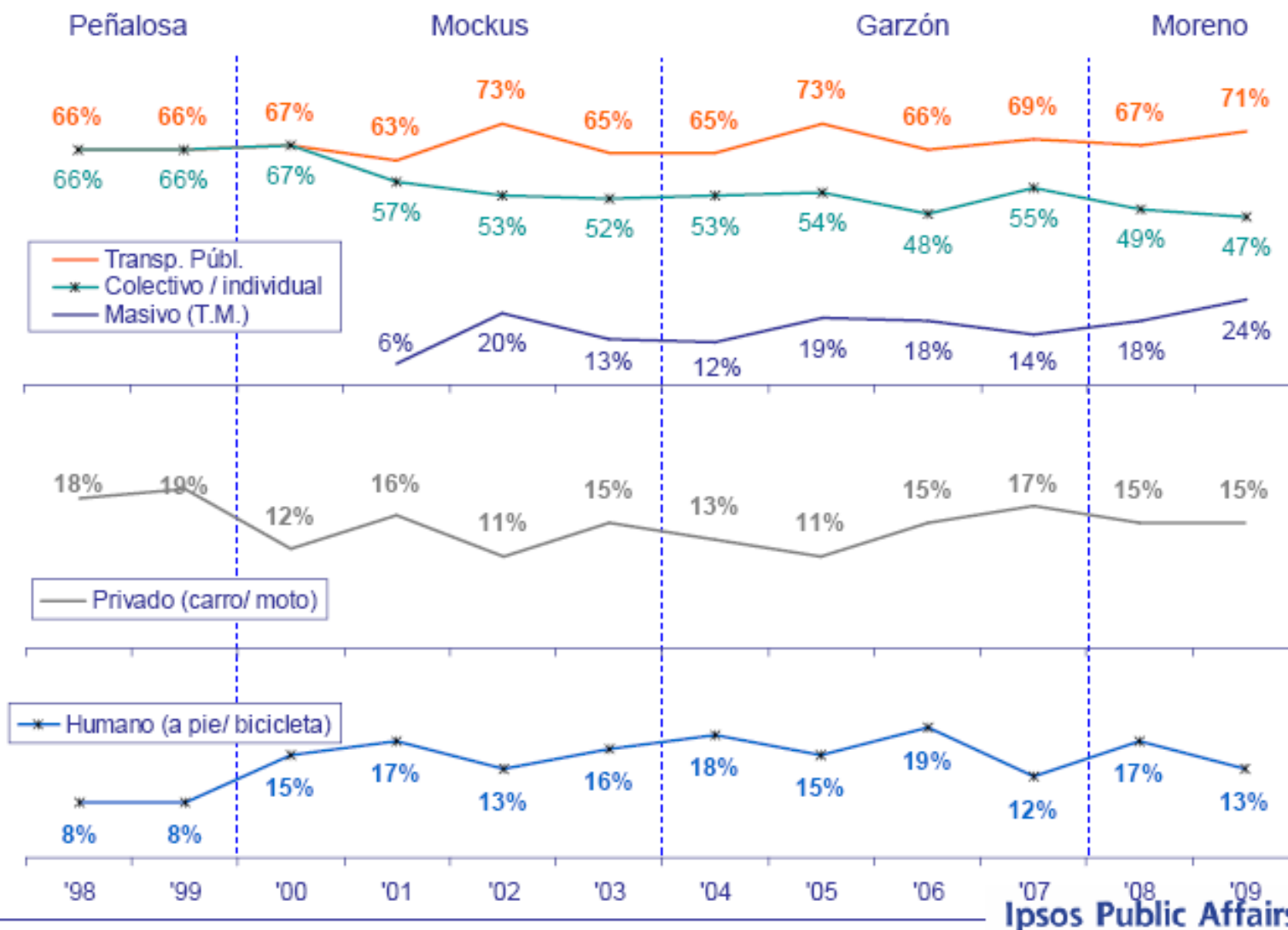


Development Policy





# ¿Qué medio de transporte usa principalmente?



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[http://www.bogotacomovamos.org/datos/AE\\_14\\_Bogota\\_Como\\_Vamos\\_2009.pdf](http://www.bogotacomovamos.org/datos/AE_14_Bogota_Como_Vamos_2009.pdf)  
1600 surveys, error 2.6% with a 95% confidence level

# High Quality Bus Rapid Transit (BRT)





# Guangzhou: Pre-BRT





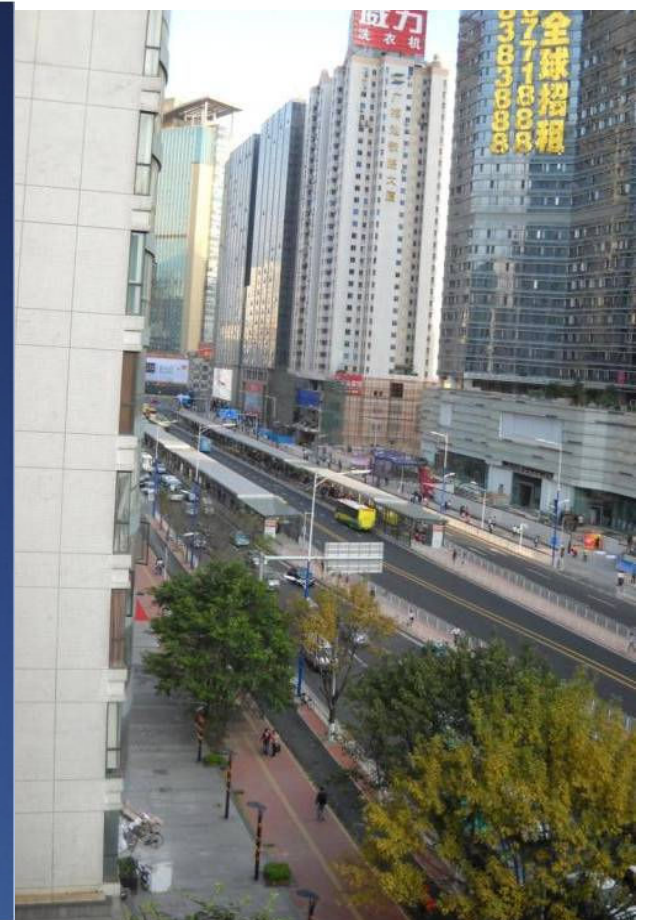
# Guangzhou With BRT





# To boost transportation operational efficiency: **AVOID – SHIFT- IMPROVE**

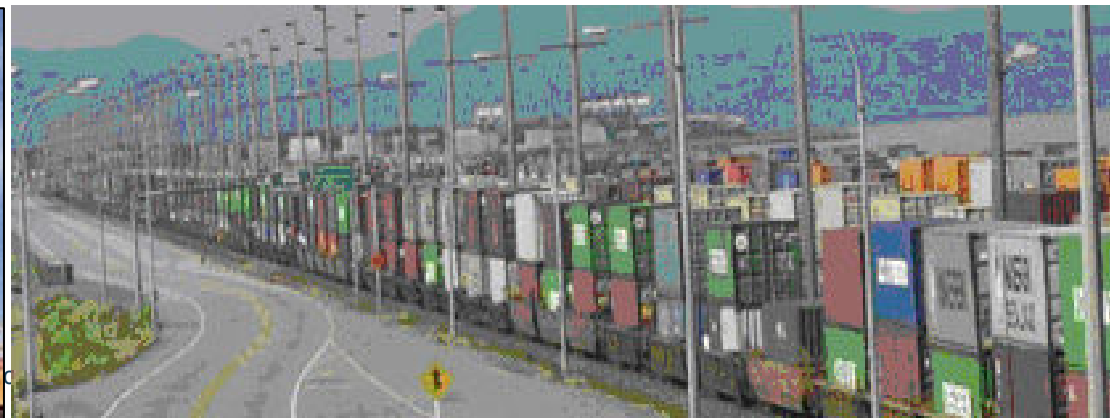
Avoid unnecessary or low value travel with smart pricing, development, logistics, supply chains, communications





# To boost transportation operational efficiency: **AVOID – SHIFT- IMPROVE**

Shift travel to more efficient modes





# To boost transportation operational efficiency: **AVOID – SHIFT- IMPROVE**

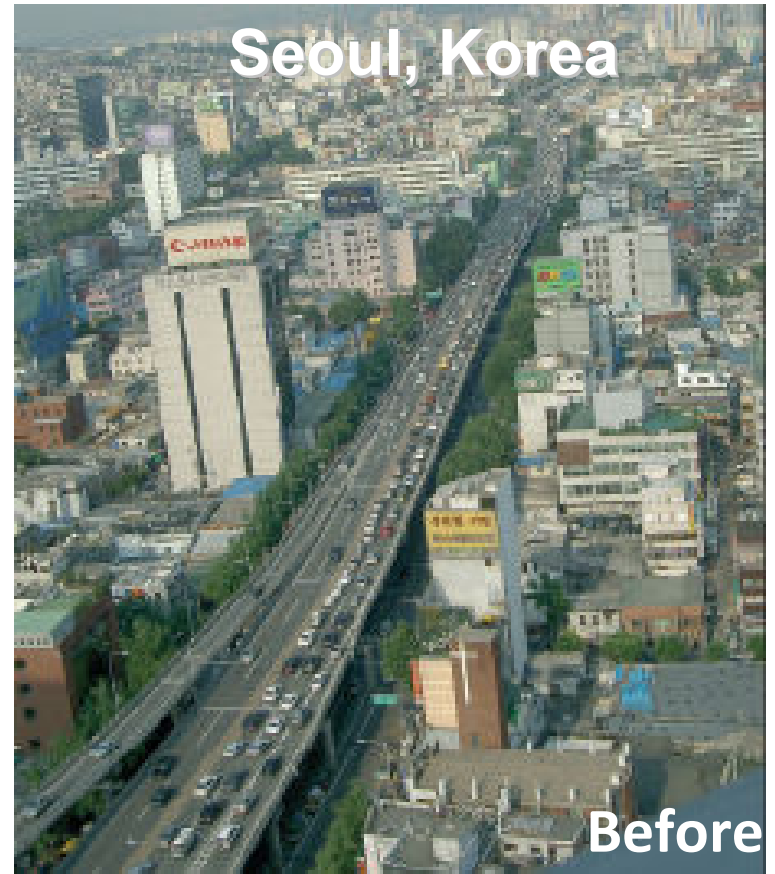
Improve efficiency with more efficient vehicles, lower carbon fuels, and efficiently operated road networks



## 1. Start with the pedestrian:



The vast majority of all trips made daily worldwide are on foot



Before



After



## 2. Provide high quality public transport connecting urban and suburban centers, with integrated fare systems and efficient intermodal/interline transfers



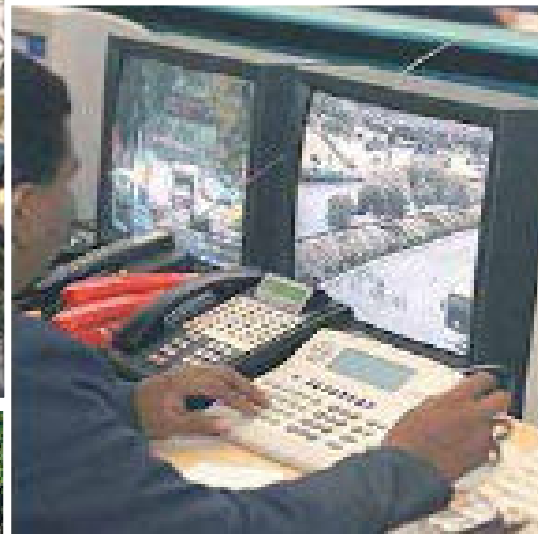


### 3. Encourage cycling and link it to public transport and major activity centers with continuous networks and secure parking/intermodal centers



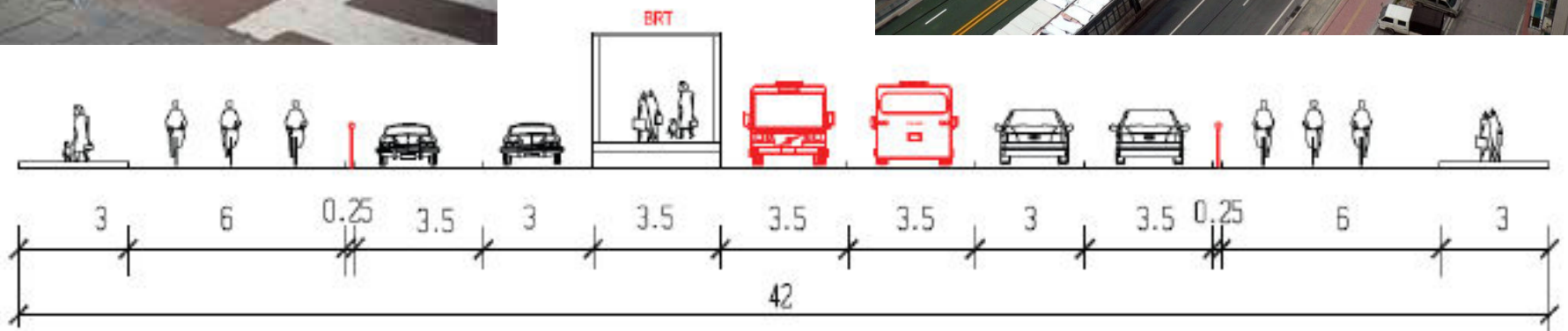


## 4. Employ appropriate transportation market incentives and pricing with intelligent transportation systems





## 5. Design 'Complete Streets' safely serving all users and modes of transport

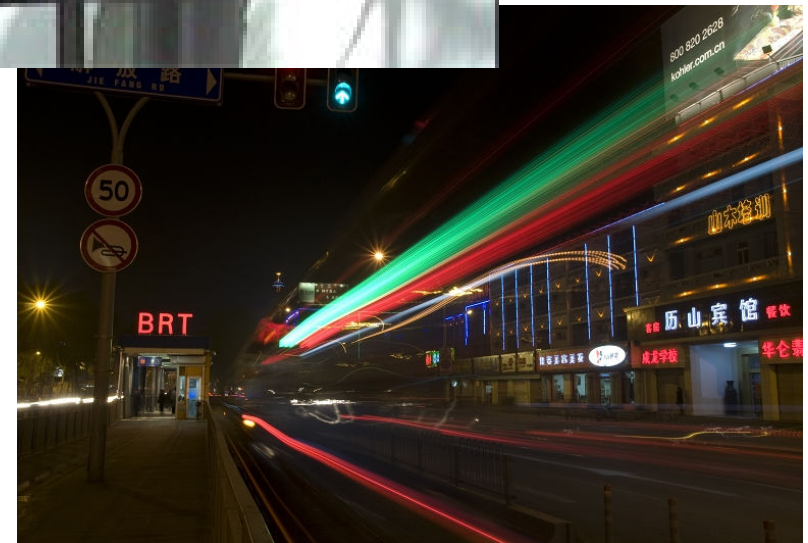




## 6. Manage the speed of motor vehicles for safety and system performance

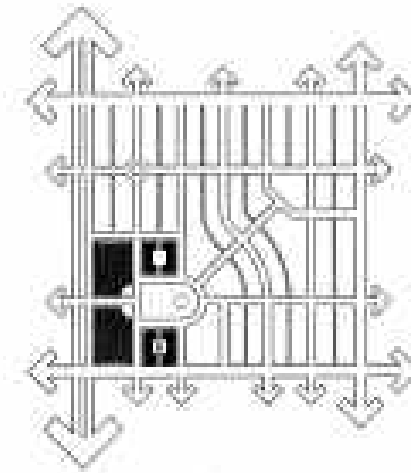


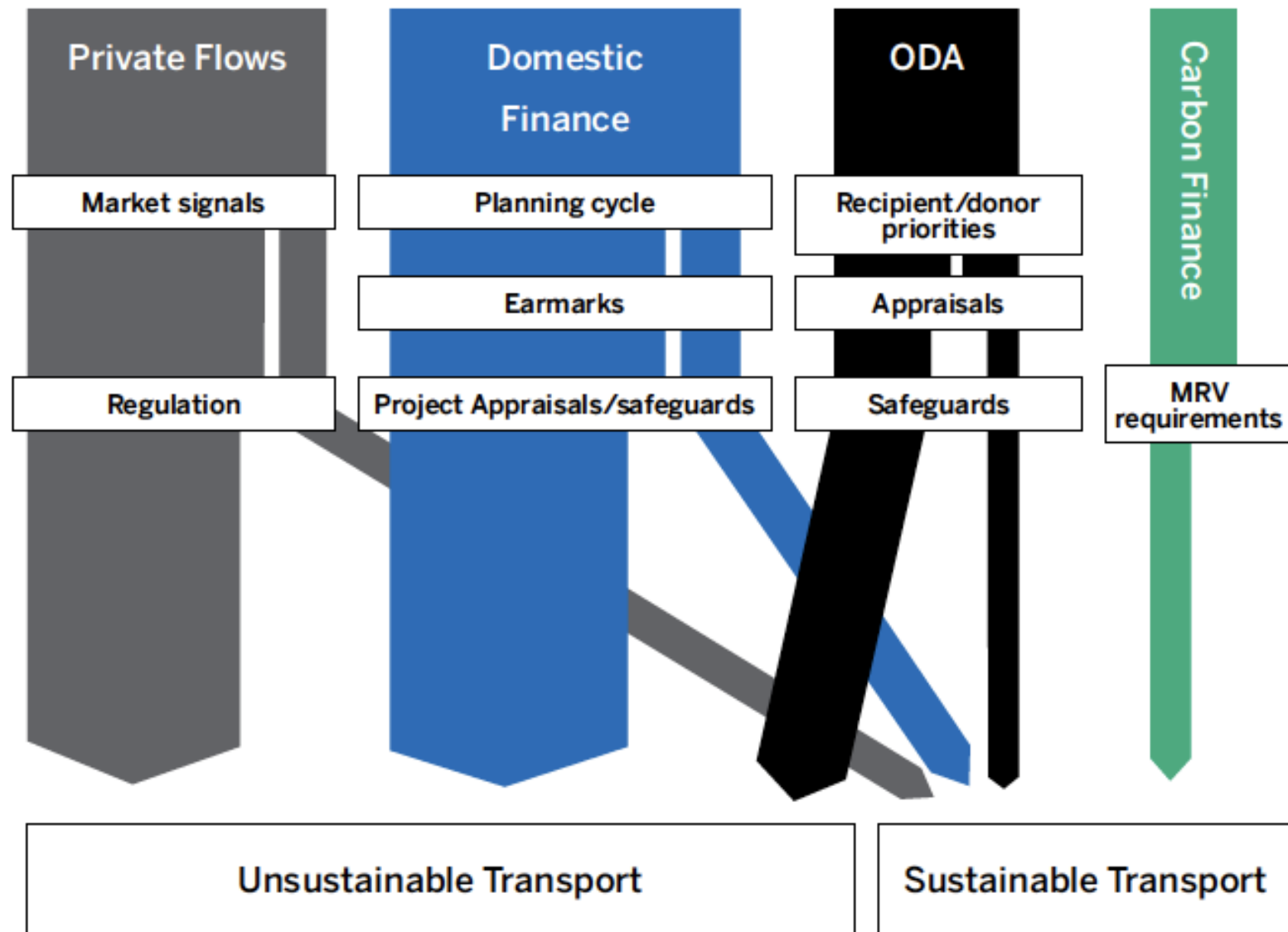
## 7. Enhance transport services with new information, services, travel modes, innovation, telecommunications





## 8. Activate public space with small blocks, small streets, urban parks, climate sensitive design, and dense mixed-use people-oriented development

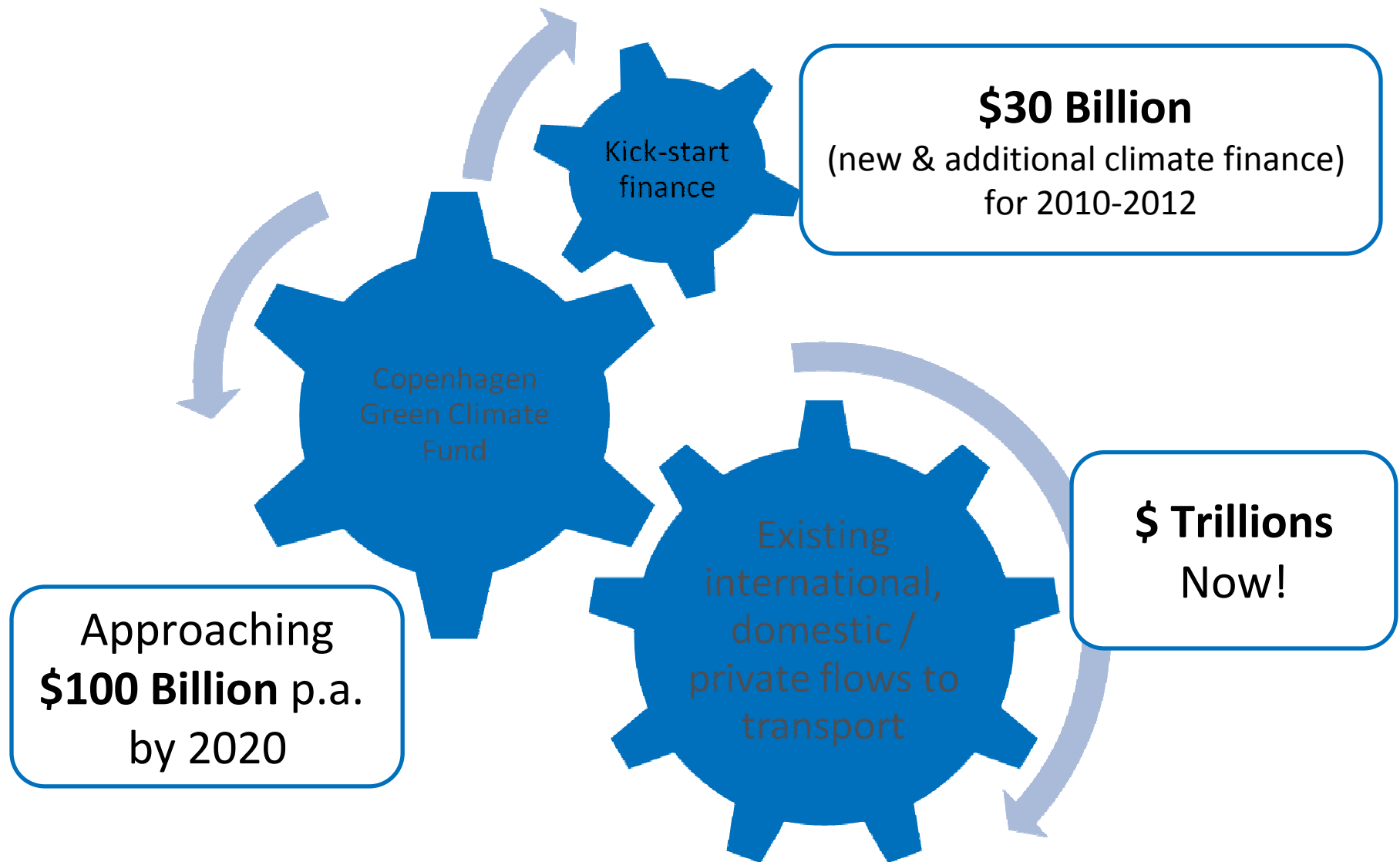




**Ensure more funds on balance go to sustainable transport**



# Transport and Climate Finance



# Forge partnerships to finance the new vision: ASAP

**ANALYZE** The impacts of financing decisions on sustainability

**SHIFT** Existing resources toward a sustainable direction

**ADD** Increased funding for areas where resources are lacking

**PAY** For the full costs of transport including environmental depreciation





# For More Information

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