



Libertad y Orden

COLOMBIAN CLIMATE CHANGE MITIGATION GROUP
MINISTRY OF ENVIRONMENT, HOUSING AND TERRITORIAL PLANNING



Ministry of Environment, Housing and Territorial Planning
Republic of Colombia

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NATIONAL EXPERIENCES IN EXPANDING URBAN PUBLIC TRANSPORT SERVICES: BRTs in Bogotá, Cali and Pereira. Cable cars in Medellín



UN FORUM ON CLIMATE CHANGE MITIGATION, FUEL EFFICIENCY
AND SUSTAINABLE URBAN TRANSPORT

Seoul, Korea – March 16th 2010

Background



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Bogota – Colombia

- Area: 37,414 ha aprox.
- Population: 7.2 million inhabitants (15% of total)
- High density: 286 inhabitants/ha
- Annual growth rate: 2.5%
- 2,600 m above sea level
- Average temperature: 17°C



In 1998

- Average trip: 1h 10min
- Speed 12-18km/h
- 70% of PM was contributed by transportation
- 45% Occupancy rate of buses
- 95% of the road infrastructure used by private cars, only 16% of the population transported
- 1,378 car accidents and 66 road fatalities

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Solutions for mobility and contamination in Bogota



Metro solution

- Economically unviable
- Long term solution
- Investment cost per km
USD\$ 107 million*

BRT solution

- Economically viable
- Short/medium term solution
- Investment cost per km
USD\$ 5 million*



Agreement 04/1999 Bogota Council: approved creation of TransMilenio company

* Source: Transmilenio's PDD

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Traditional Public Transport

- 20,065 buses
- 4,112,214 trips/day
- Speed at rush hour 18km/h
- 509 Routes
- Average length of routes 49,2km



Private cars

- 1,000,000 private cars
- 1,394,301 trips/day

Individual Public Transport

- 45,724 Taxis
- 350,130 trips/day

TransMilenio

- 1,132 trunk buses
- 517 feeder buses
- 1,600,000 trips/day (24% traditional)
- Average speed 27km/h
- Trunk lanes 84km
- Feeder lines 551km





The First Transport Approved Methodology and Registered Project

- **AM0031:** Baseline Methodology for Bus Rapid Transit Projects (Jul 2006)
- **TransMilenio:** Fase II – IV. (Registered Dic 2007)

PROJECT	Emission Reductions
BRT Bogotá, Colombia: Transmilenio Fase II-IVR	59,020 CERs (Jan-Dec 2006) 69,885 CERs (Jan-Dec 2007) 68,813 CERs (Jan-Dec 2008)
BRT Cali, MIO	256,281 ton CO ₂ e /year
BRT Pereira, Megabús	33,393 ton CO ₂ e /year
Cable Cars, Metro Medellín	16, 954 ton CO ₂ e /year
BRT Barranquilla, Transmetro	61,511 ton CO ₂ e /year



BRT Cali, MIO



BRT Pereira, MEGABUS

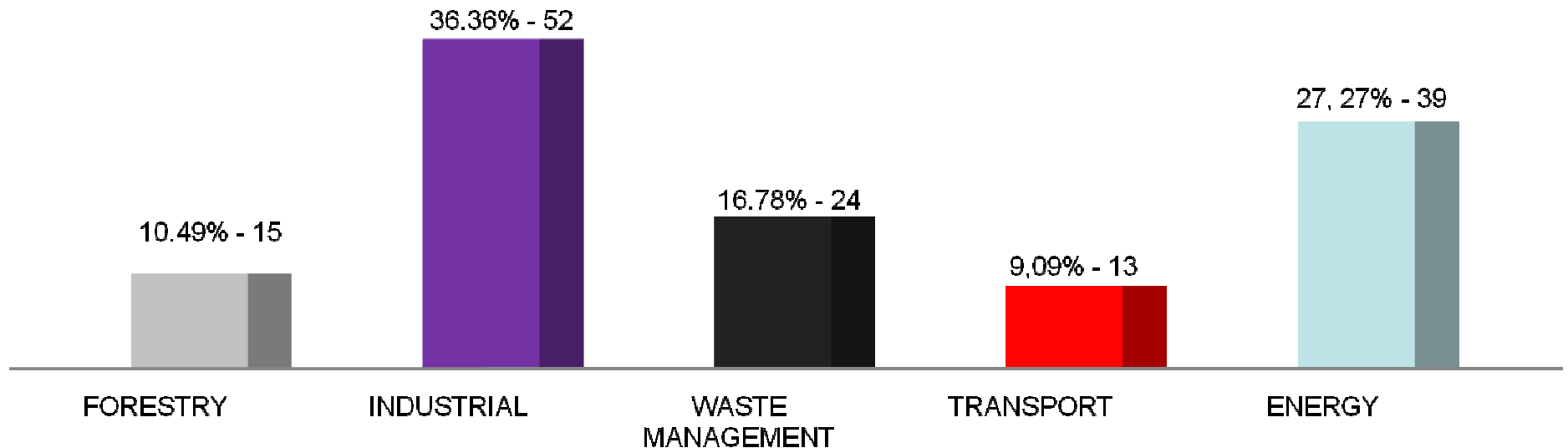
- **AMS-III.U:** Cable Cars for Mass Rapid Transit (Sep 2008)

CDM projects in Colombia



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Emission Reductions potential in Colombia: **16,761,876 tonCO₂e/year**



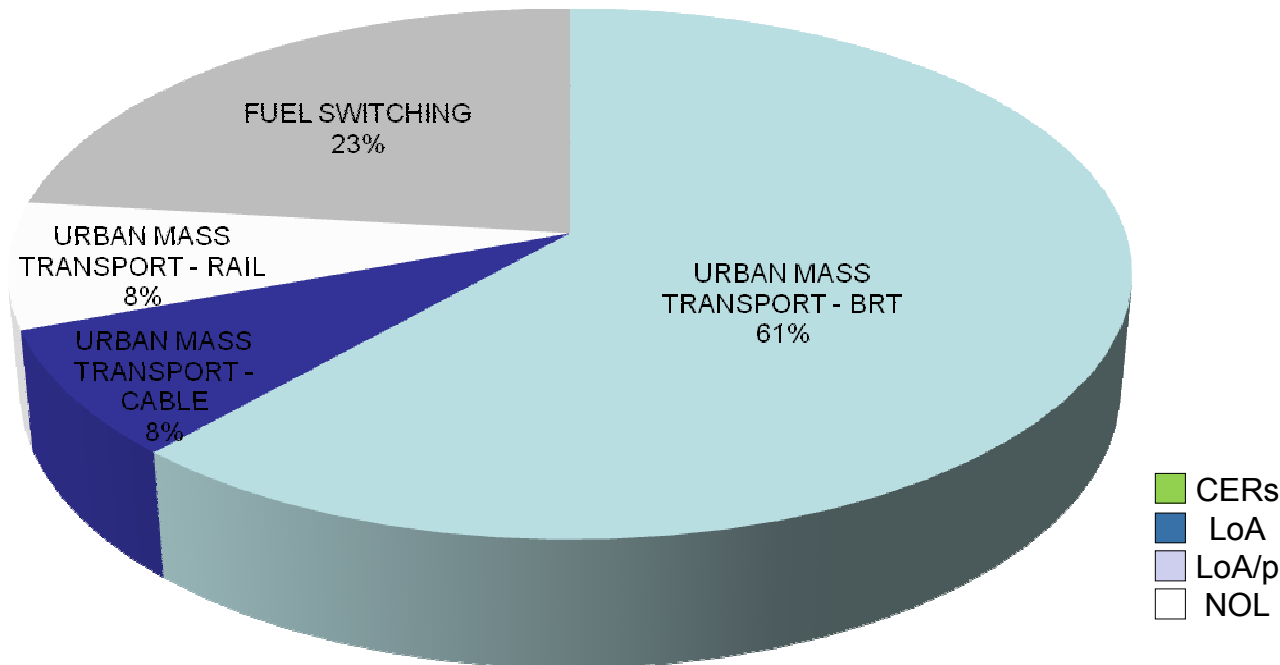
- **145** projects in the Colombia CDM pipeline – **USD 158.4 million dollars**
- **52 LoA** approved by DNA: Sustainable Development Contribution to Colombia – **4,840,993 tonCO₂e/year**
- **21** Registered by CDM EB – **3,105,082 tonCO₂e/year**
- **6** projects had issued **643,032 CERs**
- **ERPAs** representing **USD 56.6 million dollars**

BRT systems as CDM projects in Colombia



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POTENTIAL OFFER – TRANSPORT SECTOR



BRT Bogotá, Colombia: Transmilenio Fase II-IVR
MIO, Cali, Colombia
Megabús, Pereira, Colombia
Cable Cars Metro Medellín
BRT Barranquilla, Transmetro
BRT Valle de Aburrá, Metroplús
BRT Bucaramanga, Metrolínea
Railway Mass Rapid Transit , Metro de Medellín
BRT Cartagena, Transcaribe

- **13** projects – Emission reductions potential **1.3 million tonCO₂e/year**
- Urban Mass Transport systems: BRT, Cable Cars, Rail Way systems
- Fuel switching in existing vehicle fleets

Sustainable Urban Transport evidences

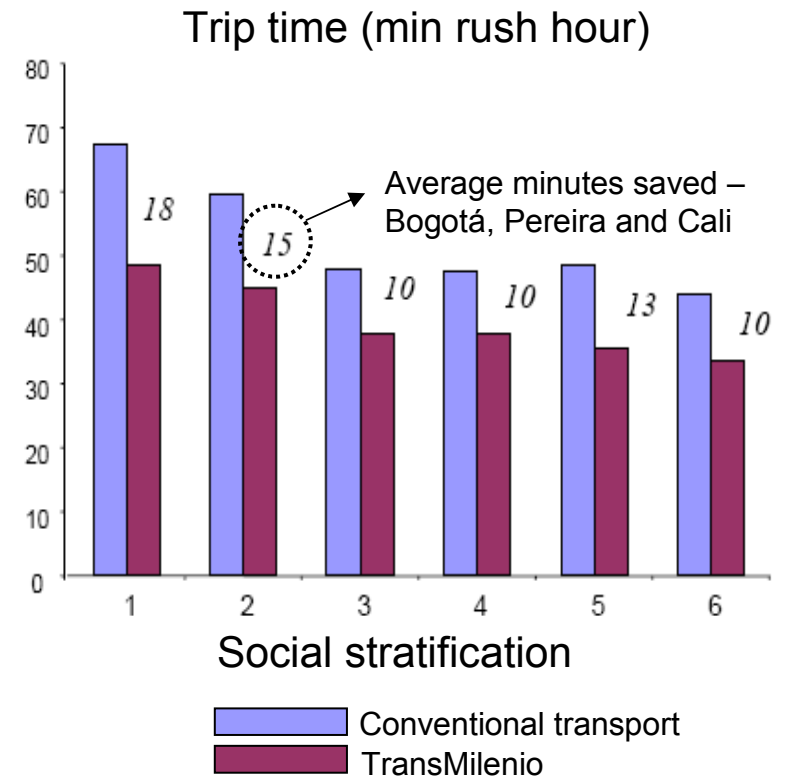
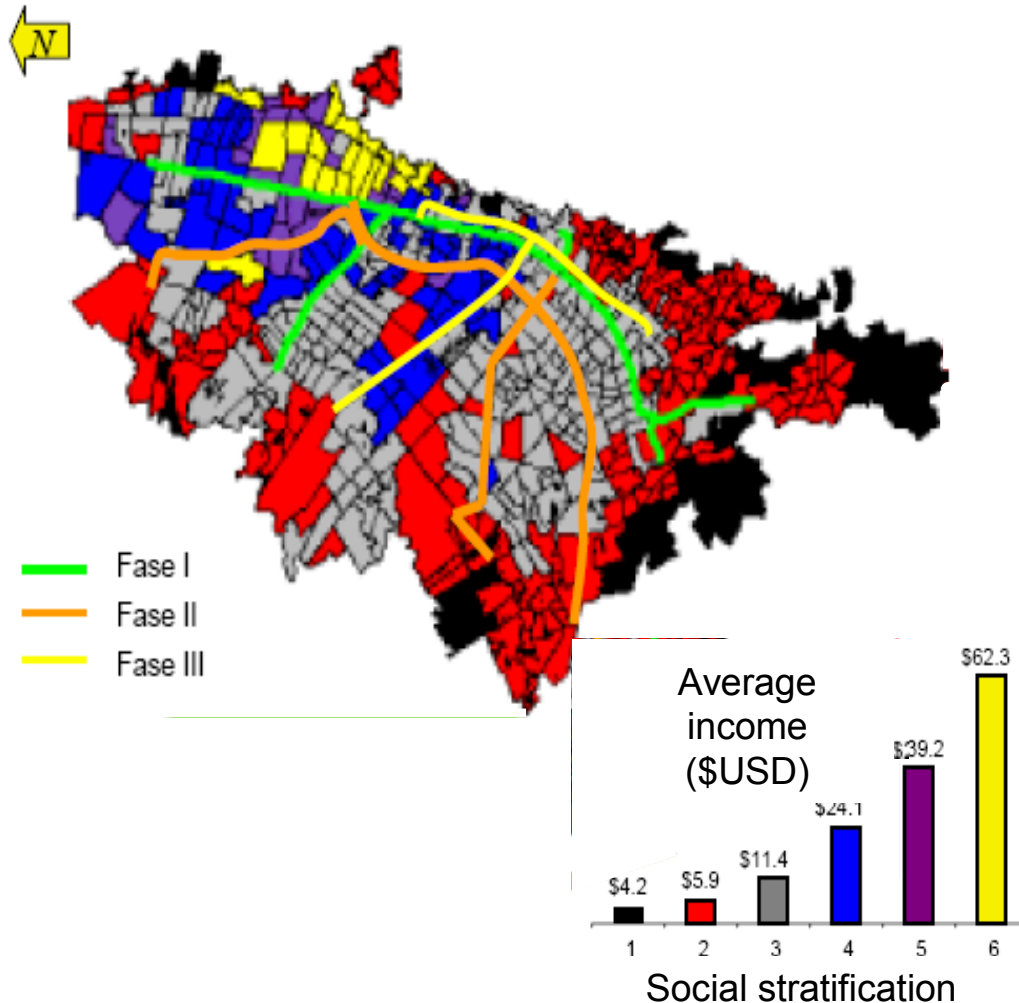


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Social equity / Social balance/ Urban balance



Sustainable Urban Transport evidences



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Bogotá (2001 – 2008)

- Reduction of PM₁₀ : 4,664 ton
- Reduction of NO_x : 35,356 ton
- Reduction of SO₂ : 723 ton



2001 – 2006*

- Economic savings in the health sector as a result of emission reductions **USD\$229,662,000**
- Promotion of Non-Motorized Transport: bike trips increased by **3.5%** – 295km of bike lanes
- TransMilenio saves **534,692 barrels** of combustible compared to conventional public transport

2006 – 2008**

- Average **Fuel efficiency** trunk buses **6.3 Km/gal**
- Average **Fuel efficiency** feeder buses **10.2 Km/gal**
- Scrapped units **2,217 large buses** average year **1982**

According to PDD: 2medium buses = 4small
buses= 1 large bus

Source: Transmilenio S.A., until 2006 (*)
CDM Monitoring Reports, from 2006 (**)



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