NATIONAL SUPPORT PROGRAMS FOR SUSTAINABLE URBAN TRANSPORT IN COLOMBIA

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Infrastructure and Energy Department

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www.dnp.gov.co
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2. National policy of urban transport
3. Diagnosis and challenges
NATIONAL SUPPORT PROGRAMS FOR SUSTAINABLE URBAN TRANSPORT IN COLOMBIA
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Location

Colombia: 50 million inhabitants

GDP Latin America:
1. Brasil
2. México
3. Argentina
4. Colombia
Background

Population Indicators

Colombia: 50 million inhabitants

- **Cities**: 77%
- **Rural areas**: 23%

By 2050, 86% of population will live in cities

- **Cities** >250,000 inhabitants, 52% of population
- **Big size cities** >600,000
- **Medium size cities** 600,000 > X > 250,000
Strategy for Big size cities
>600.000
38% of population

Strategy for Medium size cities
600.000 > X > 250.000
6% of population
Background

1 Mobility Indicators

Source: redcomovamos.org. Results 2013
NATIONAL SUPPORT PROGRAMS FOR SUSTAINABLE URBAN TRANSPORT IN COLOMBIA

NATIONAL POLICY OF URBAN TRANSPORT
Since 2003, the Nation Government:

- Finances up to 70% of the value of the infrastructure
- Does not assume costs associated with maintenance or operation
- The resources are handled through a fiduciary
- Participates in the boards of the entities created to implement the projects

Cities >600,000 inhabitants

- Integrated Massive Transport System -SITM-

Cities >250,000 - x - >600,000 inhabitants

- Strategic System of Public Transport -SETP-

BRT + Metro + Cablecar + Tram

Buses + SGCF + SRC
Programs and projects implemented

**Investments**

**SITM (BRT)**

Invest: US$4.7 billion

<table>
<thead>
<tr>
<th>Location</th>
<th>Executed investment</th>
<th>Expected investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Centro Occidente</td>
<td>100 %</td>
<td></td>
</tr>
<tr>
<td>AM Valle Aburrá</td>
<td>81 %</td>
<td></td>
</tr>
<tr>
<td>Cartagena</td>
<td>71 %</td>
<td></td>
</tr>
<tr>
<td>Cali</td>
<td>86 %</td>
<td></td>
</tr>
<tr>
<td>AM Bucaramanga</td>
<td>87 %</td>
<td></td>
</tr>
<tr>
<td>Bogotá-Soacha</td>
<td>94 %</td>
<td></td>
</tr>
<tr>
<td>AM Barranquilla</td>
<td>80 %</td>
<td></td>
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</tbody>
</table>

Source: Own elaboration with information of Colombian Ministry of Finance and Public Credit. Information until December 2016.

**SETP**

Invest: US$1.4 billion

<table>
<thead>
<tr>
<th>Location</th>
<th>Executed investment</th>
<th>Expected investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neiva</td>
<td>17 %</td>
<td></td>
</tr>
<tr>
<td>Valledupar</td>
<td>31 %</td>
<td></td>
</tr>
<tr>
<td>Sincelejo</td>
<td>41 %</td>
<td></td>
</tr>
<tr>
<td>Santa Marta</td>
<td>29 %</td>
<td></td>
</tr>
<tr>
<td>Popayán</td>
<td>35 %</td>
<td></td>
</tr>
<tr>
<td>Pasto</td>
<td>72 %</td>
<td></td>
</tr>
<tr>
<td>Montería</td>
<td>67 %</td>
<td></td>
</tr>
<tr>
<td>Armenia</td>
<td>46 %</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own elaboration with information of Colombian Ministry of Finance and Public Credit. Information until December 2016.
Benefits

The implementation of SITM has allowed the mobilization of around 4 million trips per day bringing positive impacts to cities.

Ahorro de tiempo (minutos)

<table>
<thead>
<tr>
<th></th>
<th>Bogotá</th>
<th>Cali</th>
<th>Pereira</th>
<th>Barranquilla</th>
<th>Bucaramanga</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahorro</td>
<td>22</td>
<td>6</td>
<td>22</td>
<td>26</td>
<td>10</td>
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</table>

Ahorro en la generación de GEI (ton/año)

<table>
<thead>
<tr>
<th></th>
<th>Bogotá</th>
<th>Cali</th>
<th>Pereira</th>
<th>Barranquilla</th>
<th>Bucaramanga</th>
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</thead>
<tbody>
<tr>
<td>Ahorro</td>
<td>197.000</td>
<td>113.428</td>
<td>30.000</td>
<td>5.500</td>
<td>34.560</td>
</tr>
</tbody>
</table>

Reducción en la accidentalidad (%)

<table>
<thead>
<tr>
<th></th>
<th>Bogotá</th>
<th>Pereira</th>
<th>Barranquilla</th>
<th>Bucaramanga</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducción</td>
<td>15%</td>
<td>44%</td>
<td>30%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Fuente: Evaluaciones ExPost 2009 (Transmilenio), 2011 (Megabús y MIO) y 2012 (Metrolínea y Transmetro)
2 Benefits

Relación beneficio /costo

Another benefits:

Generación de empleo
Mayor valor del suelo
Generación de espacio público de calidad

Fuente: Evaluaciones ExPost 2009 (Transmilenio), 2011 (Megabús y MIO) y 2012 (Metrolínea y Transmetro)
NATIONAL SUPPORT PROGRAMS FOR SUSTAINABLE URBAN TRANSPORT IN COLOMBIA
A. WEAKNESS CONSOLIDATION OF BRT SYSTEMS

Expected demand vs Achieved demand

- Demanda proyectada
- Demanda alcanzada

Implementation year:
- Bogotá: 2000
- Pereira: 2006
- Cali: 2009
- Barranquilla: 2010
- Bucaramanga: 2010
- Medellín: 2011
- Cartagena: 2016

Expected coverage of demand:
- Bogotá: 30%
- Pereira: 47%
- Cali: 100%
- Barranquilla: 42%
- Bucaramanga: 66%
- Medellín: 13%
- Cartagena: 100%

Deceleration of demand growth

- AM Centro Occidente
- AM Barranquilla
- AM Bucaramanga
- AM Valle Aburrá

43% AVERAGE OF DEMAND ACHIEVED*

* Without Transmilenio Bogotá

Source: Own elaboration based on information from the Ministry of Transport

AVERAGE OF DEMAND ACHIEVED*

* Without Transmilenio

AVERAGE OF DEMAND ACHIEVED*

* Without Transmilenio Bogotá

AVERAGE OF DEMAND ACHIEVED*

* Without Transmilenio

AVERAGE OF DEMAND ACHIEVED*

* Without Transmilenio Bogotá

AVERAGE OF DEMAND ACHIEVED*

* Without Transmilenio
PROPOSALS FOR THE CONSOLIDATION OF TRANSPORT SYSTEMS

1. Define new guidelines for the Nation co-financing in new mobility projects

Mobility master plans must consider:

1. How to move all demand with different modes.
2. How to integrate physical and financial these modes.
3. Articulate the mobility schemes with the land use plans.
4. Identify opportunities for private sector participation in project implementation.

Prioritize projects to co-finance

- Relevance in the demand attention in sustainable transport modes.
- Improvement of infrastructure to facilitate walking and cycling
- Incorporation of road safety evaluations exante and expost

Focus in the service to the citizens

Appropriate technologies

Incorporate TOD projects criteria
2. Incentives to cities for the fulfillment of annual operational plans

Working jointly to improve the transportation systems, looking for the sustainability of the operation

- Develop working groups with territories
- Implementation and monitoring of shock plans
- Structuring and implementation of improvement plans
PROPOSALS FOR THE CONSOLIDATION OF TRANSPORT SYSTEMS

3. Generate tools for financial sustainability of systems

The cities have not appropriated the tools contemplated in the National Planning Development

- Fare stabilization funds
- Contribution for the garages service
- Charges for congestion
- Public Private Partnership
- Capturing land value - Height building license
B. INSTITUTIONAL WEAKNESS

The achievement of the goals established has been affected by institutional and territorial weaknesses.

32% of DE MUNICIPALITIES
MOBILITY MASTER PLAN HAS BEEN NOT FORMULATED

* Are obligatory for Municipalities with more than 100,000 inhabitants

Disarticulation, weak planning, overlap of responsibilities
PROPOSALS FOR THE INSTITUTIONAL STRENGTHENING

1. Promote institutional schemes that allow articulated work between local authorities and strengthen the accompaniment by the nation

Create the **Local Interagency Committee**

![Planning Office](image1.png) ![Transport Office](image2.png) ![Infrastructur Office](image3.png) ![Environment Office](image4.png) ![Finance Office](image5.png) ![Management Company](image6.png)

2. Strengthening of institutional capacity and accompaniment of the nation

Update the **Nation's participation scheme** in transportation projects

**STRENGTHENING MINISTRY OF TRANSPORT WORK TEAM**
- New management scheme
- Prioritization of studies
- Capacitation program

**ARTICULATION OF NATIONAL ENTITIES**
- Formalization of responsibilities
- Ensure information flow
- Uniformity of supports
### C. LACK OF ACTIVE MOBILITY STRATEGIES

<table>
<thead>
<tr>
<th>City</th>
<th>Travel in non-motorized modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medellín</td>
<td>6%</td>
</tr>
<tr>
<td>Barranquilla</td>
<td>4%</td>
</tr>
<tr>
<td>Cartagena</td>
<td>7%</td>
</tr>
<tr>
<td>Bogotá D.C.</td>
<td>11%</td>
</tr>
<tr>
<td>Pereira</td>
<td>11%</td>
</tr>
<tr>
<td>Bucaramanga</td>
<td>6%</td>
</tr>
<tr>
<td>Cali</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: Own elaboration based on information from the ‘Cities How We Go 2015’

**Parking lots and lanes for cyclists. (Bogotá case)**

- Changes in modal distribution: the implementation of bicycle lanes increased the demand for bicycles by **23%**.
- Impacts on health: for every dollar invested in cycling, save **$ 2.8 USD** of health expenses.

Source: NAMA TAnDem
PROPOSALS FOR THE STRENGTHENING OF ACTIVE MOBILITY

Promote the implementation of actions that encourage trips on foot and by bicycle

Develop
National Active Transport Program:

- Develop guidelines to implement low-cost actions with high-impact.
- Generate information for the comprehensive evaluation of active mobility projects
- Create a platform for sharing knowledge and experiences in the implementation of active mobility projects
D. PREFERENCE FOR THE USE OF NON-SUSTAINABLE MODES

This preference has brought negative consequences for cities in terms of congestion, pollution and accidents.

### Costs of congestion

**2% OF GDP**

**LOSSES CAUSED BY TRAFFIC JAMS**

Source: Green and Inclusive Growth for the Transport Sector in Colombia - DNP

### Emissions

Comparison of emissions by means of transport (kg of CO2)

- **4 x 4**
  - Sedán gasolina: 9
  - Moto: 6
  - Auto híbrido: 3.13
  - Auto eléctrico: 2.7

- **Bus**: 1
- **Metro**: 0.5
- **Bicicleta eléctrica**: 0.24
- **Bicicleta**: 0.19

Calculation based on trip and return of 15 km.

Source: www.consumovehicular.cl

### Road safety

- **56% OF DECEASED** in traffic accidents are users of auto or motorcycle
- **63% OF INJURED** in traffic accidents are users of auto or motorcycle

Source: National Institute of Legal Medicine - 2015
D. PREFERENCE FOR THE USE OF NON-SUSTAINABLE MODES

Consequences of indiscriminate use of the motorcycle

79% MOTORCYCLES WERE USERS OF COLLECTIVE PUBLIC TRANSPORT

2,7 TIMES MORE CO2 GENERATE THE MOTORCYCLES IN COMPARISON WITH THE AUTOMOBILES

High accident rate

47% OF DECEASED IN TRAFFIC ACCIDENTS ARE MOTORCYCLE USERS

The motorcycle is a response of many citizens, to the transportation problems
1. Promote in the business sector the implementation of actions that reduce the use of motor vehicles and motorcycles

There are specific demand management measures to avoid trips or reduce the use of the car when traveling for work:

- Share vehicle
- Management of parking lots
- Telecommuting
- Home transportation services
- Staggered Schedules
- Bicycle Incentives

Source: Bogota Mobility Survey 2015.

Business plans for sustainable mobility
Design a strategic plan for the mitigation of the negative externalities associated with the irresponsible use of the private vehicle:

1. Road safety
   - 40% of injured motorcyclists suffered cranioencephalic injuries
   - Implementation of tests to guarantee the quality of the helmets
   - Implementation of control and penalties for non-compliance
   - Providing truthful information about product quality

2. Driving licenses
   - 42% of fatal accidents observe violation of transit rules and excess speed
   - Implementation of driver's license systems

3. Charges associated with risks
   - In 2014, motorcycles caused 83% of accidents paid, even though they only contributed 39% of insurance
   - Establish insurance amounts according to accident risk (type of vehicle - age - experience)

4. Educational promotion
   - Implementation of robust and durable campaigns
   - Evaluate campaign impact
   - Implementation of mobility schools
MOBILITY URBAN POLICY FOR COLOMBIA

OBJECTIVE: To promote guidelines for the integral management of sustainable mobility in the cities of the country.

POLITICAL AXES

- Encouraged and priority to the most vulnerable actors and the most sustainable means of transport (Cycling, walking, public transport).
- Avoid-Shift-Improve criteria
Thank you.

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