



Centro de
Transporte
Sustentable

Biennial Conference on Transportation and Energy Policy

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

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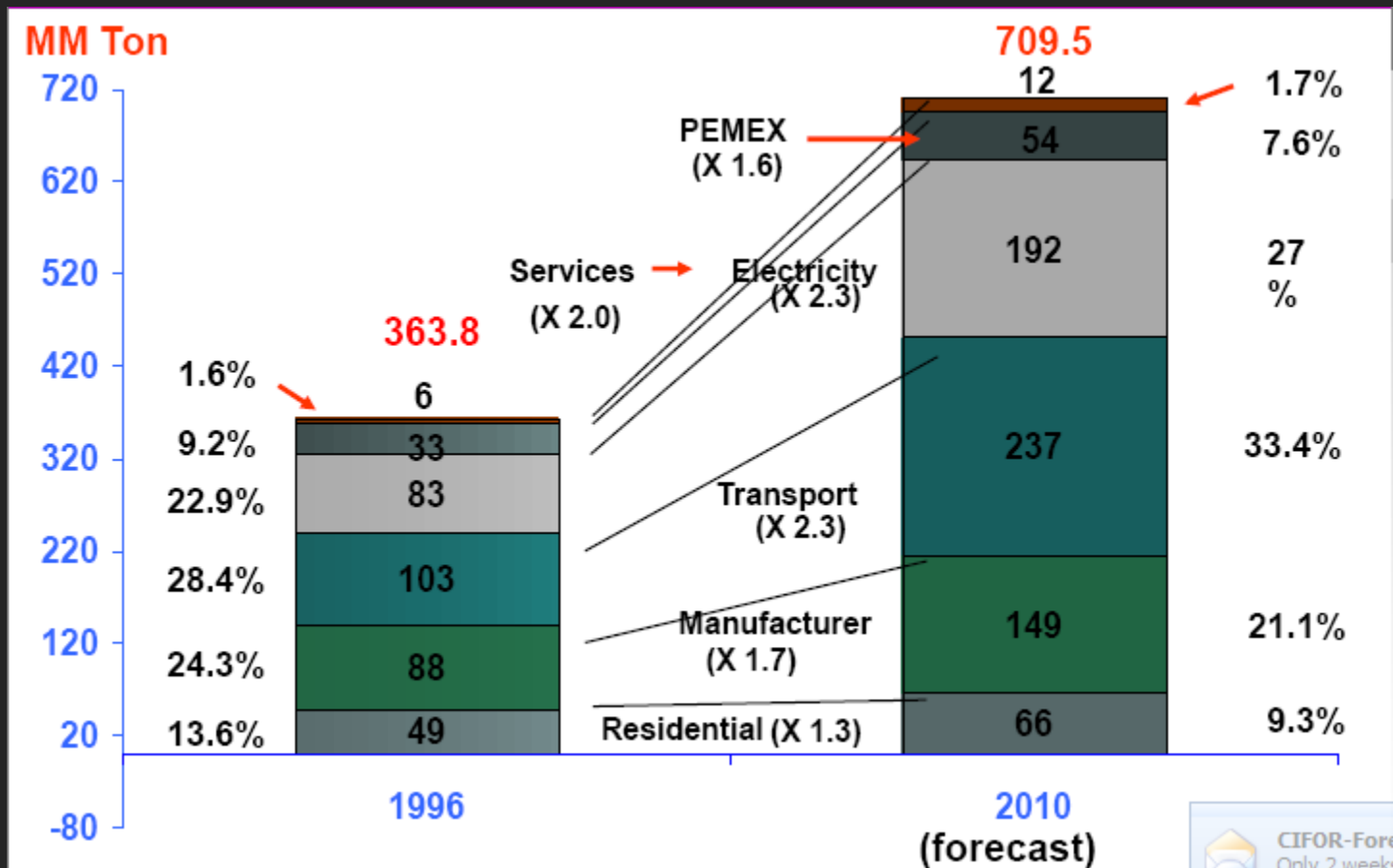
July 28th, 2009



Content

- Urban transport and climate change
- Diagnosis: MEDEC
- Tackling the problem:
 - BRT systems
 - PROTRAM
 - Fuel economy standard

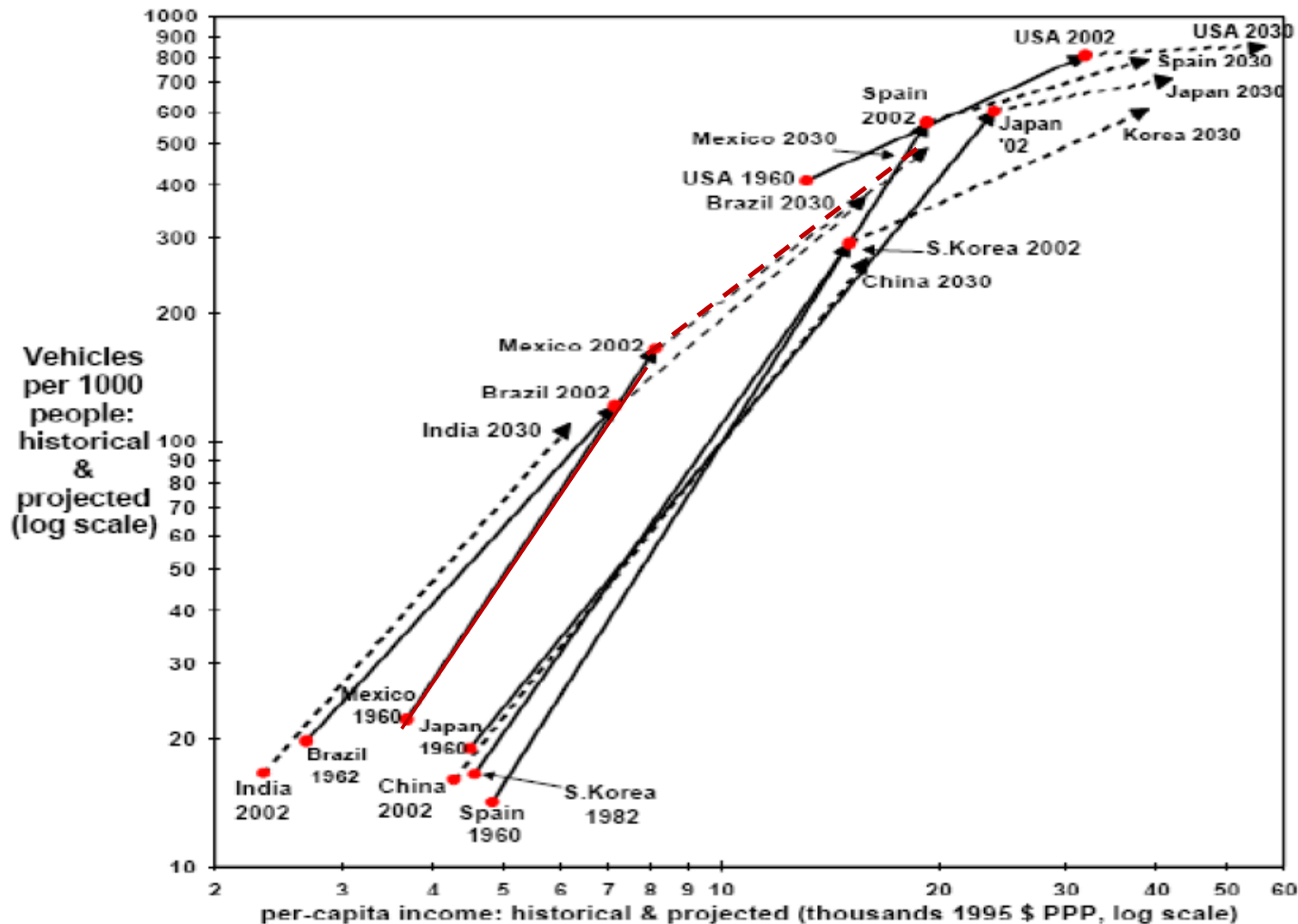
GHG Emissions by sector



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

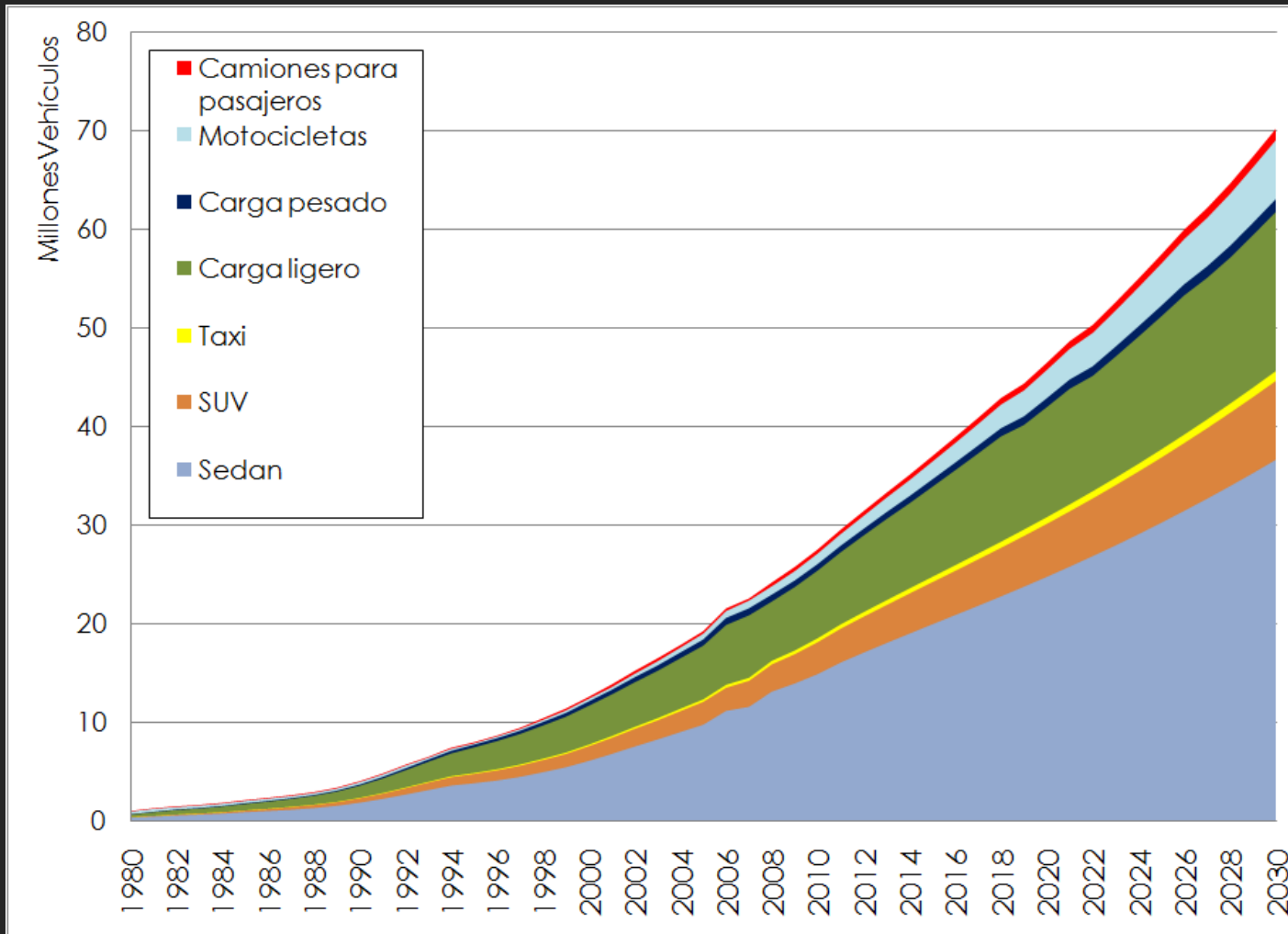
Motor Vehicle Ownership

Historical Trend and Projected Growth for Selected Countries



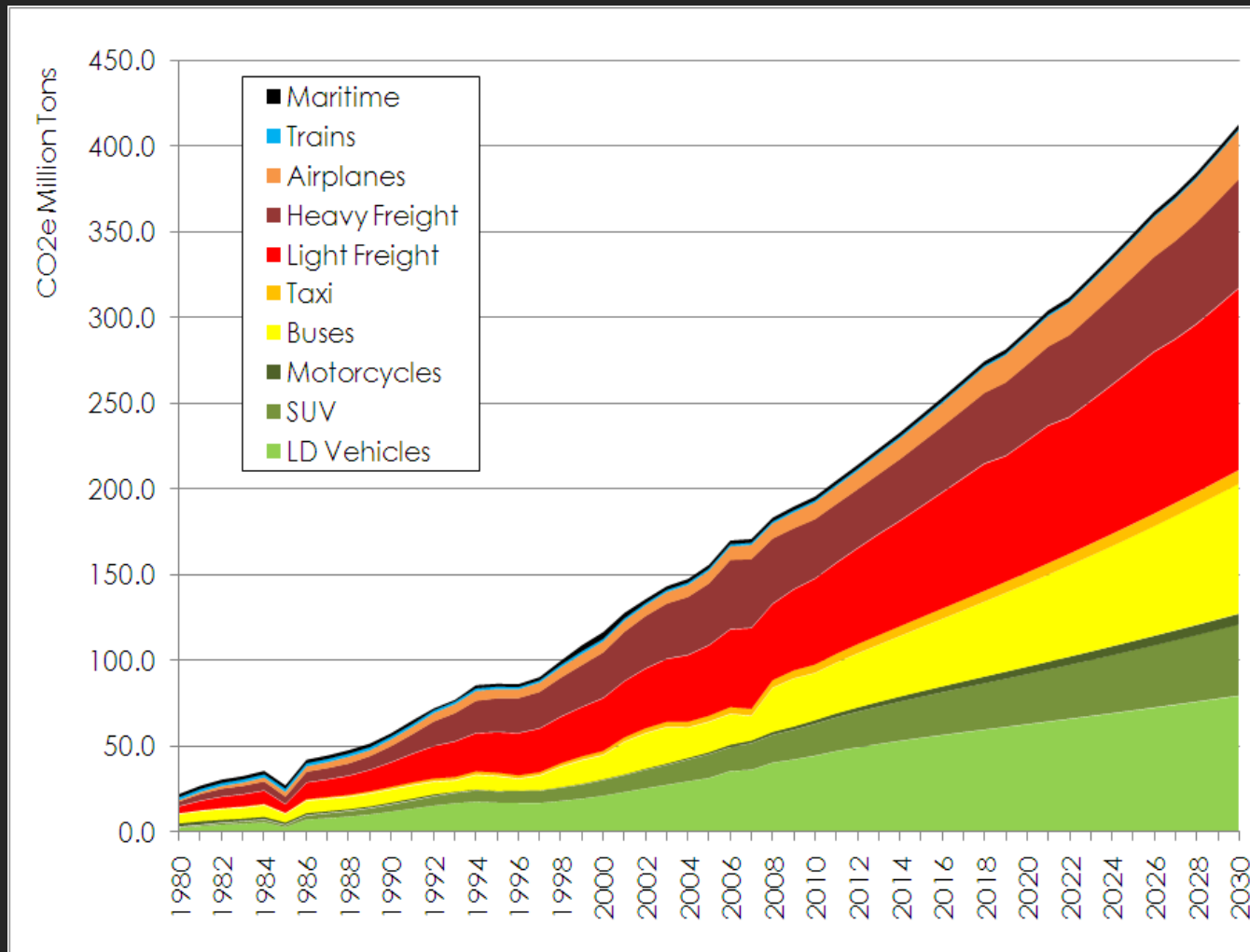
Source: Vehicle Ownership and Income Growth, World Wide, 1960-2030, Dargay, et al, 2007

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



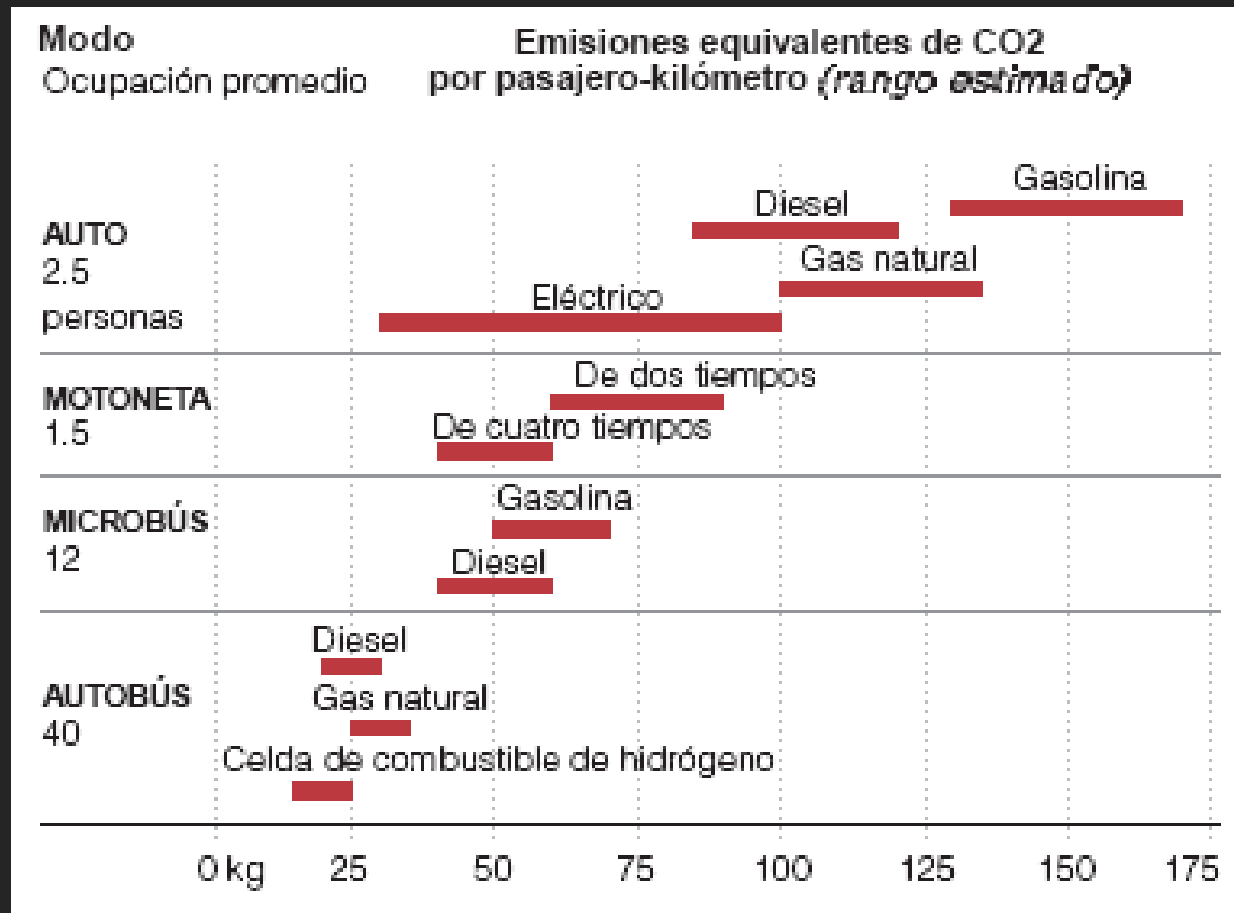
Source: MEDEC study, CTS 2008

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



Source: MEDEC study, CTS 2008

Emission of CO₂eq per passenger-km



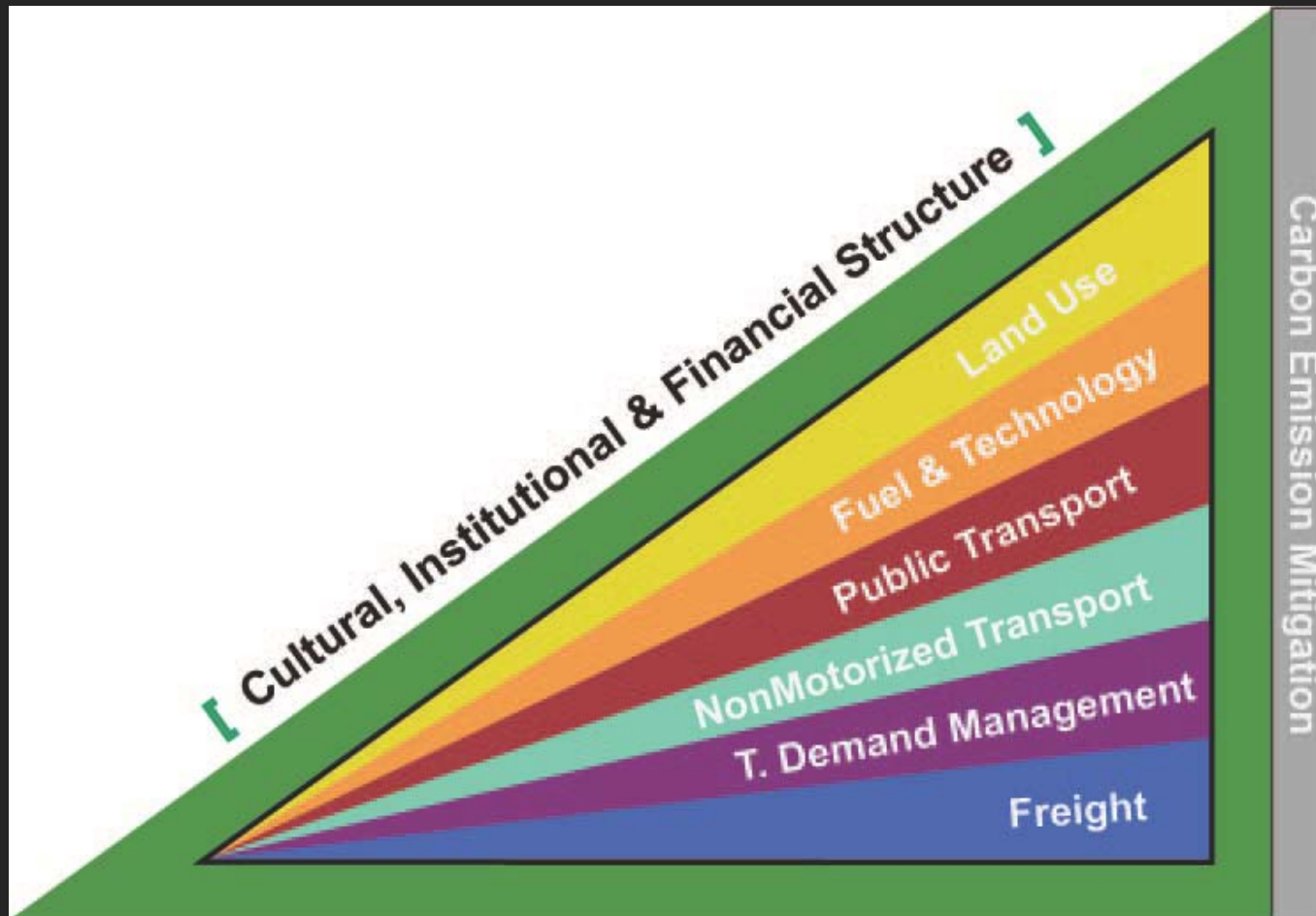
The problem

- 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.

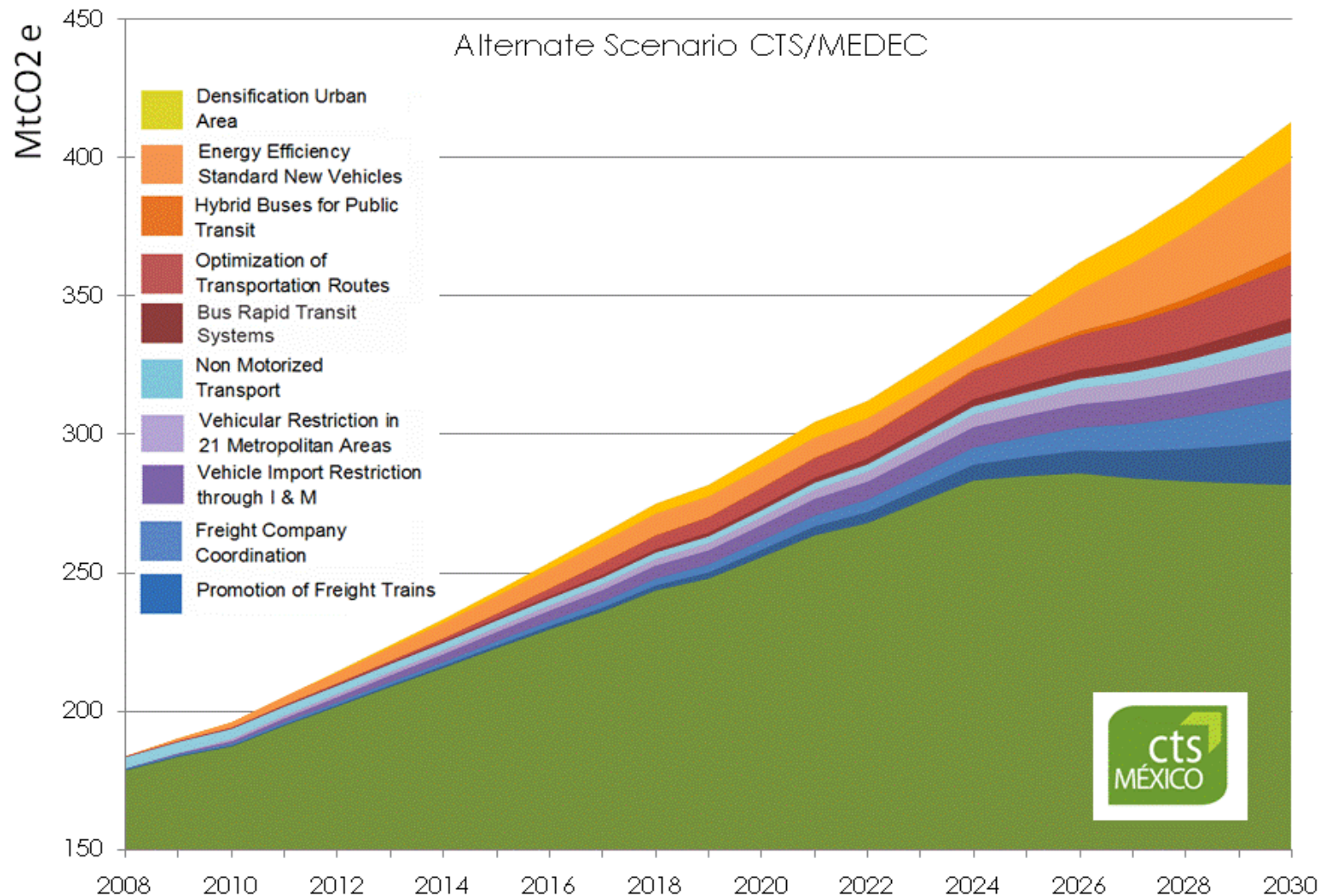


Proposed Strategy

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



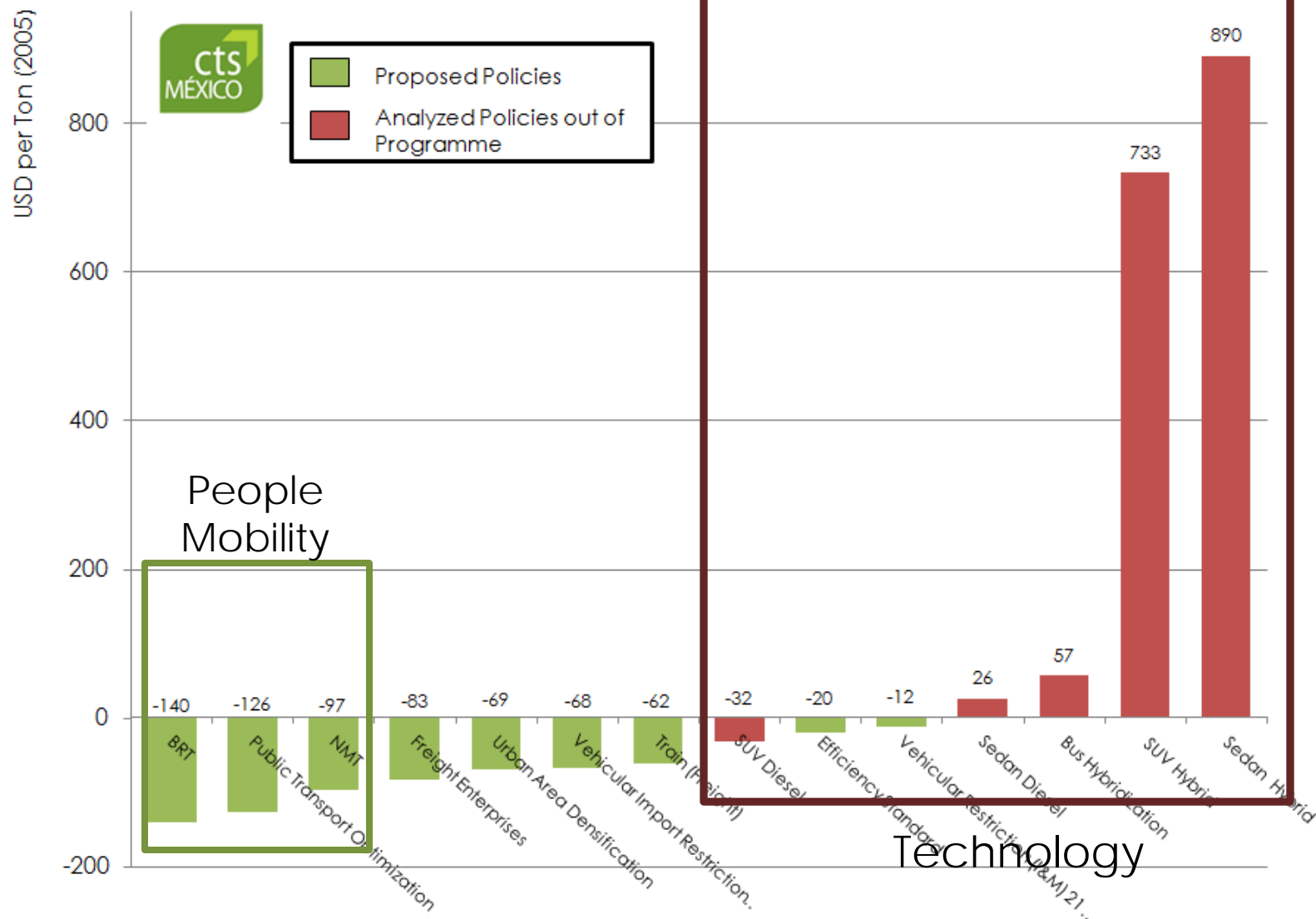
Alternate Scenario CTS/MEDEC



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 where 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.



Mobility

- Investment Cost: Low-Medium
- Political Barriers: Medium
- Implementation Timeframe: Medium

Mitigation Potential

Freight

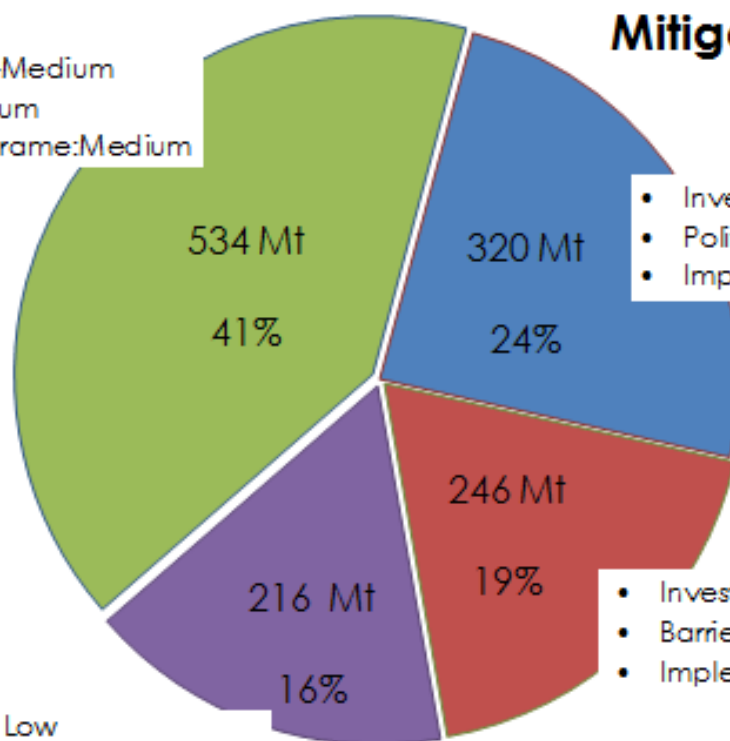
- Investment Cost: Low- Medium
- Political Barriers: Medium
- Implementation Timeframe: Medium

Technology

- Investment Cost: High
- Barriers: Low
- Implementation Timeframe: Low

TDM

- Investment Cost: Low
- Political Barriers: High
- Implementation Timeframe: Medium



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

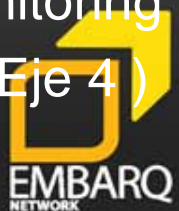
- Transport: BRT in heavily traveled arterials (Insurgentes, Eje 4)
- Reform of model for operators in a corridor
- Little direct concern for CO₂ (hybrid buses would have saved little)

➤➤ Impacts –80,000 ton/CO₂ year (2 corridors)

- 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/tonne 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)



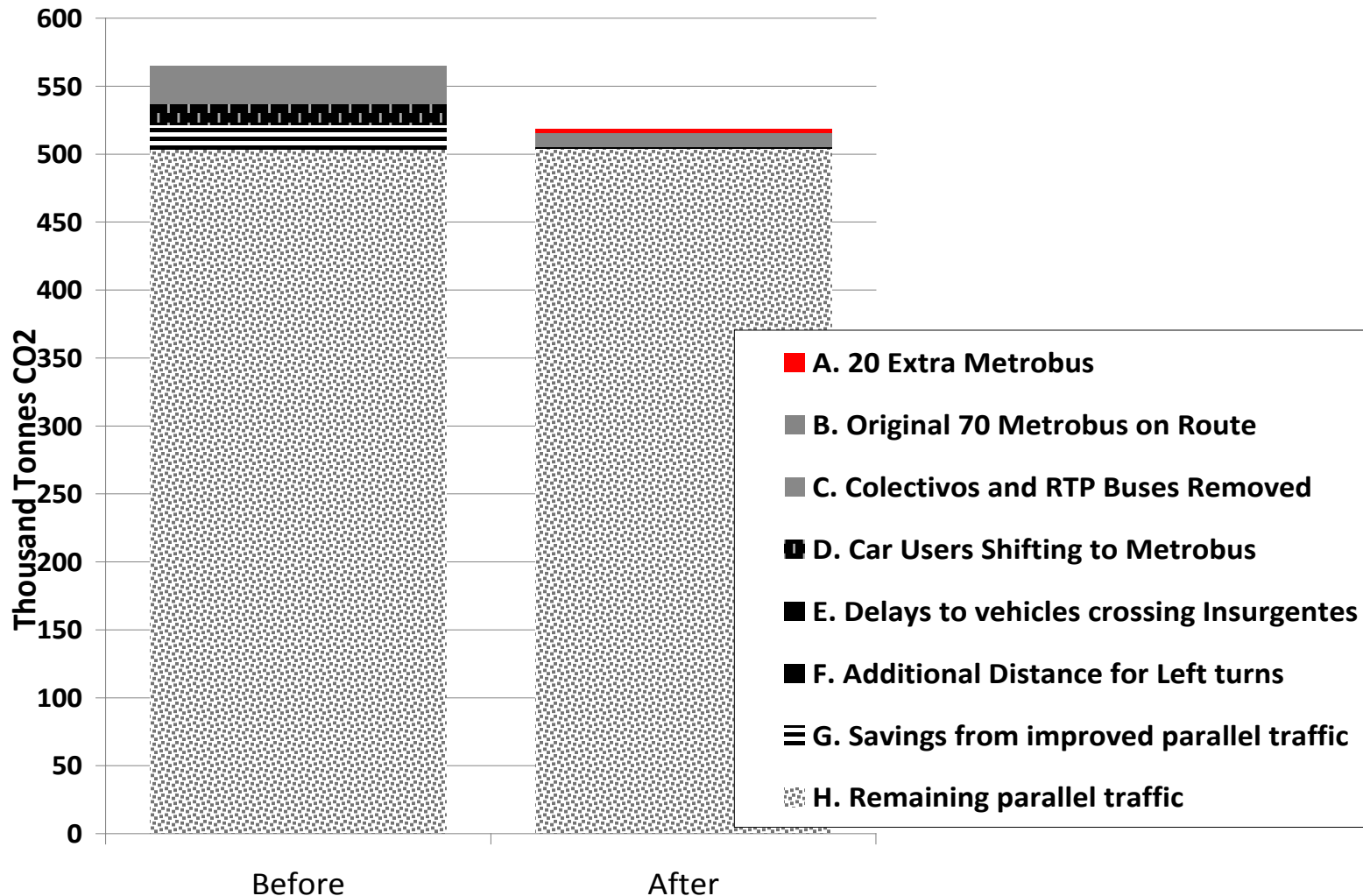
Mexico's City Metrobus Lines

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

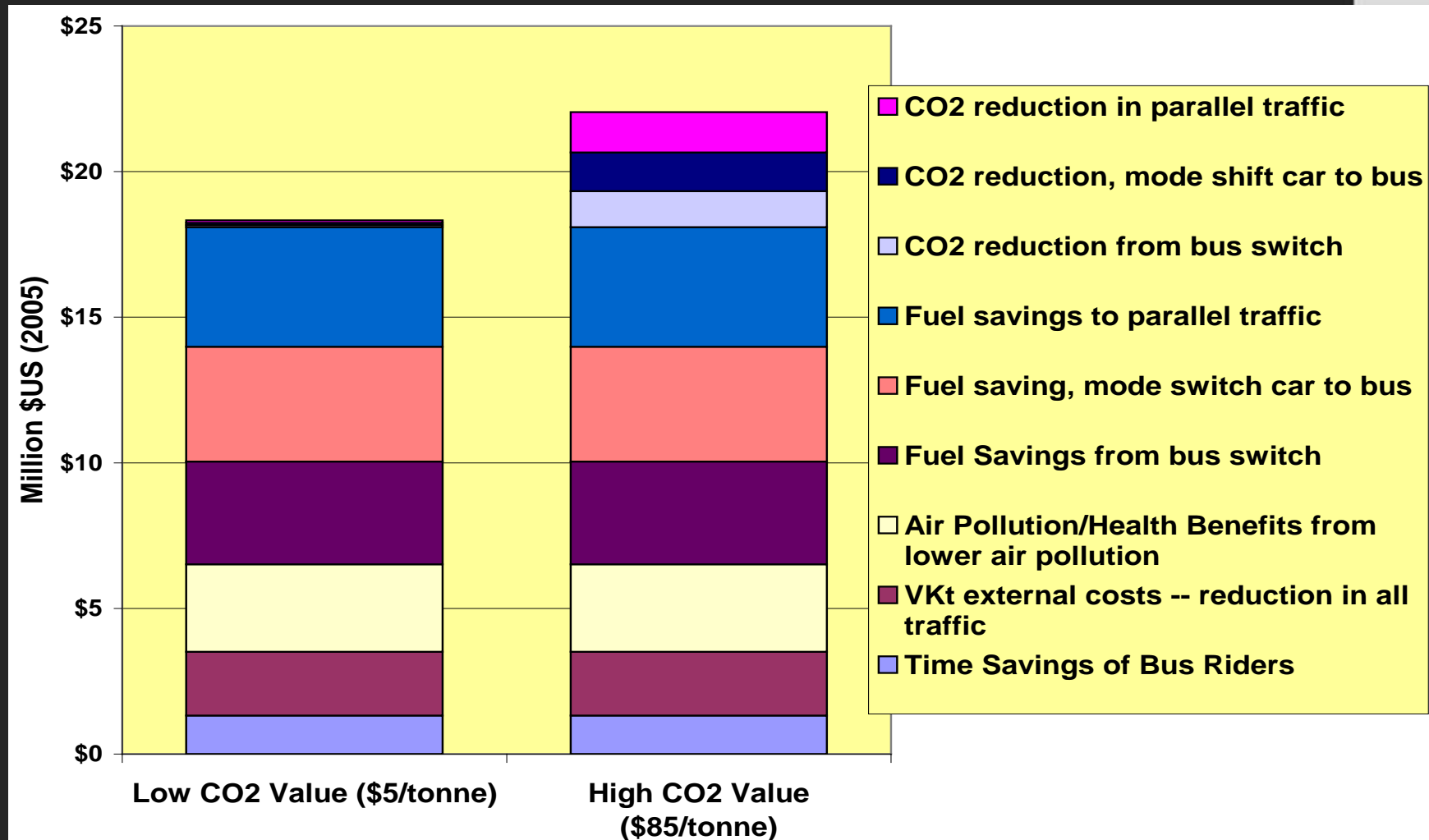
Lower emissions, CO2, reduced car traffic



Metrobus CO2 Changes by Component



Benefits from Metrobus: Broad Than Just CO2



Federal Support Program for Mass Transit (PROTRAM)

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

Objectives:



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graph TD; A[Objectives:] --> B[Support cities in developing Mass Transit Investment Projects with high social justification]; A --> C[Support Projects that are Integral to Sustainable Mobility Plans]; A --> D[Complement Local Government investment & maximize private investment]; A --> E[Strengthen local institutions in urban transport planning, regulation & management.];
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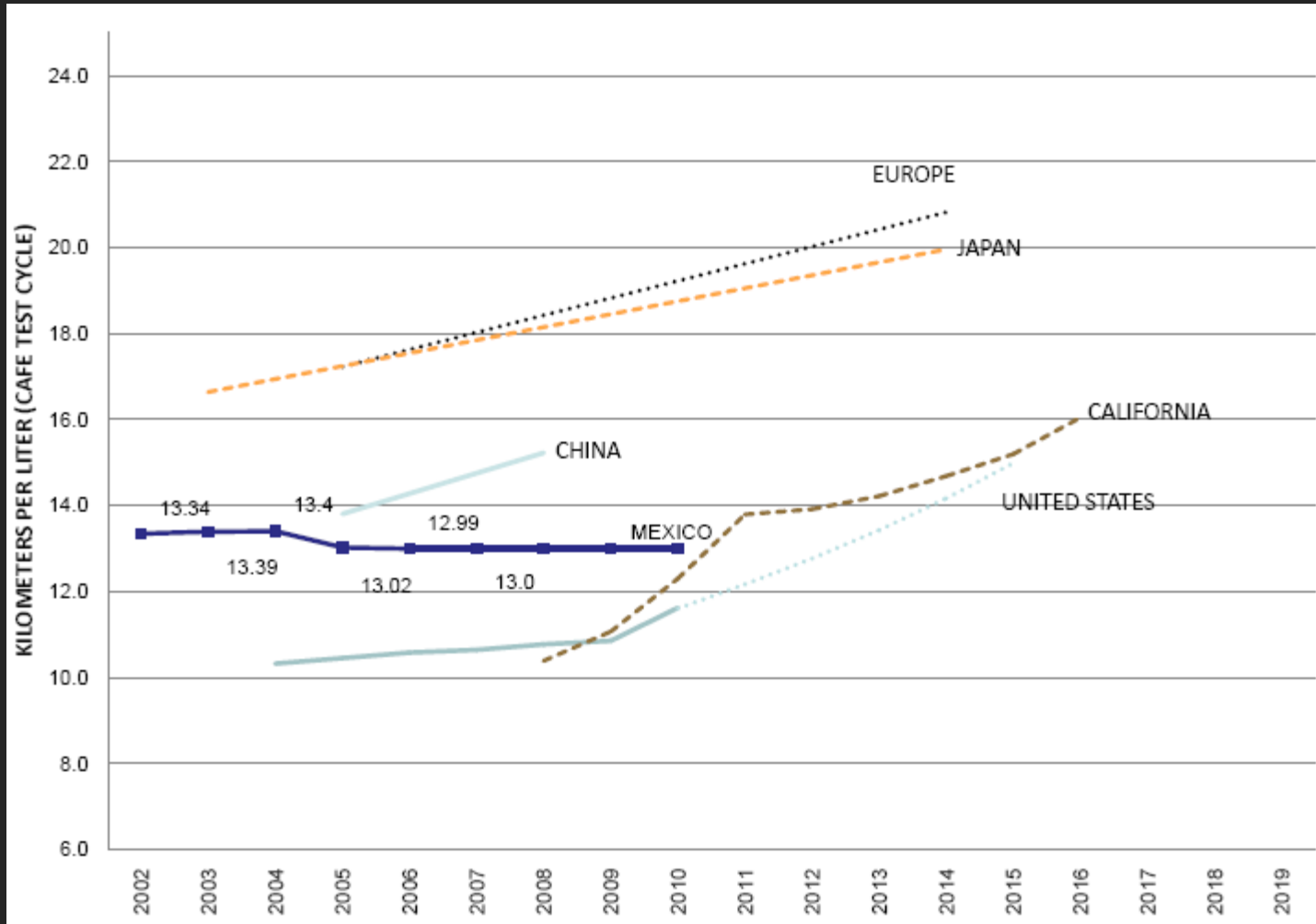
Support cities in developing Mass Transit Investment Projects with high social justification

Support Projects that are Integral to Sustainable Mobility Plans

Complement Local Government investment & maximize private investment

Strengthen local institutions in urban transport planning , regulation & management.

New passenger vehicles fuel economy evolution in Mexico 2002-2008



Source: INE, 2008

Standard proposal

- Objective: to achieve 18 km/l corporate average fuel economy for the new light duty vehicle fleet in 2015 (equivalent 130gr CO₂/km)
- Policy to:
 - Mitigate GHG emissions
 - Curve fossils fuels consumption
 - To cut fossil fuels subsidies (1.87% of the GDP, 2008)
 - To diminish fossil fuels imports (44% of the total consumption in 2008)

Standard characteristics

- A non attribute flat standard using combined fuel economy (average weighted by sales) of the total new light duty vehicle fleet
 - Gasoline only (ULS diesel is not yet available in Mexico)
 - Avoiding incentives to increase weight
 - As similar as possible with the rest of North America
 - Scheme by traders(not manufacturers)
 - As flexible as possible allowing changes in fleet composition, technological change and allowing a market to compensate between traders



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Ciudades Competitivas Bajas en Carbono

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THANK YOU

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