



Centro de
Transporte
Sustentable

**National Forum on Energy, Environment and
Climate Change Policy**

**Sustainable Transport and Restraining
CO₂ emissions in Latin America- good
news from a forgotten continent**

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México City, August 25, 2009



Content



»» Urban transport and climate change

»» Diagnosis: MEDEC

»» Tackling the problem:

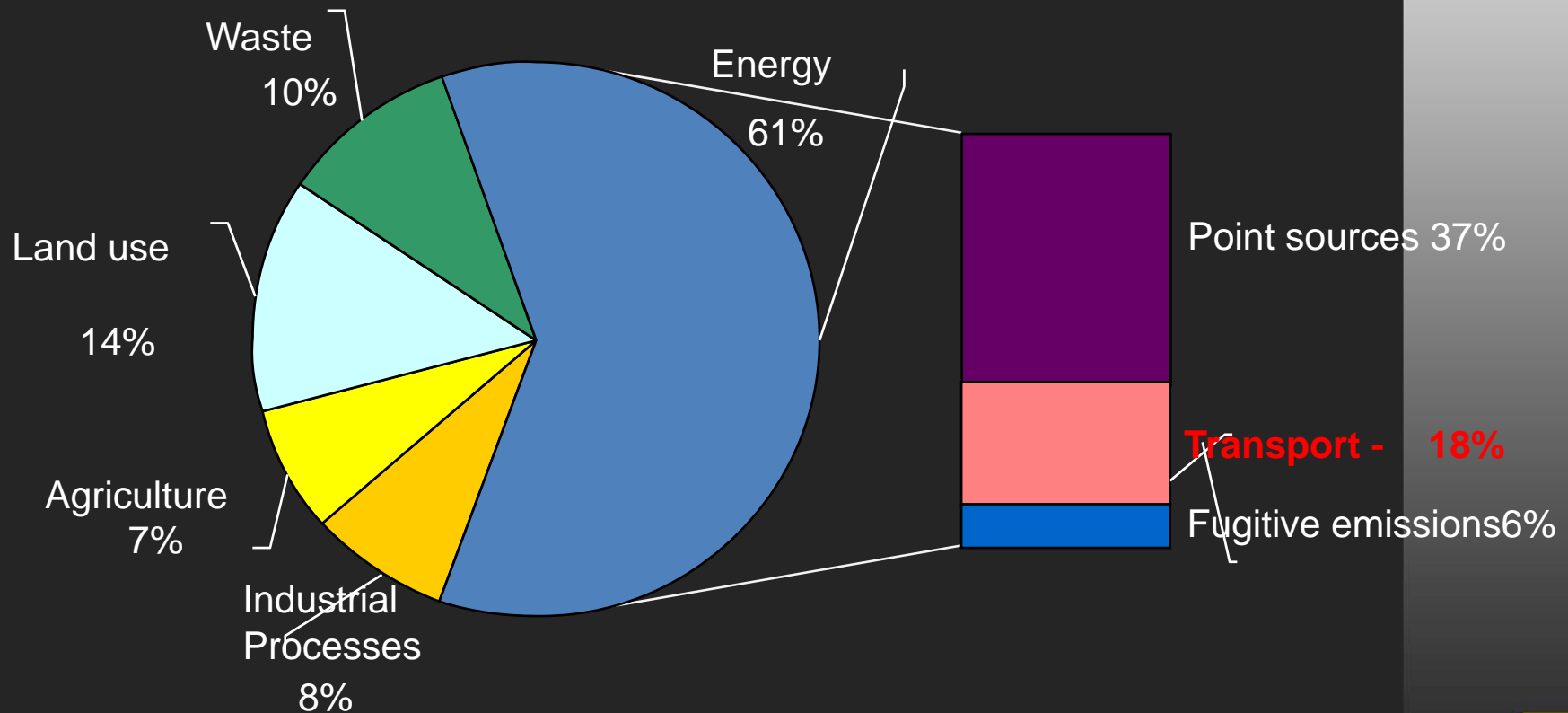
»» BRT systems

»» PROTRAM

»» Fuel economy standard



National GHG Inventory (2002) CO₂ equivalents per sector

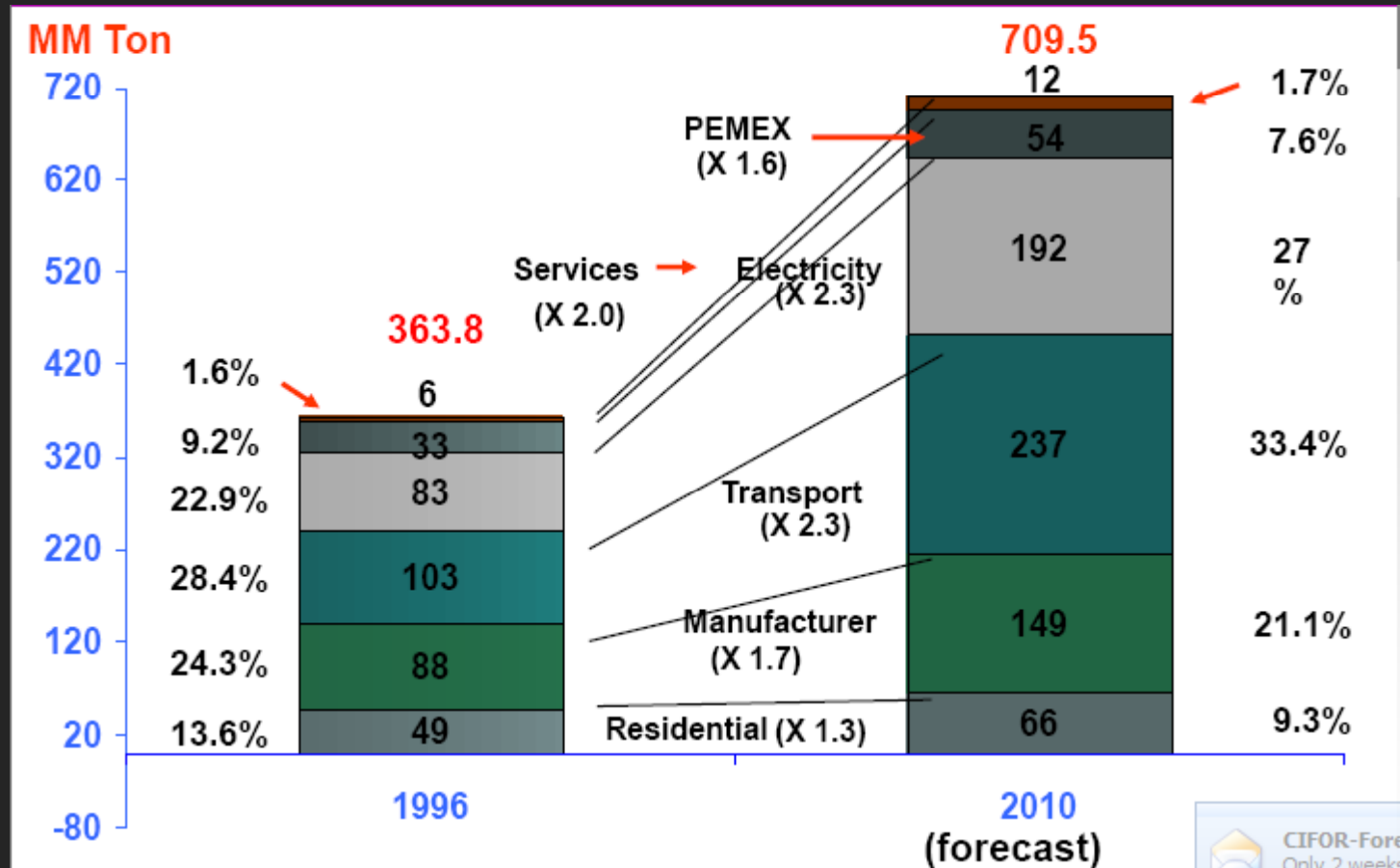


643 millones ton of CO₂ equivalents

Source: Instituto Nacional de Ecología, 2006

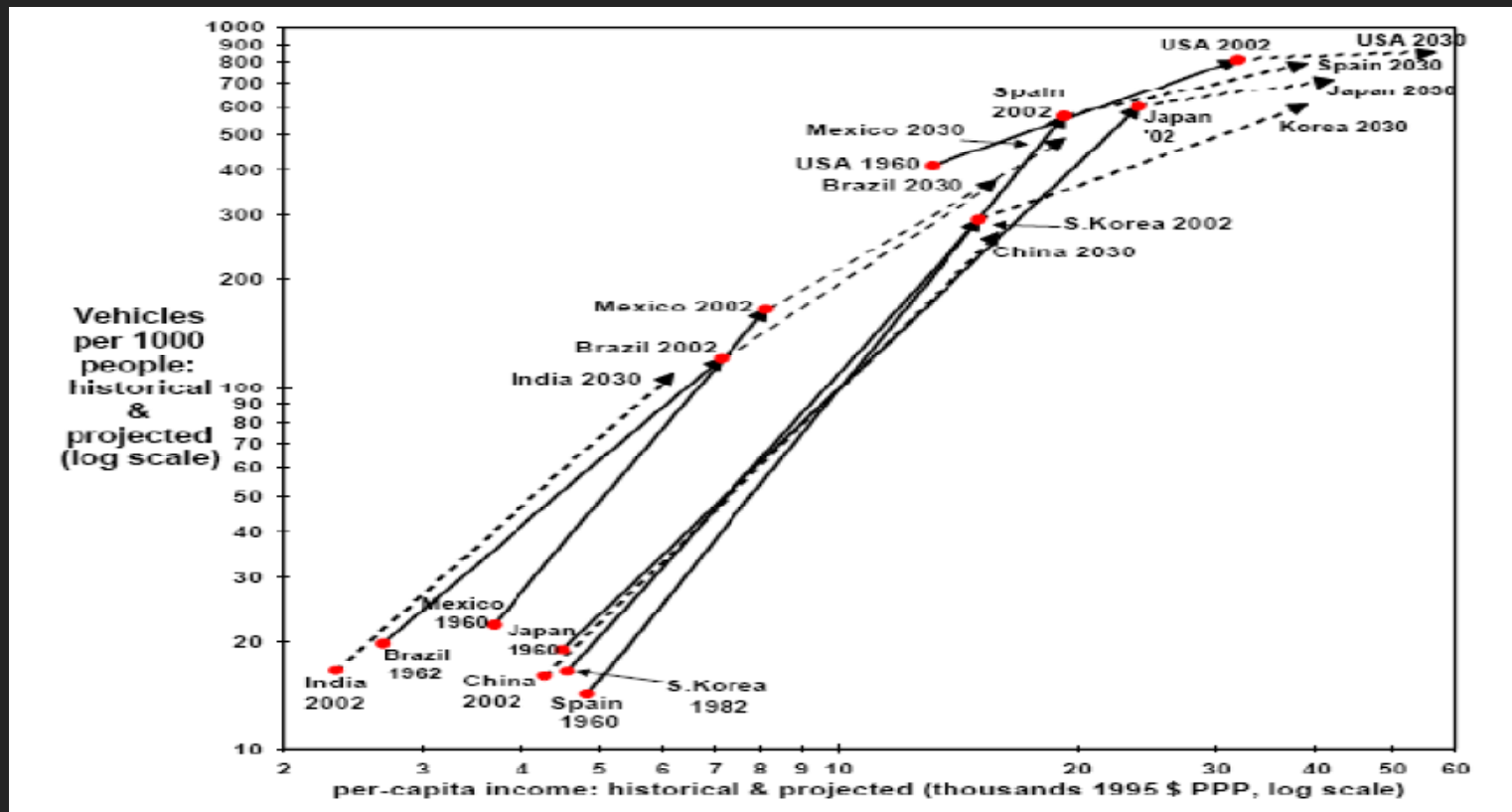


GHG Emissions by sector



Source: Mexico's Third National Communication to the United Nations Framework Convention on Climate Change, Mexico, 2007

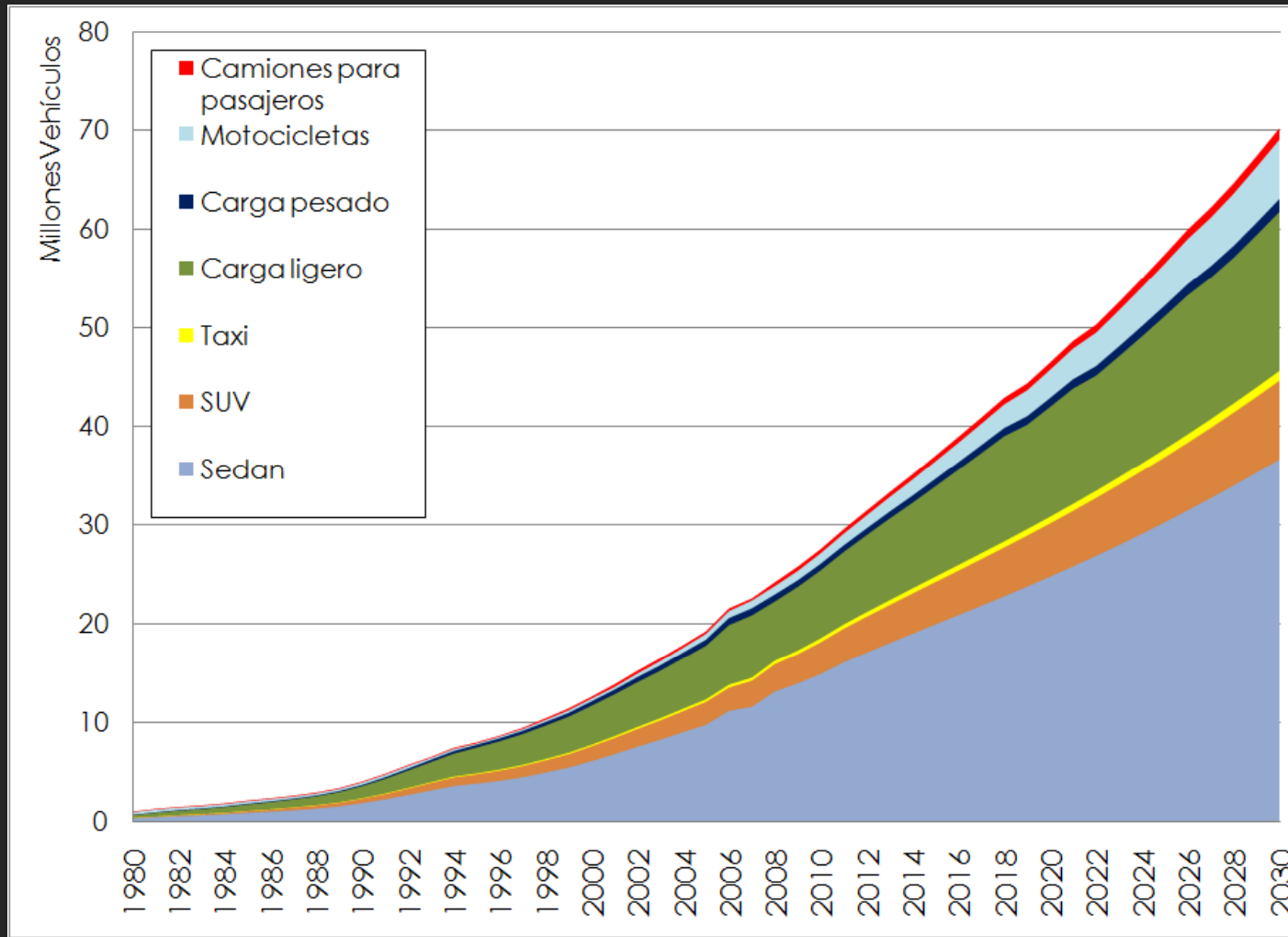
Motor Vehicle Ownership Historical Trend and Projected Growth for Selected Countries



Source: Vehicle Ownership and Income Growth, World Wide, 1960-2030, Dargay, et al, 2007



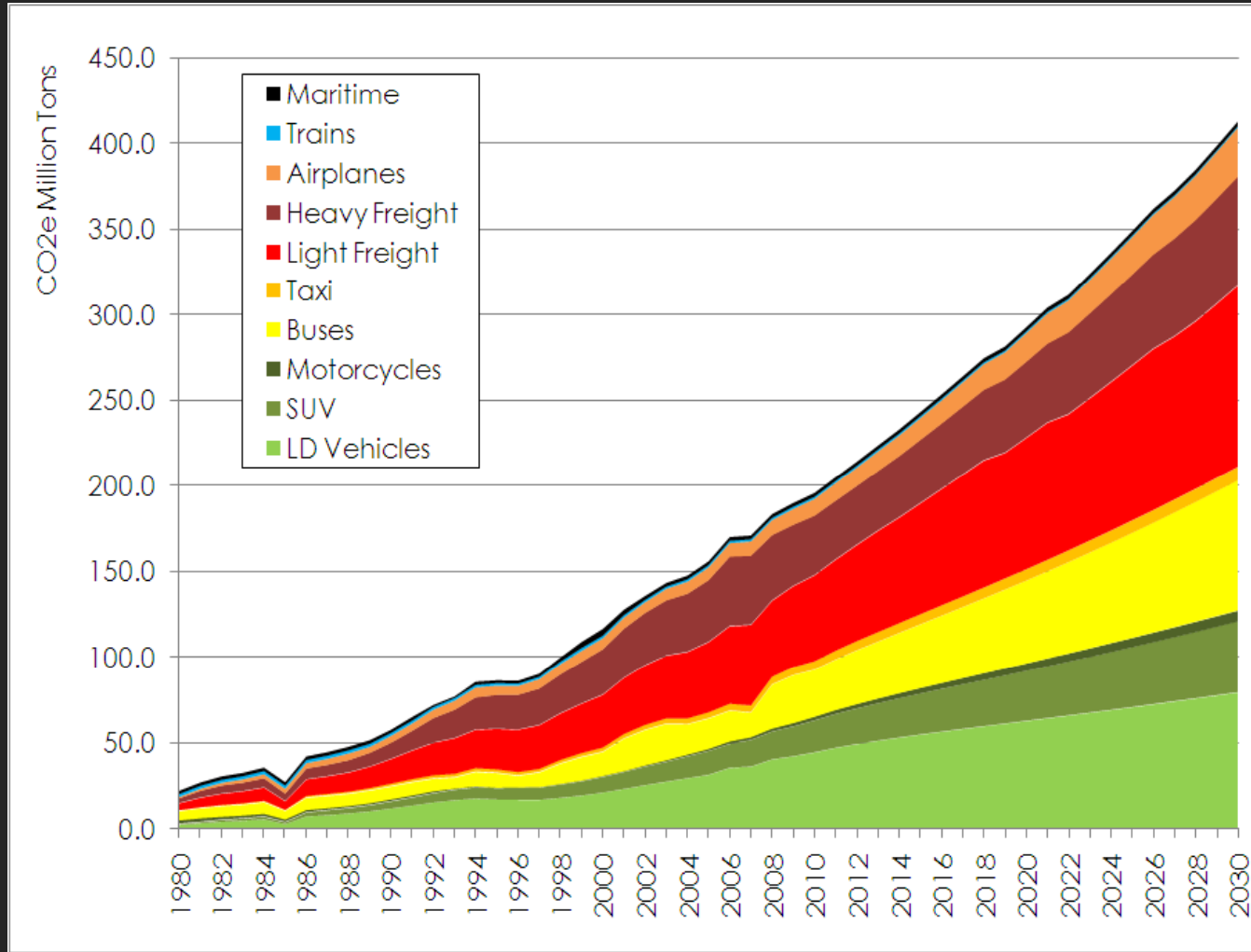
Mexico projection of total fleet by type of vehicle (2009- 2030)



Source: MEDEC study, CTS 2008

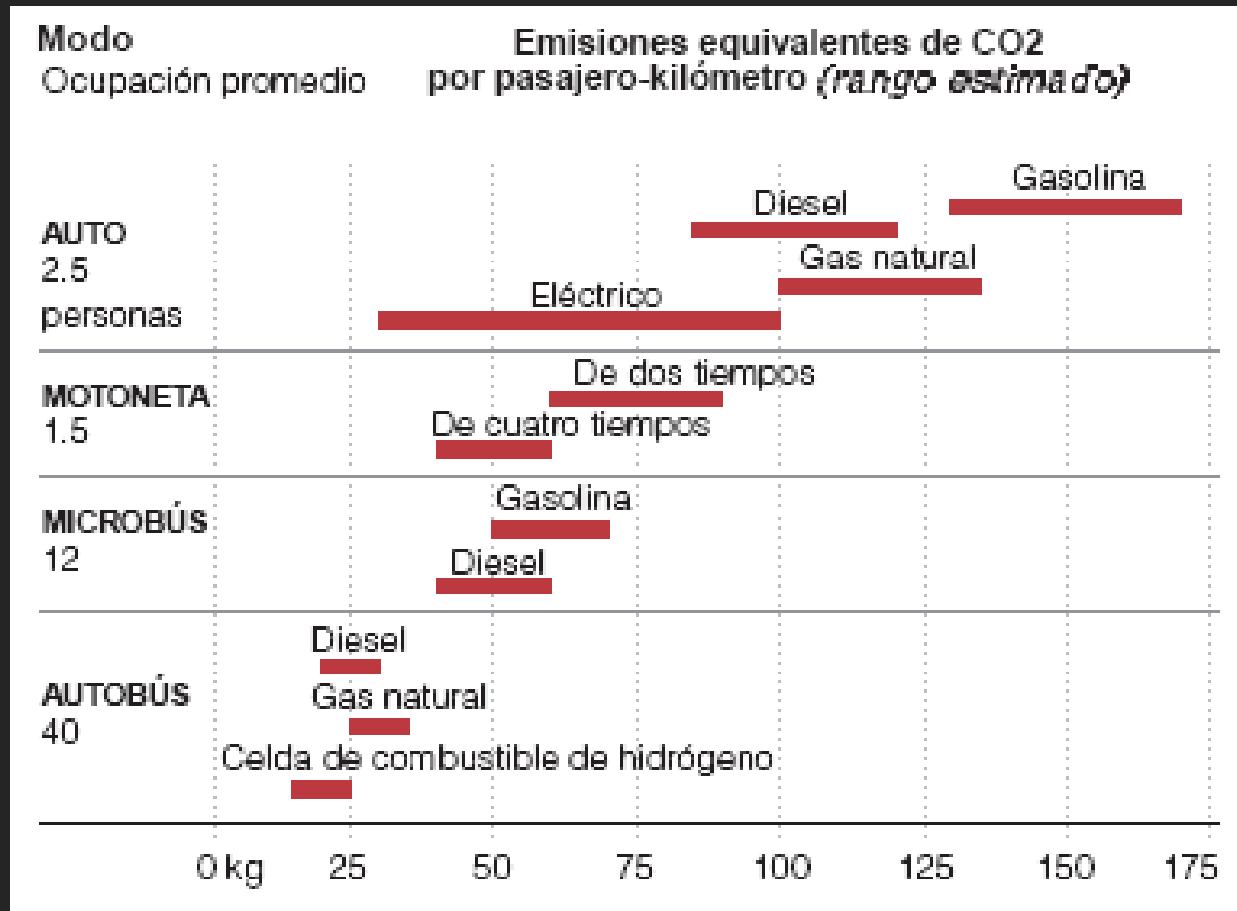


Mexico projection of total emission per mode (2009- 2030)



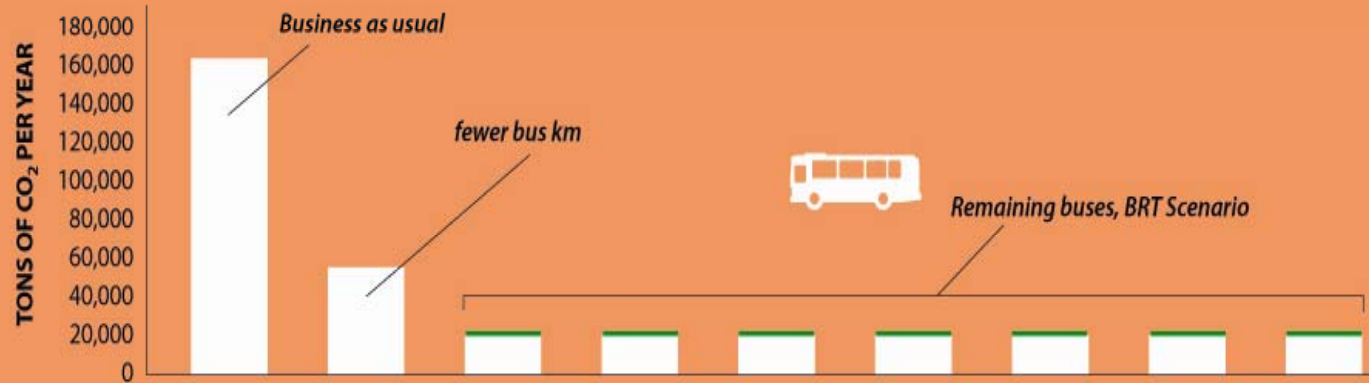
Source: MEDEC study, CTS 2008

Emission of CO₂eq per passenger-km



Source: Transport in Developing Countries, International Energy Agency, PEW Center for Global Climate Change

Bus Optimization Queretaro



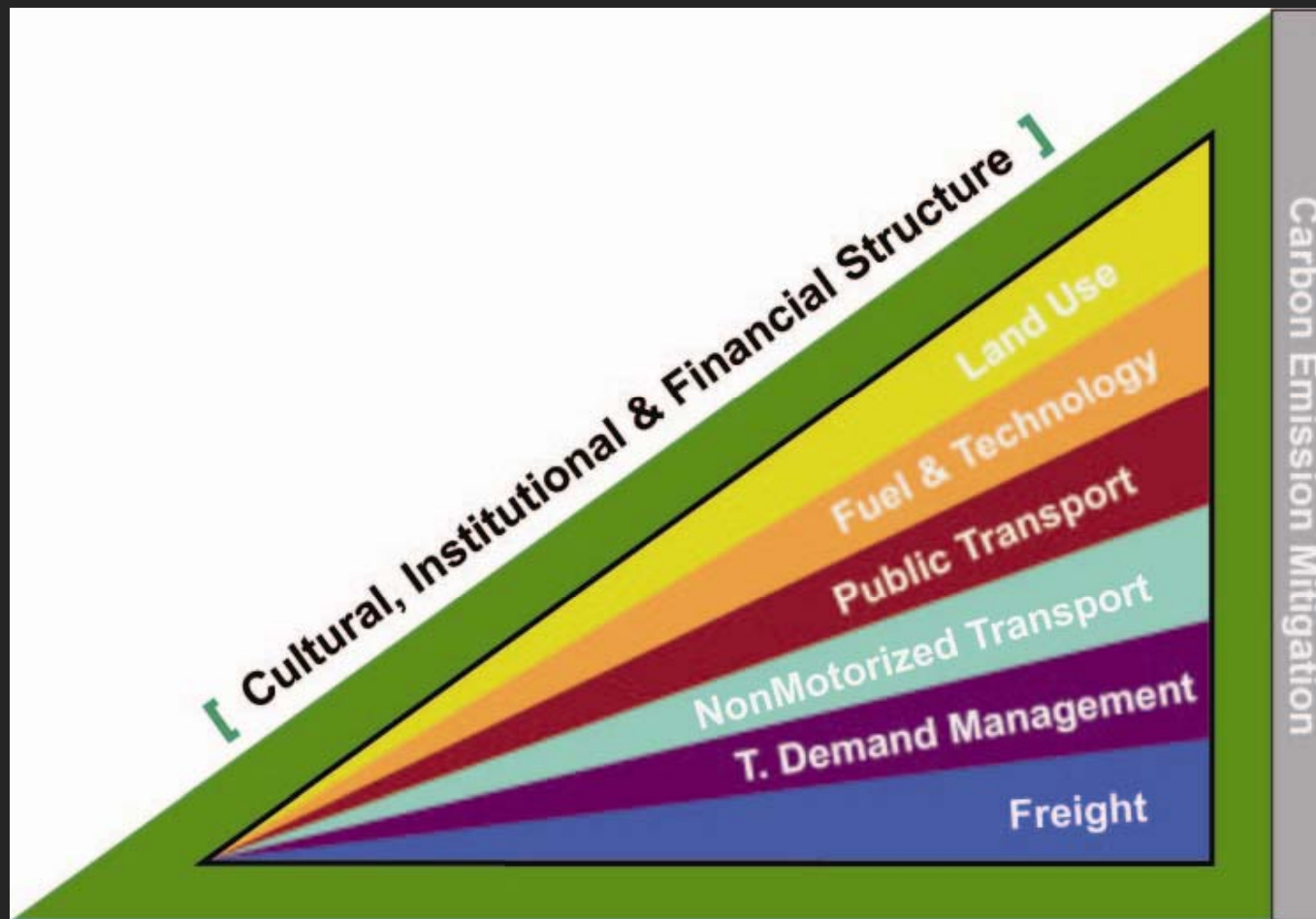
The problem

- The country's vehicle fleet tripled from 8.3 millions vehicles in 1996 to 21.5 millions in 2006 (average growth rate: 9.6%)
- In 2005, import of low efficient used vehicles (+10 years old) from the US amounted 1.3 millions.
- Mexico has followed a diffuse urbanization pattern, contributing for urban sprawl.
- Deteriorating quality of public transport
- Consumer fuel prices have been kept artificially stable in real terms.

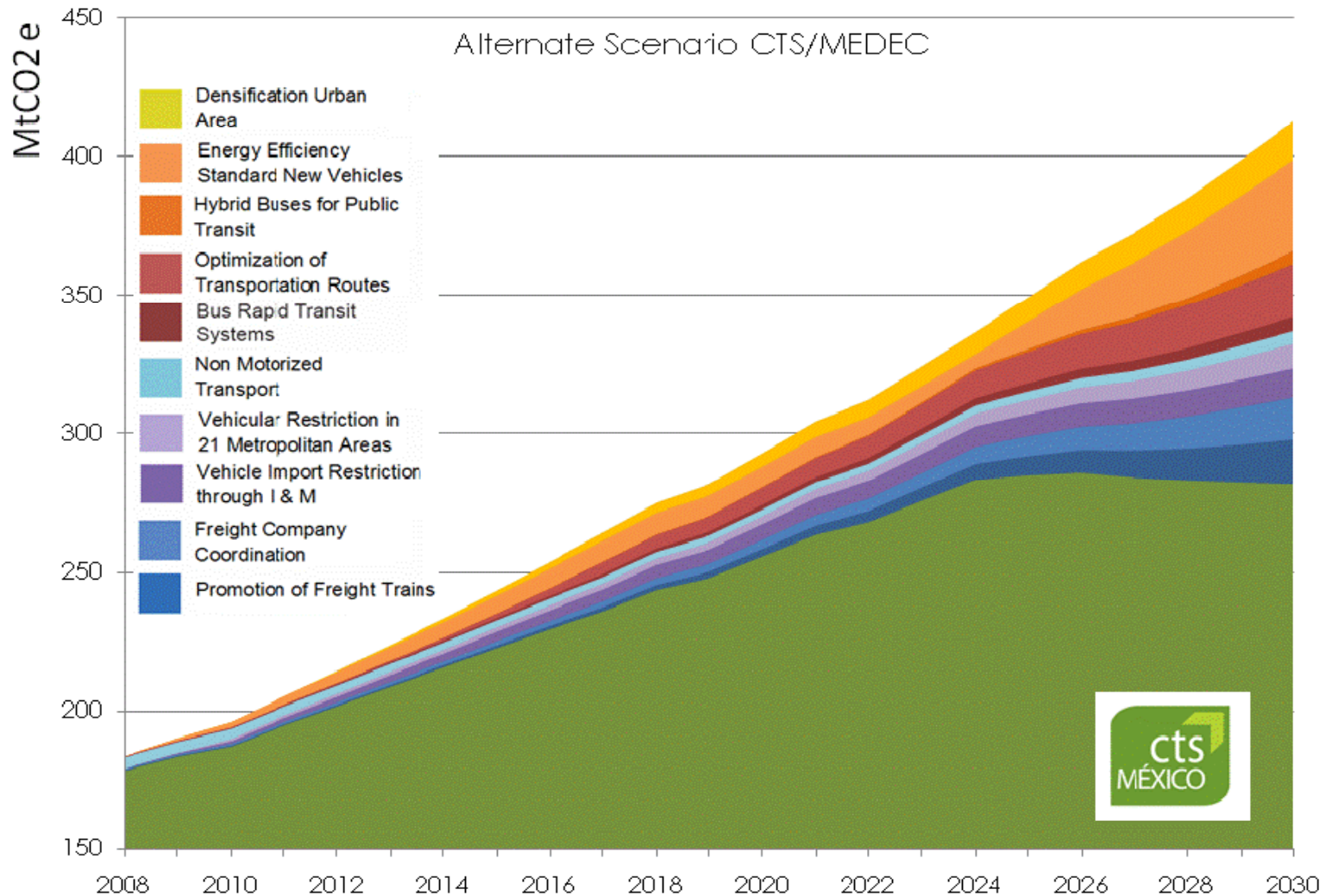


Proposed Strategy

To face the difficulties that the transport sector represent ,an integrated strategy is required



Alternate Scenario CTS/MEDEC

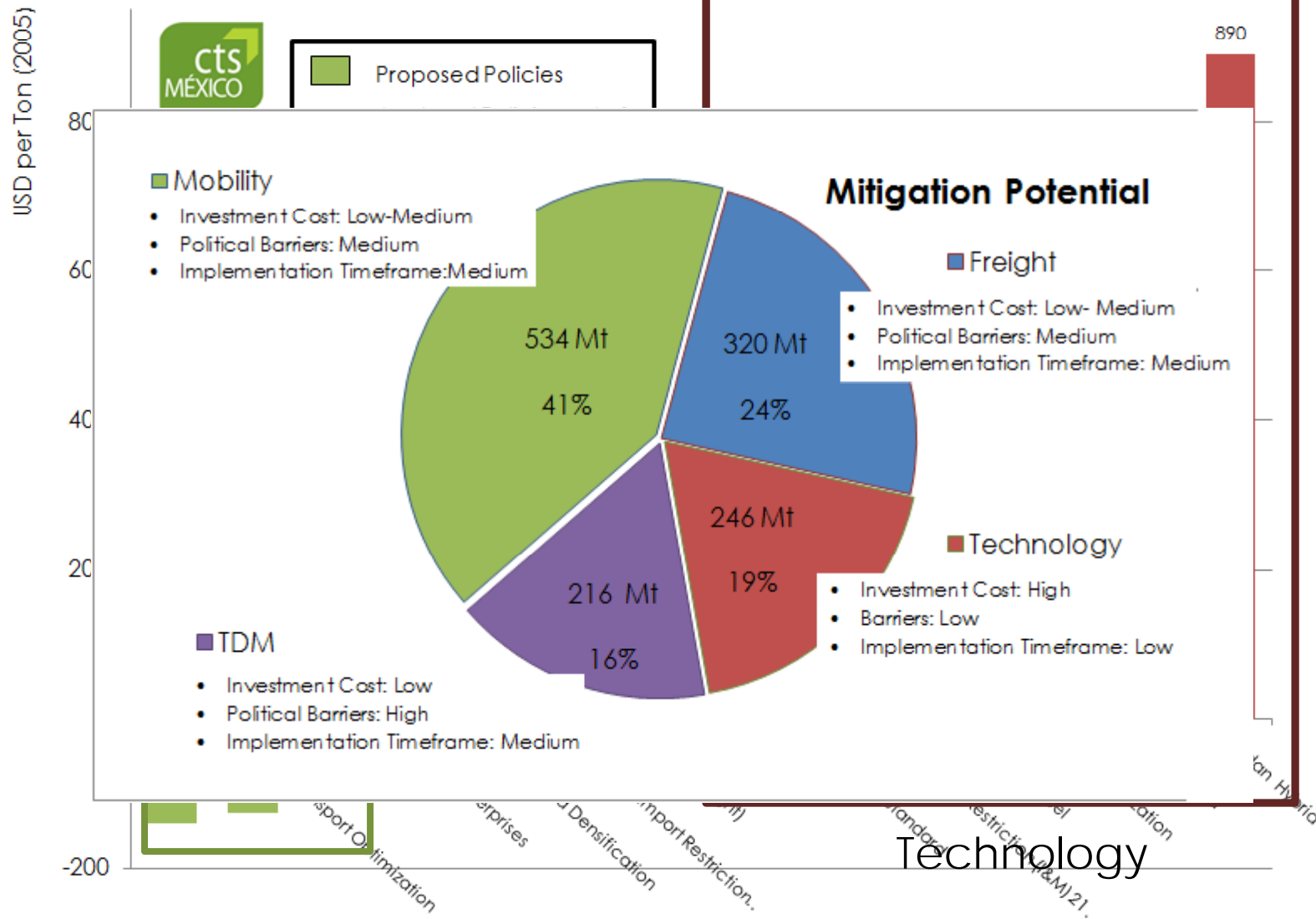


Source: CTS México, 2008.



MEDEC findings

- A dense urban growth policy helps to increase the demand for mass transit systems and hence improves their efficiency.
- Measures that improved mobility (travel time and life quality) for people were the ones that offered more social savings.
- Transport should be considered as an integrated system formed by the combination of very diverse and linked elements.
- Failing to recognize these interrelations in the design of a transport policy may jeopardize its overall success
- Decoupling emissions from economic growth has proven attainable by offering a high quality, efficient and convenient mobility system.



Source: CTS México, 2008.



The Future for Transport and Emissions



➤➤ Avoid- Shift- Improve approach:

- Avoiding or reducing the need to travel through improved access to daily needs
- Shifting travel to, or keeping the modal share of the most efficient mode
- Improving existing forms of motorized transport through technological improvements



BRT in Mexico: Metrobus



➤➤ Scope and Scale

➤➤ Transport: BRT in heavily traveled arterials (Insurgentes, Eje 4)

➤➤ Reform of model for operators in a corridor

➤➤ Little direct concern for CO₂ (hybrid buses would have saved little)

➤➤ Impacts –80,000 ton/CO₂ year (Insurgentes & Eje 4)

➤➤ Roughly 1/3 from bus switch, 1/3 from better traffic, 1/3 from mode switch

➤➤ Time saving, pollution, fewer accidents large benefits

➤➤ In \$, CO₂ small benefit even at \$85/ton CO₂

➤➤ Lessons: Transport First, CO₂ as a Co-benefit

➤➤ Most of CO₂ saving comes from non-project vehicles (!)

➤➤ Having good long-term data (Inventories) essential for CO₂ monitoring

➤➤ 1 good transport project can spark dozens like Insurgentes II & Eje 4)



Mexico's City Metrobus Lines

450,000 people/day over 2 lines (50 km in total)

Lower emissions, CO2, reduced car traffic

cts
MÉXICO



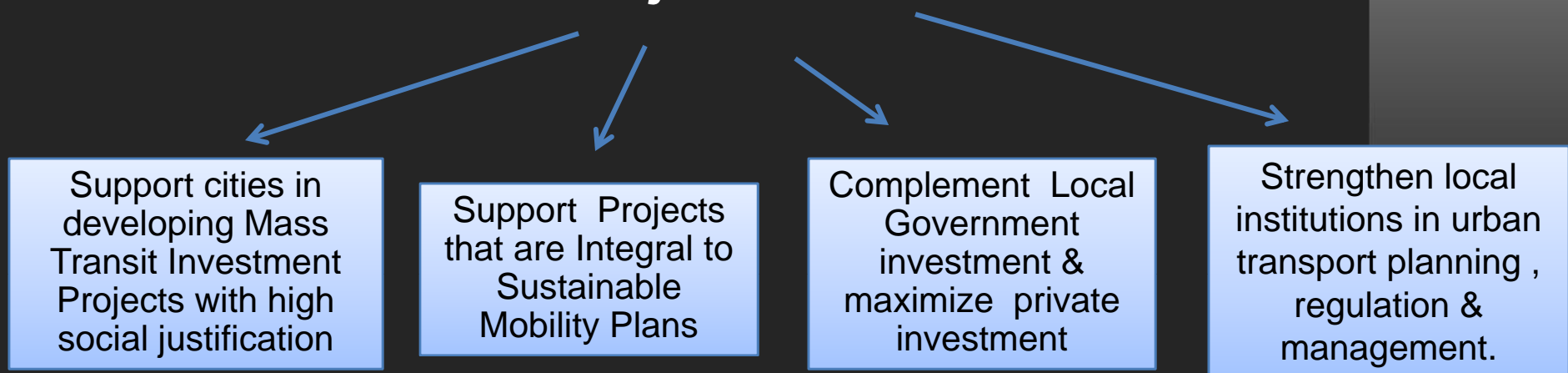
EMBARQ
NETWORK

Federal Support Program for Mass Transit (PROTRAM)



The Federal Government under the framework of Fondo Nacional de Infraestructura (FONADIN) in BANOBRAS
Developed through SHCP with World Bank assistance
The Federal Mass Transit Program (PROTRAM)

Objectives:



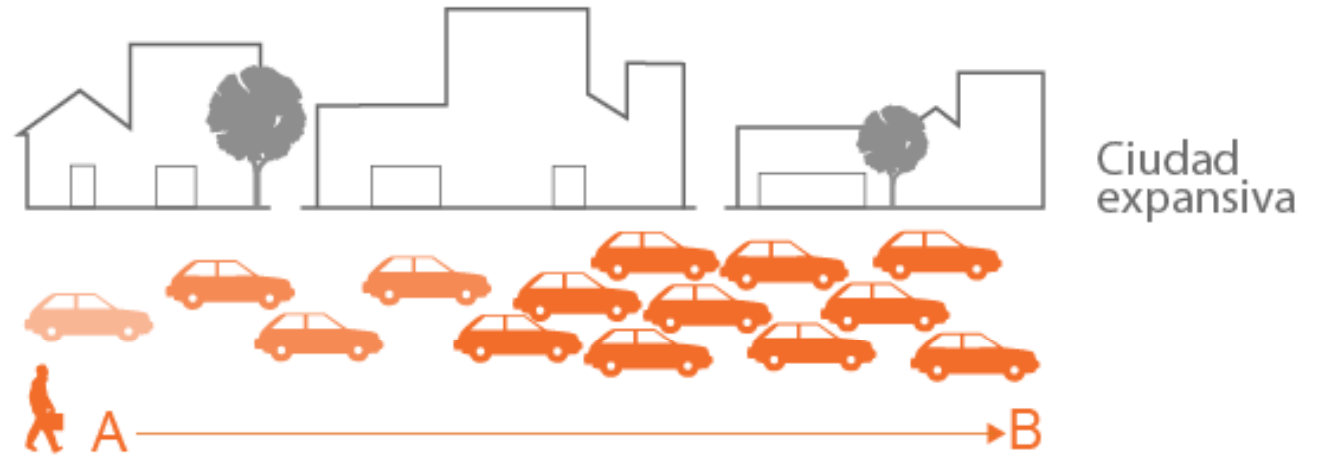
Mass Transit Potential (Calculations based on BRT)



- Investment of 10,800 million pesos
 - 1800 kms,
 - Reduction of 3 Mt CO₂ per year

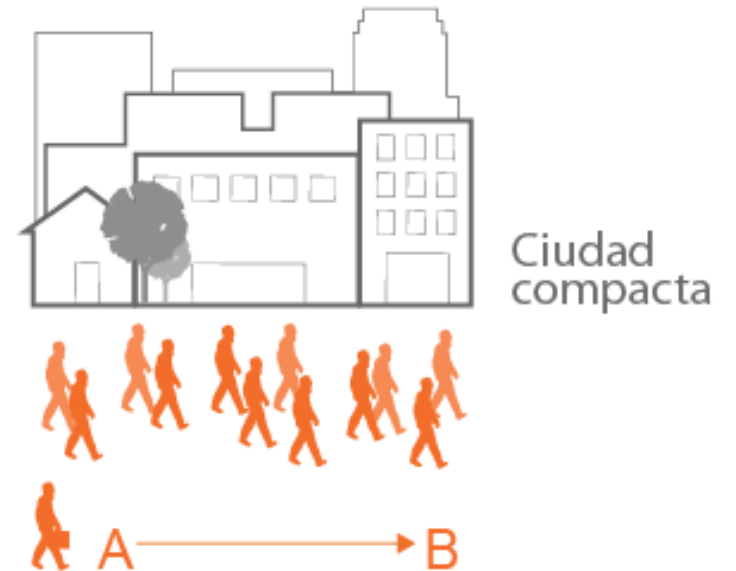


¿How to achieve sustainable mobility?



TRANSPORT EXPENDITURE	
DENSE CITIES	5-7 % GDP
DIFFUSE CITIES	15-25 % GDP

LOCAL POLLUTANTS PER INHABITANT	
DENSE CITIES	118 Kg.
DIFFUSE CITIES	31 Kg.



Transport as Economic Development Catalyst

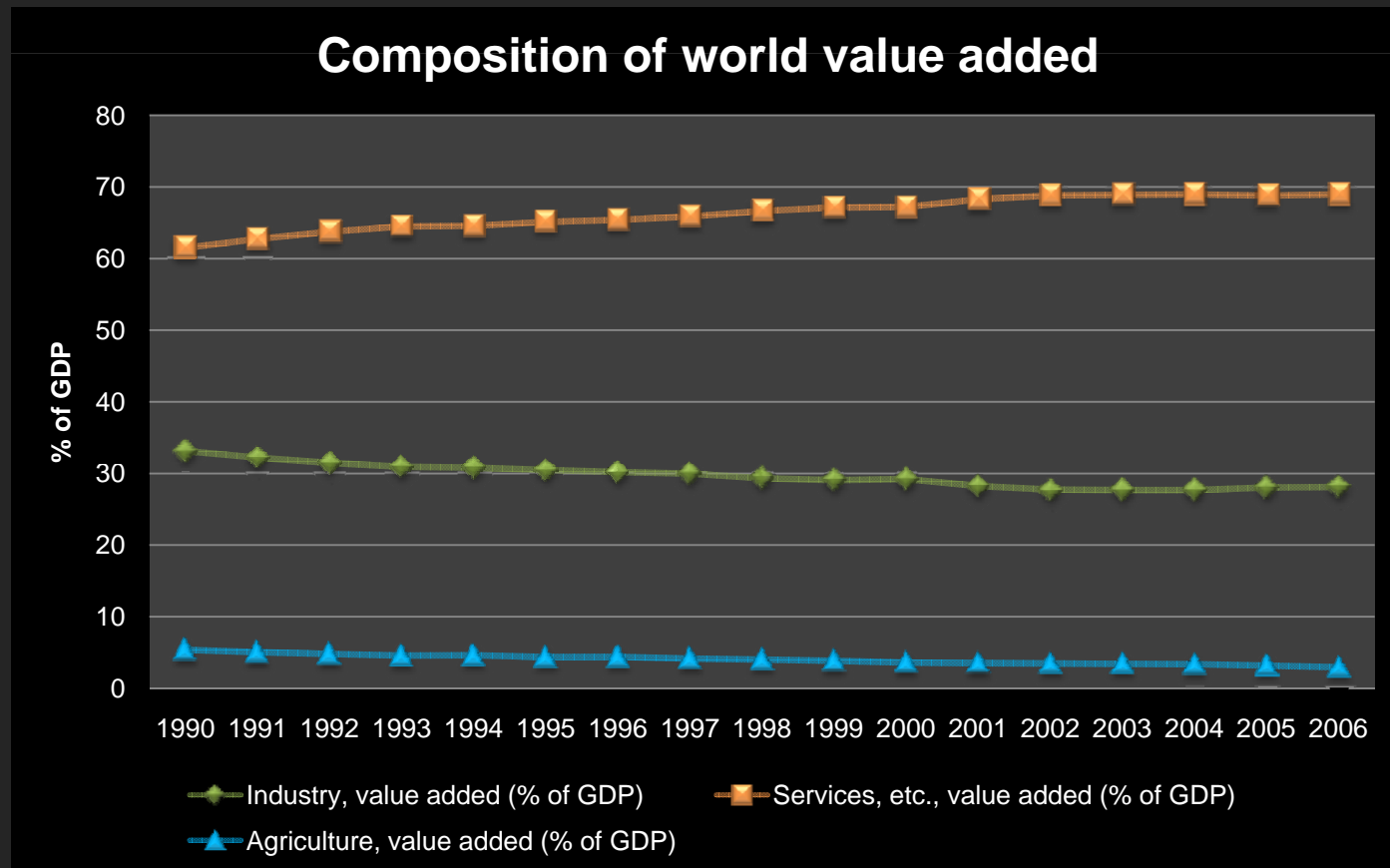
- Transportation is a basic human need.
- It helps shape human economic, social and cultural relationships.
- An efficient transport system will lead to less exposure to pollutants (health) and less transfer costs for the economy (merchandise transport).
- Procuring an efficient transport system will lower travel time for citizens and free resources for productive activity.
- Due to its influence on transfer costs, health, travel time and life quality most improvements in the transport system will tend to foster economic and social development



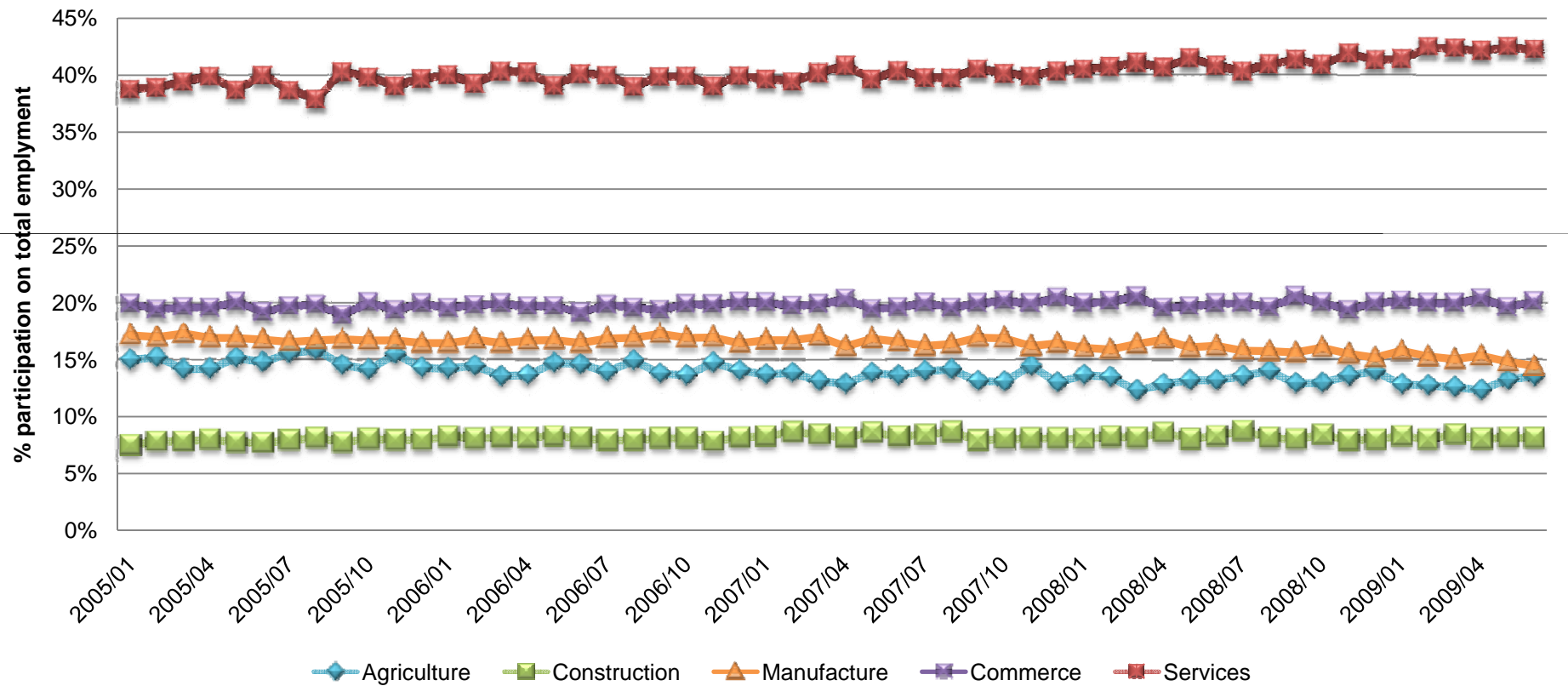
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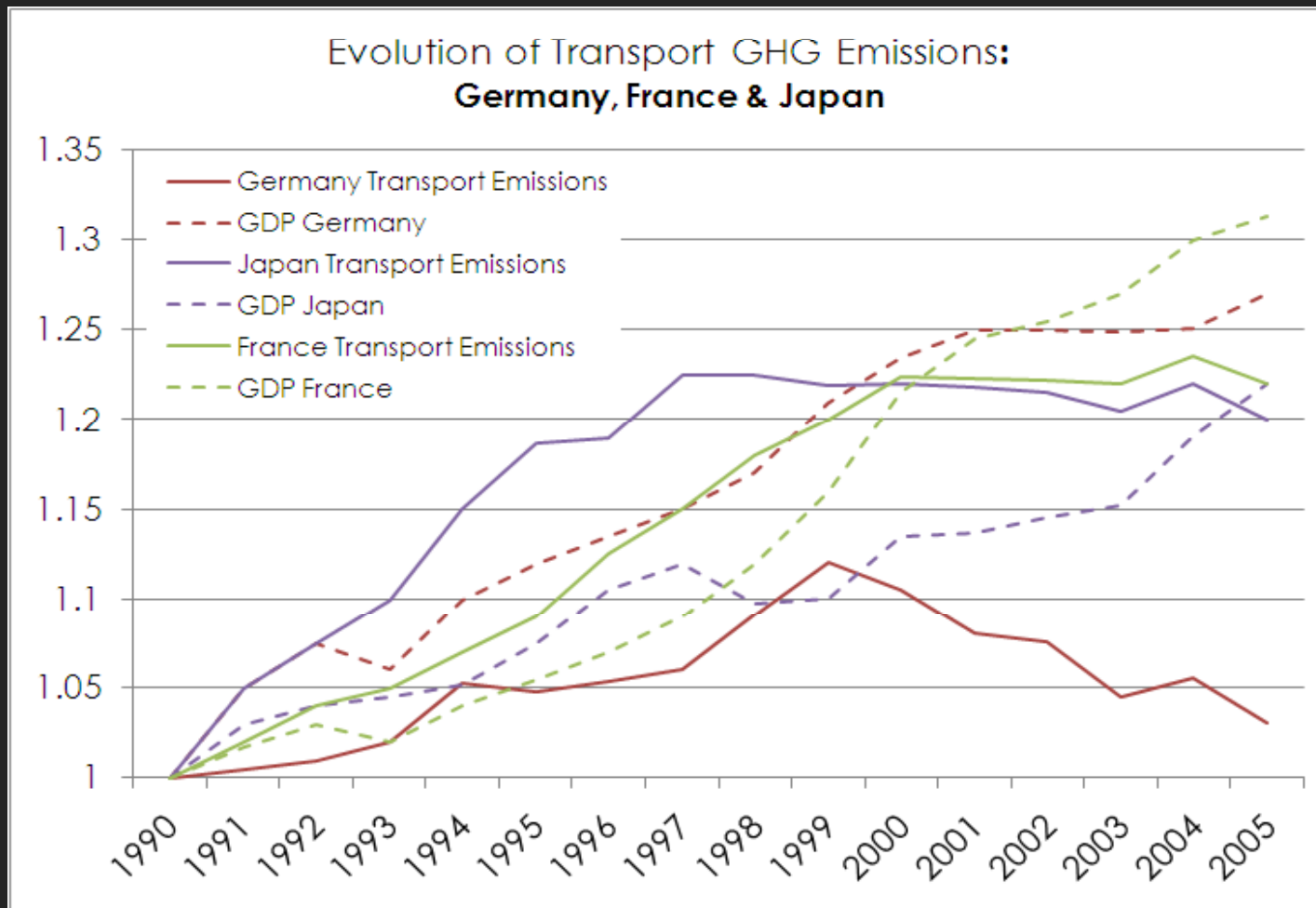
➤➤ This is particularly true in a world that is heading towards a predominantly service economy intensive in human capital.



Employment by type of economic activity



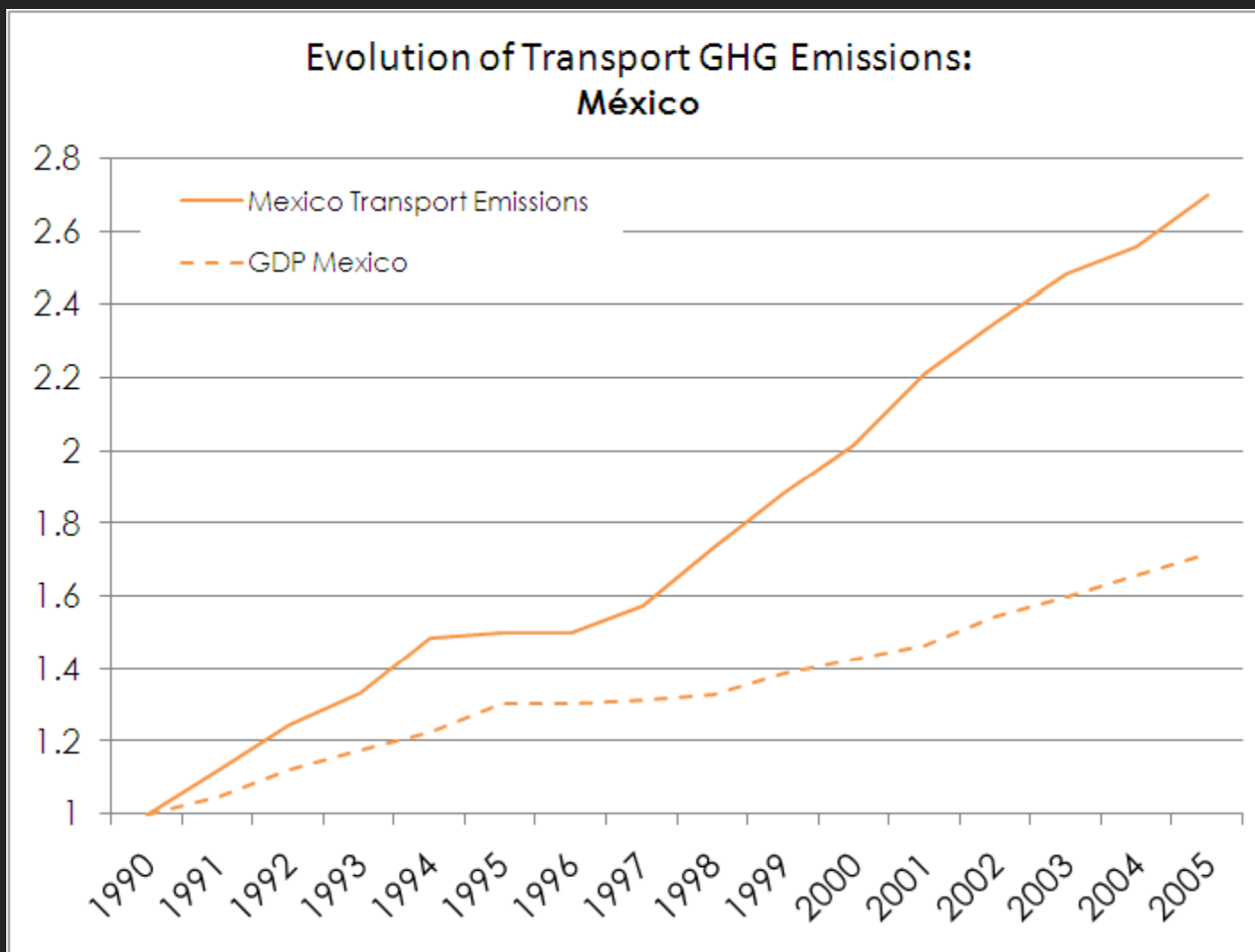
»» The experience in developed countries has proven the transport sector to be key in decoupling economic growth from greenhouse gases emission. Green Growth!



Source: Data from IEA, "CO2 Emissions from Fuel Combustion" (2007)



What is the pattern followed by Mexico and Developing Countries?



Source: CTS México, 2008.

Opportunities



- Mexican Green Fund offers an opportunity to levy institutional barriers to support non-regrets policies.
- In its structure it must consider enough flexibility as to open the possibility to finance transport policies (modal change, TDM, etc)
- Possibility to expand PROTRAM and increase national economic competition by promoting mobility policies.





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World Trade Center, Ciudad de México

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THANK YOU

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