

Principal Infrastructure Projects

*Ruta del Sol – Sistema Ferroviario Central -
SETP*

COLOMBIA

**South American Productivity
Leadership Forum**

**Washington D.C.
July 23rd, 2008**

1. Ruta del Sol
2. Sistema Ferroviario Central
3. SETP – Strategic Public Transportation Systems

Ruta del Sol

1. Background
2. Project Description
3. Traffic Volume and Toll Plazas
4. Project Structuring

Ruta del

- One of **Colombia's main corridors.**
- Connects Bogotá with the port of Santa Marta.
- Length of over 900 km.

Structurin



The Project

- Colombia's **most significant** transportation **project.**
- One of the largest infrastructure projects in Latin America.
- Rehabilitation and second lane construction of the existing road and construction of new segments.
- Investment estimated by the government: **US\$2.5 billion.**



1. Background

Objectives

- Improve road infrastructure to increase competitiveness, promote economic growth and improve quality of life.
 - Develop a replicable concession model capable of attracting long term financing.
 - Optimize the use of public resources and risk allocation.
 - Consolidate best practices in bidding processes.
- Implement an agile, efficient and transparent bidding process.

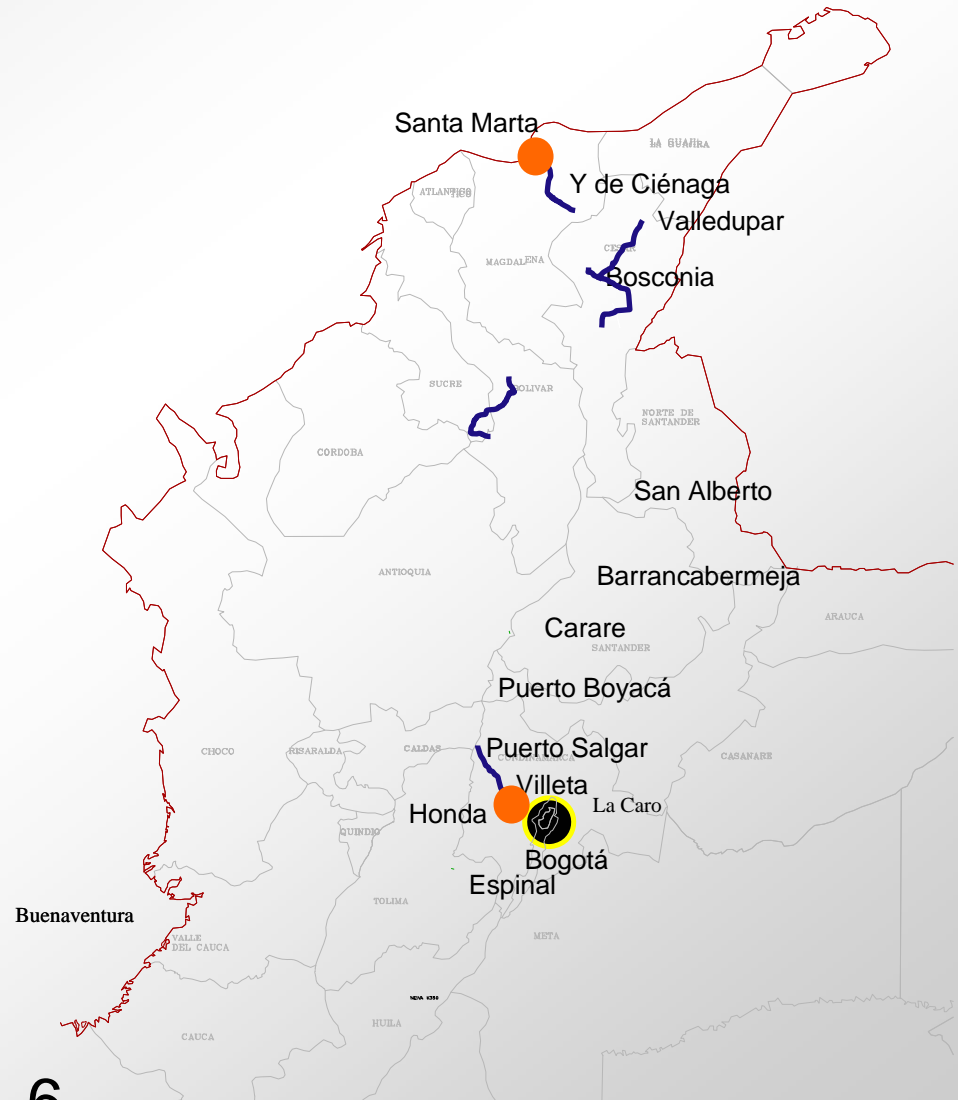
2. Project Description

The concession starts at Tobiagrande/Villeta (90 km northwest of Bogotá)

Ends in Y de Ciénaga (30 Km south of Santa Marta)

Existing single lane road (942 km):

- Mountainous terrain: 64 km
- Semi-flat: 134 km
- Flat: 744 km



2. Project Description

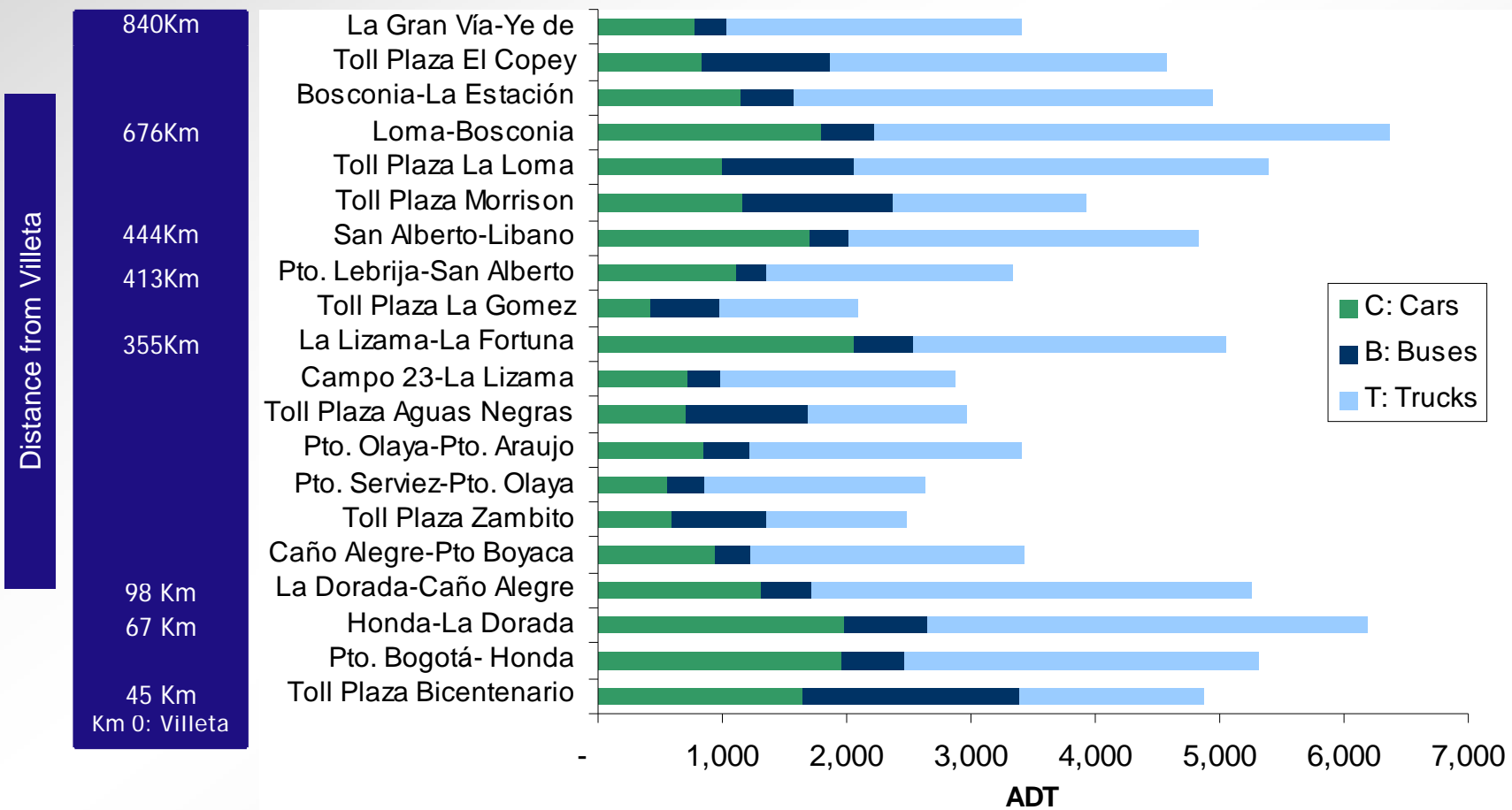
Activity	Distance (Km.)	Lane	Segment
Rehabilitation of existing road	810 km	Single	Villeta – Bosconia Bosconia – Valledupar
Capacity expansion	Up to 840 km	Dual lane Linked to traffic	Puerto Salgar – Y de Ciénega Bosconia – Valledupar
Construction of new road	70-75 km	Dualized/ “par vial” Linked to traffic and alignment	Tobiagrande/Villeta – Puerto Salgar
Paving	18 km	Single	Dindal – Caparrapí
Operation and maintenance	942 + (70-75)		Existing and new infrastructure



3. Traffic volumen and Toll Plazas

Traffic information

Traffic volume
Average Daily Traffic (November 2007)

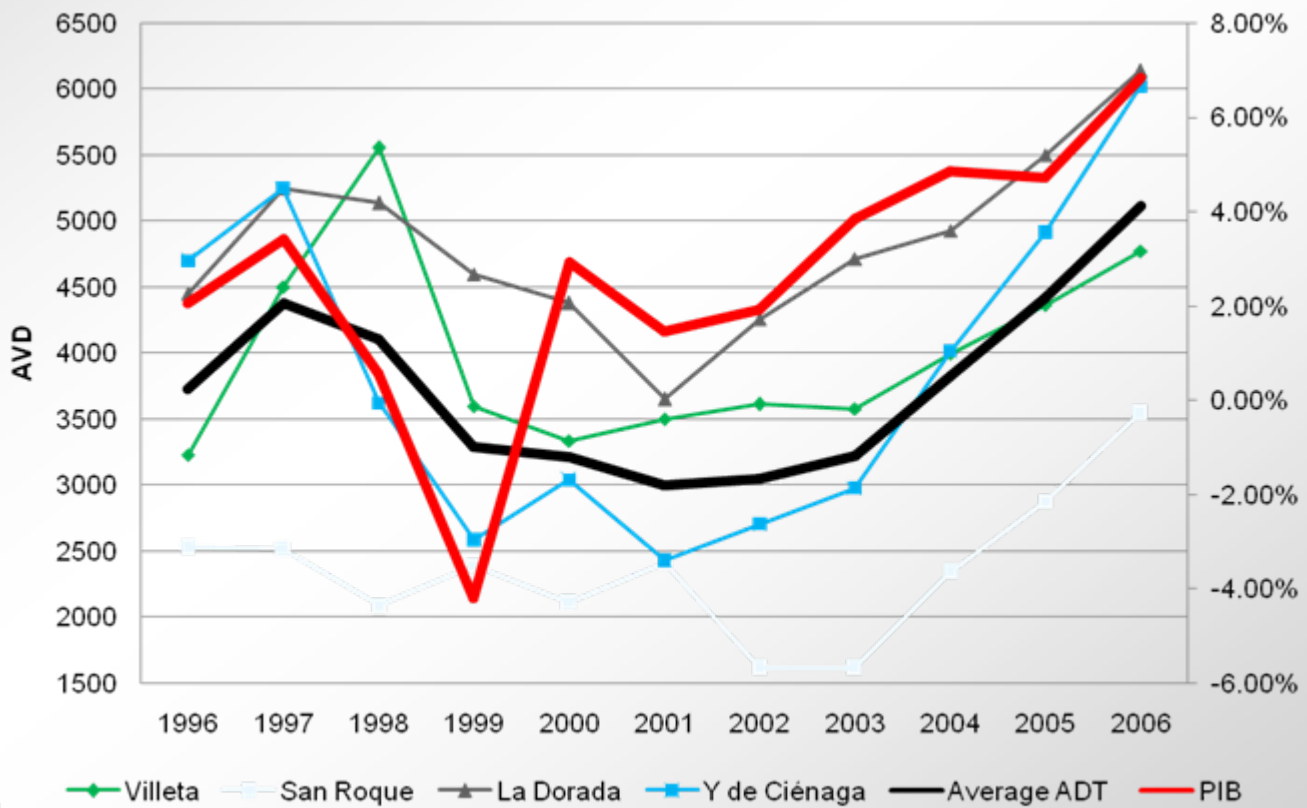


3. Traffic volumen and Toll Plazas

Traffic Trend

Positive traffic trend correlated with sustained economic growth since 2000 and recovery of road safety in the entire corridor

Historic traffic volume vs. GDP*

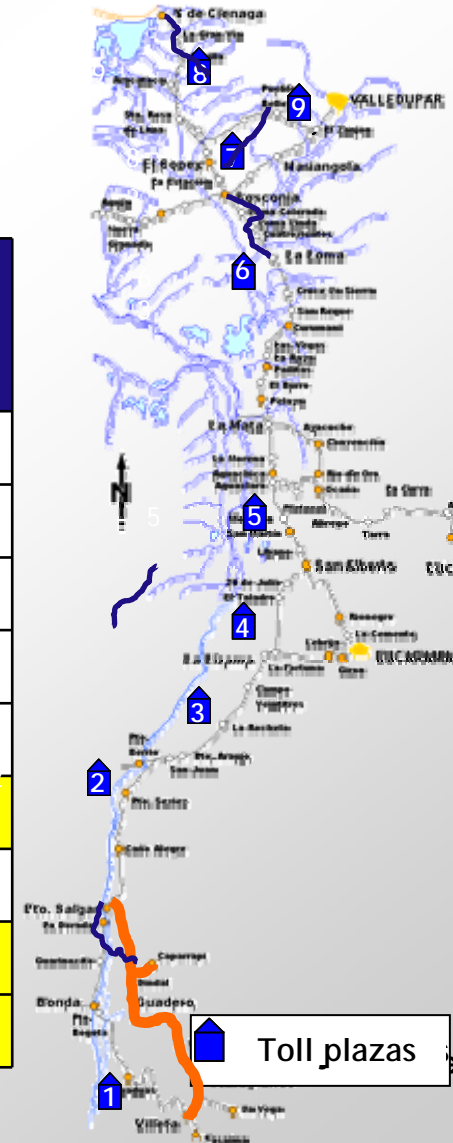


3. Traffic volume and Toll Plazas

Plazas' Traffic by Category

Nine toll plazas managed by Invias:

No	Name	Tariff USD Cars 2008	ADT 2007	Cat I Cars	Cat II Buses & 2 axle trucks	Cat III 3 & 4 axles	Cat IV 5 axles	Cat V 6 axles
1	Bicentenario	\$ 3.45	4,800	40%	33%	6%	9%	12%
2	Aguas Negras	\$ 3.45	3,026	31%	31%	8%	9%	21%
3	Zambito	\$ 3.45	2,534	32%	28%	8%	9%	23%
4	La Gómez	\$ 3.45	2,054	30%	27%	9%	9%	25%
5	Morrison	\$ 3.11	4,081	37%	28%	6%	6%	23%
6	La Loma	\$ 3.11	5,357	24%	19%	5%	6%	46%
7	Valencia	\$ 3.11	2,333	60%	33%	2%	1%	4%
8	El Copey*	\$ 2.83	4,072	24%	25%	3%	5%	43%
9	Tucurinca	\$ 2.83	5,126	26%	24%	3%	4%	43%



Source: ADT calculated by INVIAS 2007.

* Data for 2006.

4. Project Structuring

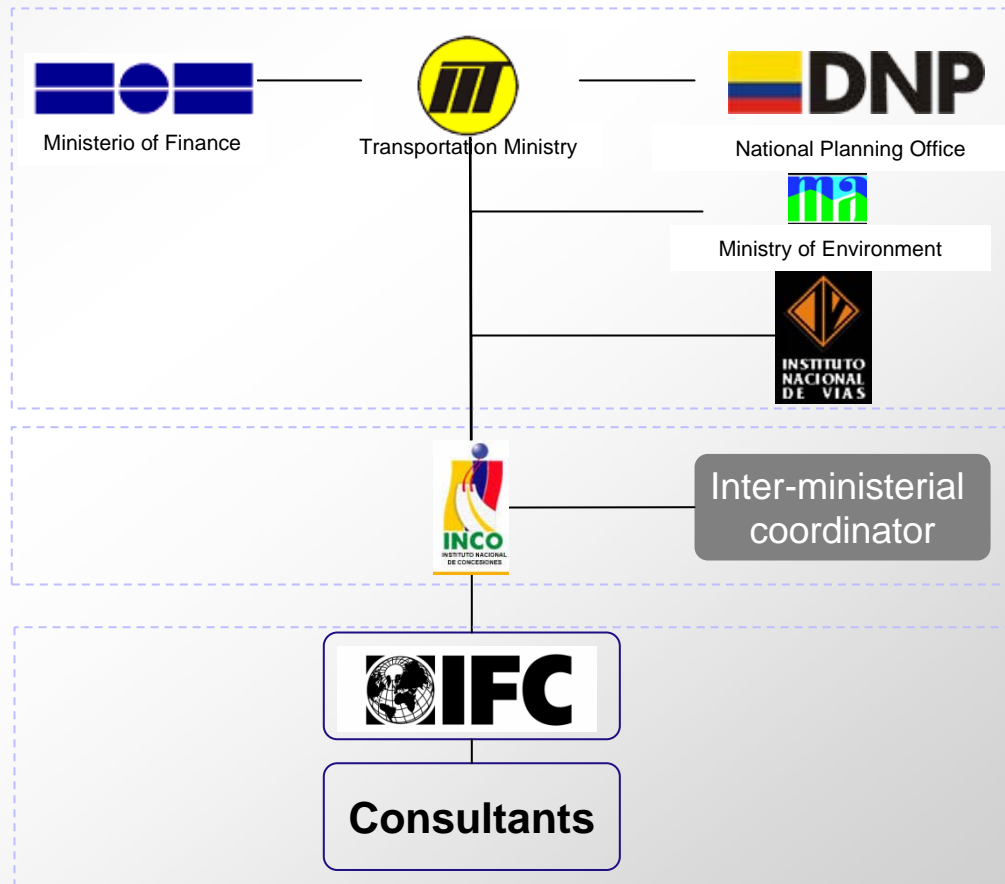
Organizational Chart

Institutional structure

Structuring committee

Technical management

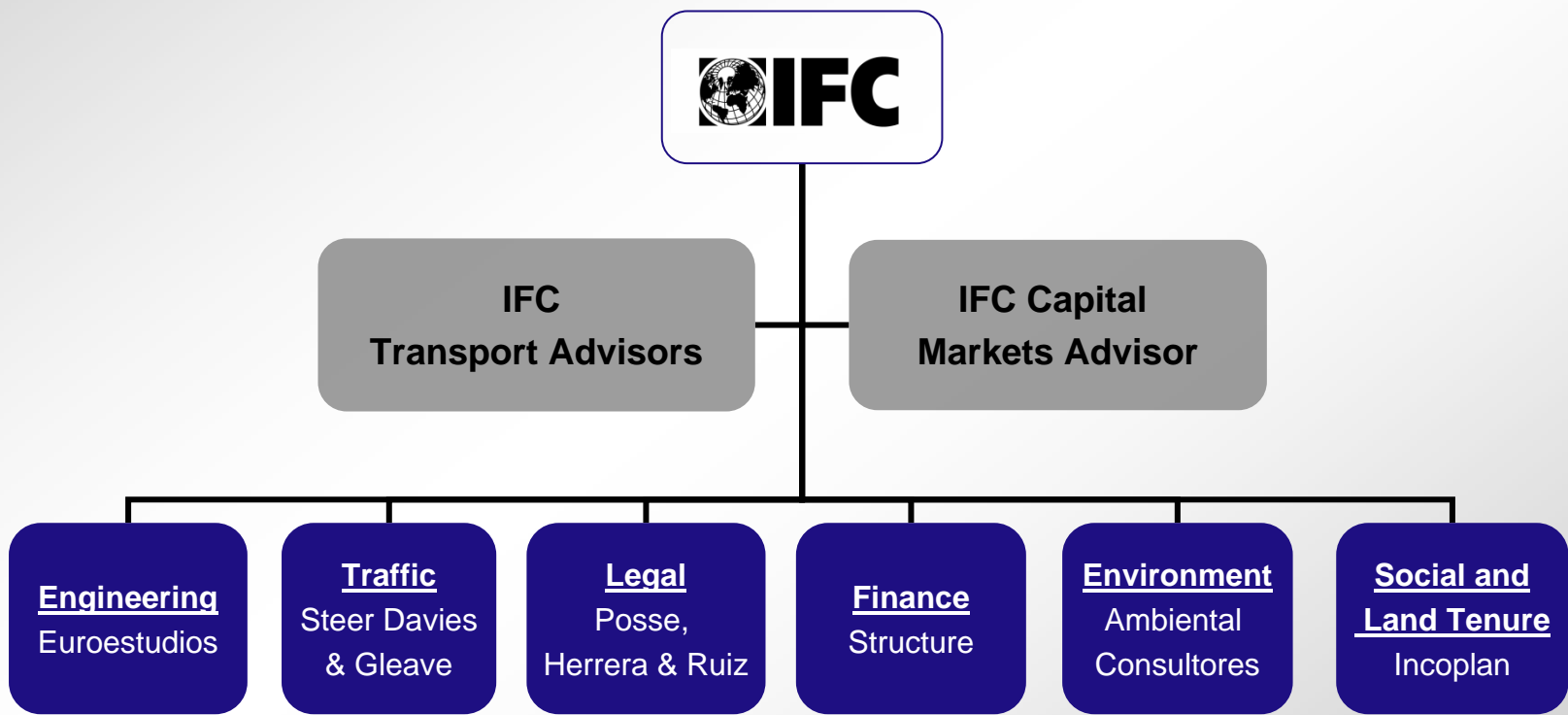
Advisory team



4. Project Structuring

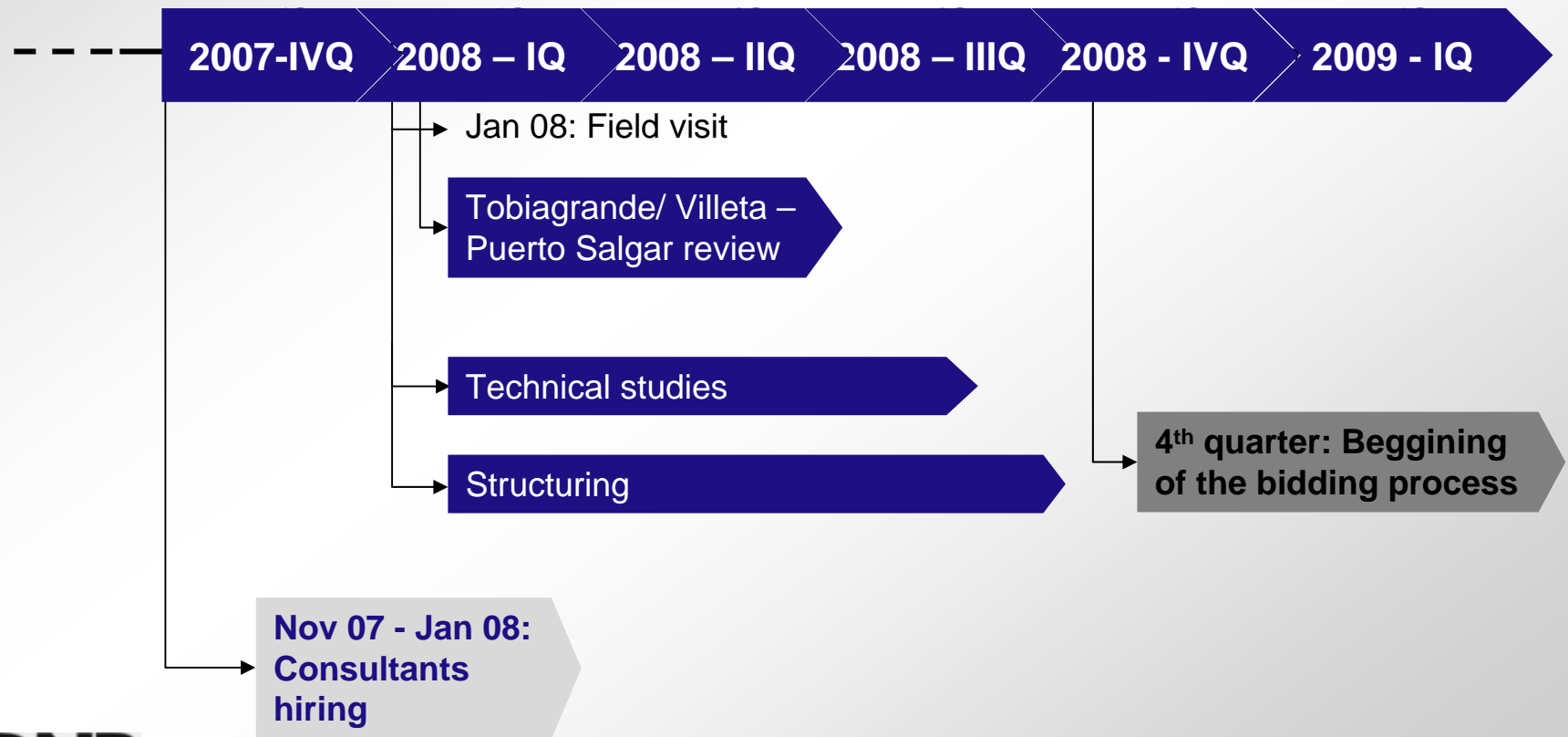
Structuring Team

IFC team



4. Project Structuring

Time Table



CONTACTS:

INCO

Alfredo Perez

Project Structuring
National Institute of Concessions
(INCO)
T: (57)-1-324-0800

aperez@inco.gov.co

IFC (Washington

D.C.)

Richard Cabello

rcabello@ifc.org

Ari Skromne

askromne@ifc.org

Rene A. Cortés F.

Infrastructure & Sustainable Energy Division
National Planning Office (DNP)
T: (57)-1-596-0300 Ext. 2150

rcortes@dnpc.gov.co

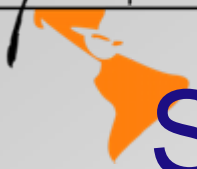
IFC (Bogotá, Col)

Maria Victoria Guarín

mguarin@ifc.org

Faice Gutierrez

fgutierrez3@ifc.org




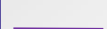



Sistema Ferroviario Central

1. Railway Network in Colombia
2. Project Description
3. Concession Details & Demand
4. Investment Details
5. Basic Requirements
6. Timetable
7. Contact Information

1. Railway Network in Colombia

Existing Railways

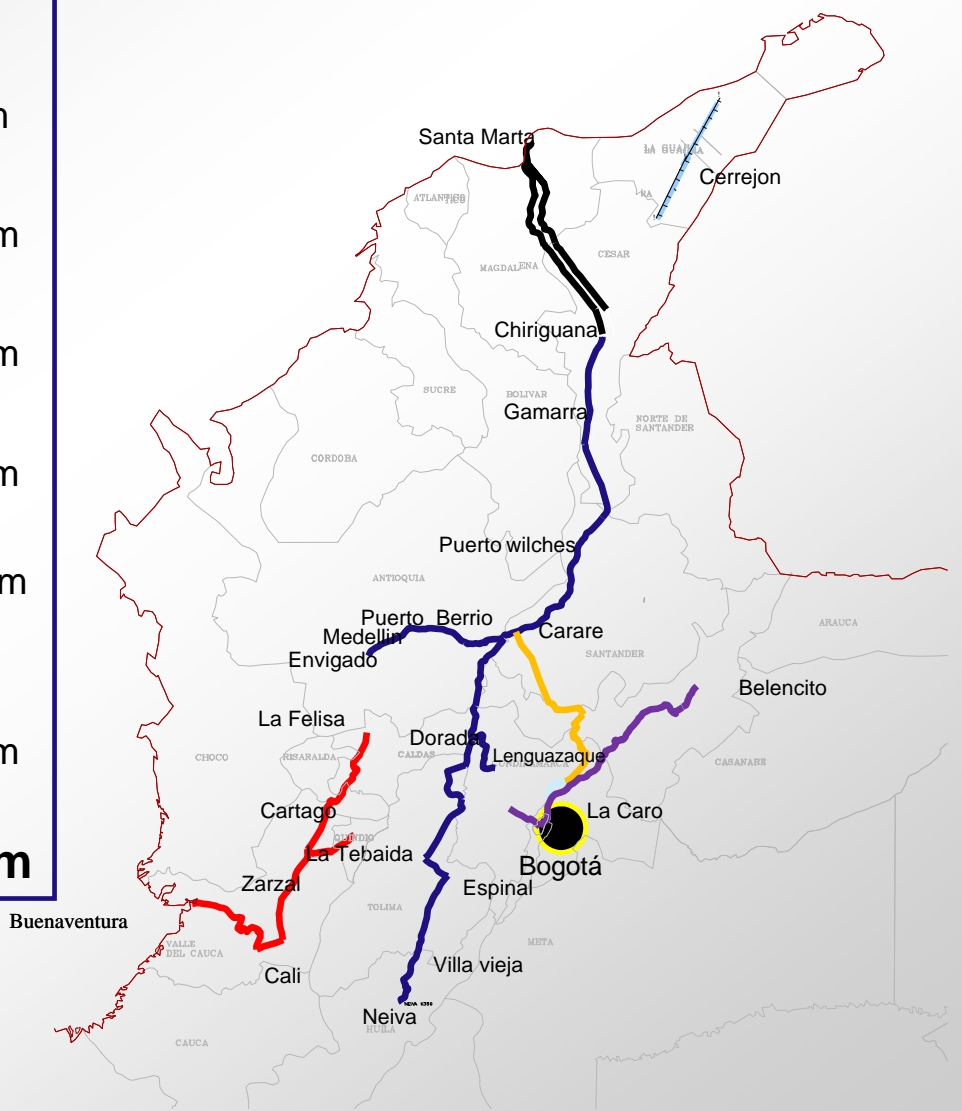
	Sistema Ferroviario Central	1.214 Km
	Atlantic Concession*	245 Km
	Pacific Concession*	498 Km
	Cundinamarca – Boyacá Plateau	297 Km
	Cerrejón – Pto. Bolivar	150 Km

Future Railways

	Carare Railway	326 Km
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TOTAL 2.730 Km

* Granted Concessions



2. Project Description

The Network

The “Sistema Ferroviario Central” Railway concession is a 1.214 km railroad network (3 ft wide (914 mm)) which requires different activities including construction, rehabilitation, operation and maintenance:

Section	Length	Activity
La Dorada – Chiriguana	523 km	<ul style="list-style-type: none"> • Maintenance • Operation
Buenos Aires – Mariquita – La Dorada	177 km	<ul style="list-style-type: none"> • Reconstruction • Rehabilitation • Maintenance • Operation
Puerto Berrío - Cabañas	29 km	<ul style="list-style-type: none"> • Maintenance • Operation
La Dorada detour	10 km*	<ul style="list-style-type: none"> • Design • Construction • Maintenance • Operation
Cabañas – Envigado	169 km	<ul style="list-style-type: none"> • Pre-rehabilitation
La Dorada – Facatativa	162 km	<ul style="list-style-type: none"> • Pre-rehabilitation
Villavieja – Buenos Aires	154 km	<ul style="list-style-type: none"> • Surveillance • Fence construction • Legal recovery of estates

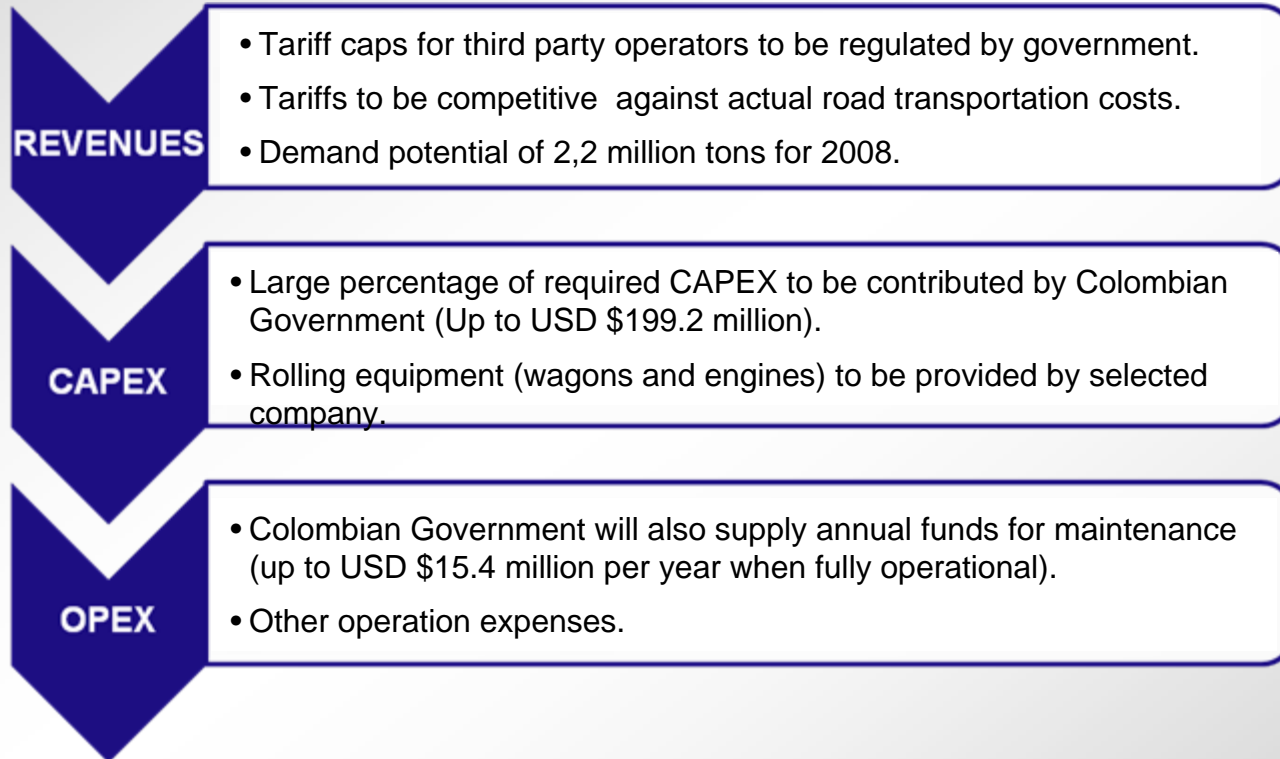
* Estimated length



2. Project Description

Cash Flow Structure

Description of Cash Flow structure for future Operating Company:



Selected operator and Government will share profits once operation and revenues surpasses hurdles to be established in the contract.

3. Concession Details & Demand

BASIC DETAILS

- The La Dorada detour requires the construction of an alternate railway, avoiding the crossing through the town of “La Dorada”.
- Villavieja – Buenos Aires section is not included in the operational sections. Operator is to provide surveillance, construct barriers and recover land estates for this segment.
- Cabañas – Envigado and La Dorada – Facatativa sections are to be pre-rehabilitated and then returned the Government.
- Colombian Government will provide up to USD \$ 420.3 million for infrastructure development and maintenance activities.

DEMAND

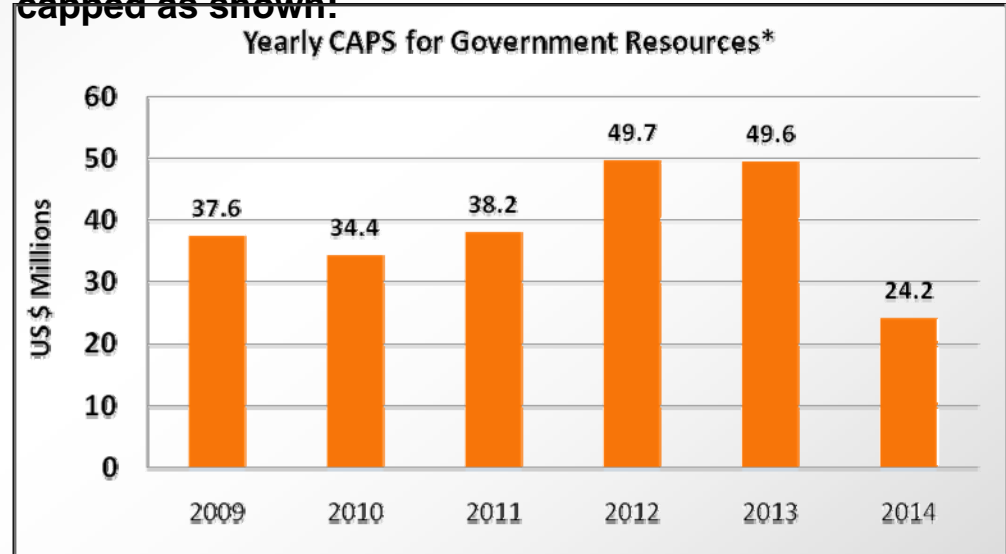
- 2,2 million tons as potential cargo for the “Corredor del Magdalena” for 2008.
- Types of cargo include: containers, cereals, coal, cement, iron, steel, paper and cardboard.
- Government expects this demand to grow at 3.8% during the term of the concession (30 years).

4. Investment Details

Resources and Investments:

Capital Resources	Capital Investments
Government Investment (max): USD \$ 199.2 Million	Infrastructure: USD \$ 113.1 Million
Debt: USD \$ 52.4 Million	Superstructure: USD \$ 118.1 Million
Equity: USD \$ 30.8 Million	
Cash Generation; USD \$ 95.4 Million	Engines & wagons: USD \$ 146.6 Million
Total Resources: USD \$ 377.8 Million	

Government funding for infrastructure will be disbursed throughout 6 years. Each payment is capped as shown:

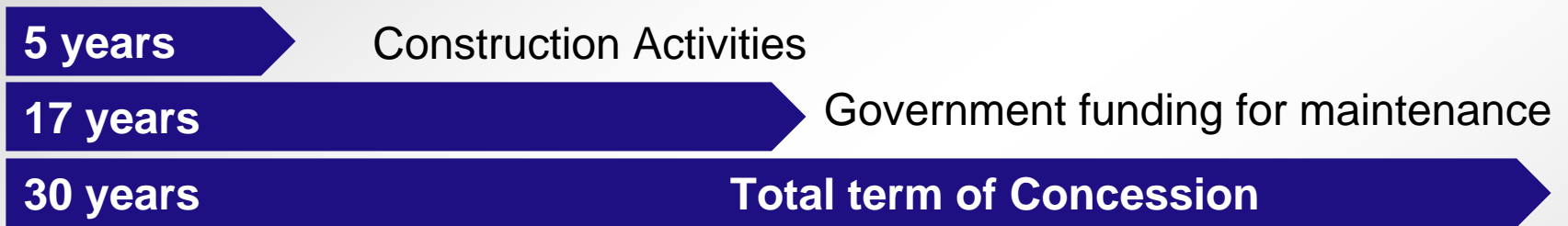


* Infrastructure only

Government funding will include additional disbursements for maintenance during 17 years for a total of USD \$ 221.1 million. The entire concession will be granted for a total of 30 years.

The concession is to be granted to the offer requiring the least NPV of Government

Concession Time Table

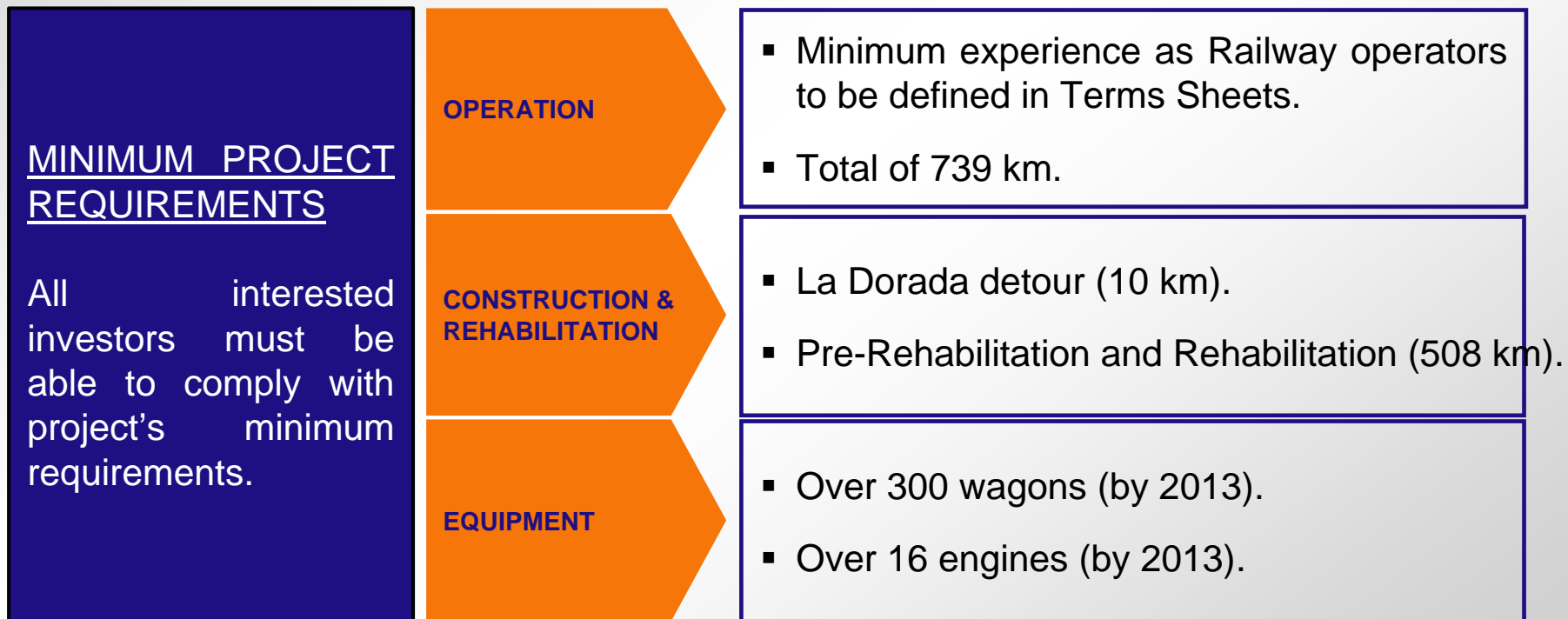


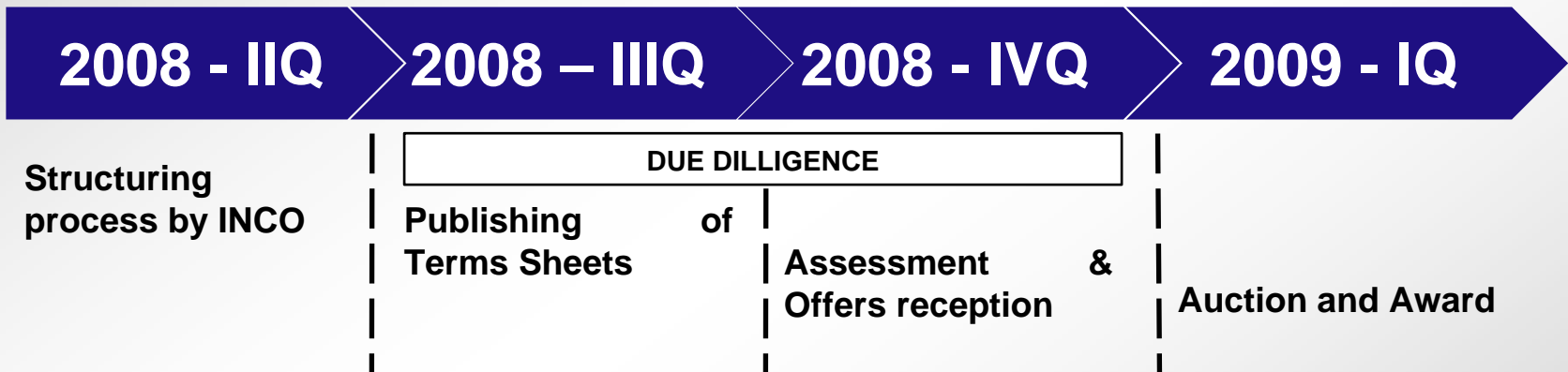
Other requirements for selected Operator:

- Operator will be required to move minimum amounts of cargo per year.
- Contract will require for Operator to have a minimum of engines and cars at specific times.

5. Basic Requirements

INCO (National Institute of Concessions) is structuring all details of the “Sistema Ferroviario Central” Concession. The project requires offers from private sector companies able to supply all requirements of the project:





7. Contact Information

CONTACTS:

Miguel D. Bonilla

Director – Rail Transportation Division
National Institute of Concessions (INCO)

T: (57)-1-324-0800 Ext. 1923

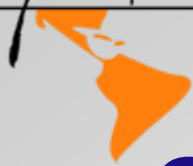
mbonilla@inco.gov.co

Rene A. Cortés F.

Director – Infrastructure and Sustainable Energy Division
National Planning Office (DNP)

T: (57)-1-596-0300 Ext. 2150

rcortes@dnp.gov.co



SETP – Strategic Public Transportation Systems

1. Background
2. Components of the Project
3. Time Table and Studies
4. Required Investment
5. Contact Information



1. Background

The Project

- Colombian government has encouraged processes in search of improving citizen's quality of life by shifting to the concept of "Urban Mobility".
- National Planning Department has promoted feasibility studies to obtain details of mobility in cities with 300.000 to 600.000 people. These studies are divided into 6 components.
- Support these cities (300.000 – 600.000 inhabitants) to improve public transportation following efficiency, quality and safety measures along with making structural changes in the private companies that provide public transportation.
- Support cities in specific studies involving demand and origin – destiny analysis to serve as input of fleet design and infrastructure design.

Objectives

- Generate special actions in cities with a clear cargo vocation such as Santa Marta and Buenaventura.
- A “Strategic Public Transportation System” (SETP for its name in spanish) has been found necessary in the cities of:

- Ibagué
- Pasto
- Popayán
- Neiva
- Armenia
- Santa Marta
- Manizales
- Montería
- Valledupar
- Villavicencio
- Buenaventura
- Sincelejo



2. Components of the Project



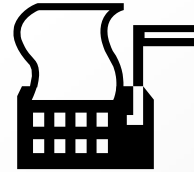
Restructuring of Local
Public Transportation



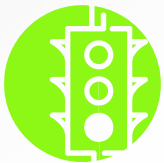
Operational
Management Systems



Tariff Collection
Systems



Tariff Calculation
Methodology



Traffic Lights System
Development



Required
Infrastructure
Construction

2. Components of the Project

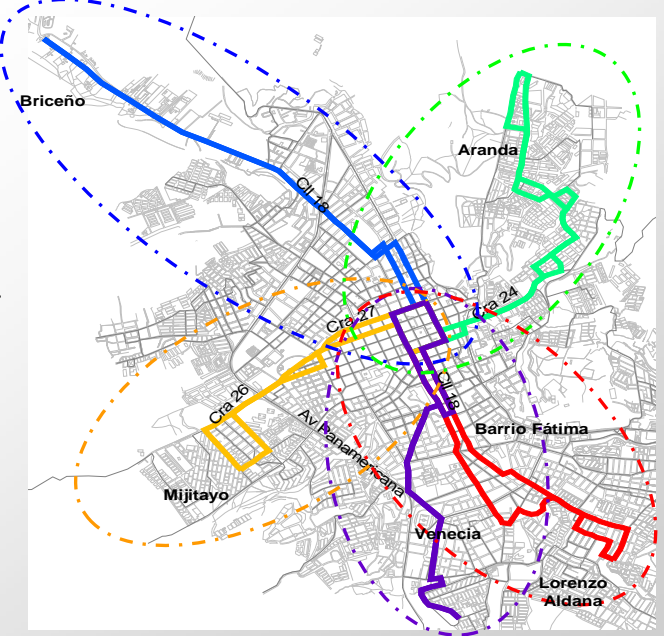
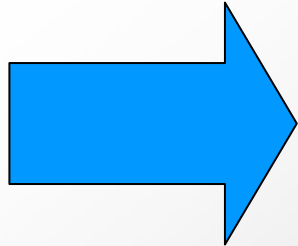
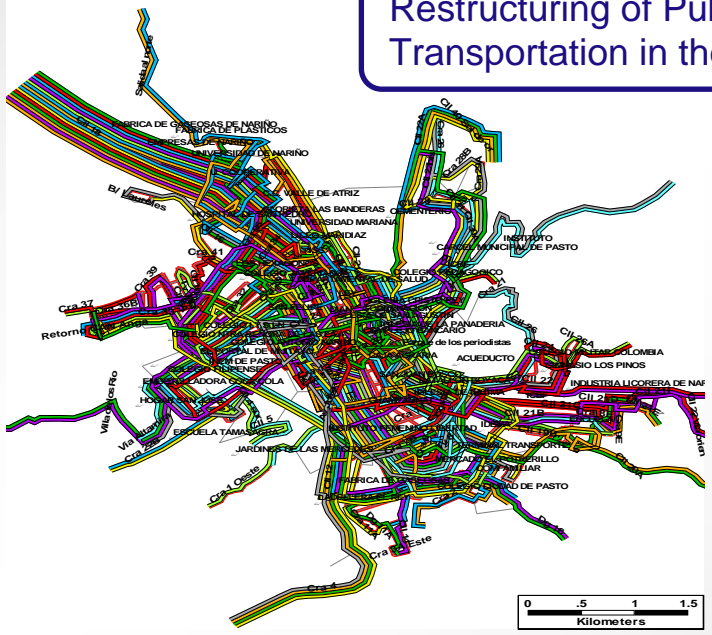


Restructuring of Local

SCOPE Public Transportation

Route restructuring over a corridor network for medium and high capacity buses with a possibility of being supplied by a system of short low demand routes.

Restructuring of Public Transportation in the city of Pasto



2. Components of the Project

SCOPE:

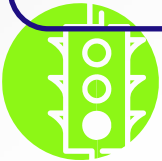
Tariff Collection

Design of a **Systems** physical information system that allows public transportation to operate under an central cashier scheme in order to accomplish a balanced distribution of revenues among bus operators.

2. Components of the Project

SCOPE:

Centralization of traffic lights control systems to operate crossings in a safe and agile manner and accomplish synchronization and coordination of traffic throughout the cities.



Traffic Lights System
Development

2. Components of the Project



Operational
Management Systems

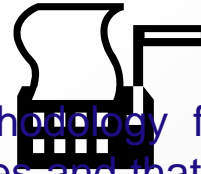
SCOPE:

Generation of reliable, updated and oportune information to all operators, managers and auditors of the Strategic Public Transportation Systems (SETP).

2. Components of the Project

SCOPE:

Revision and construction of a tariff methodology focused on creating a technical toll that equally distributes revenues and that aligns bus operators to a quality oriented service.



Tariff Calculation
Methodology

2. Components of the Project

SCOPE:

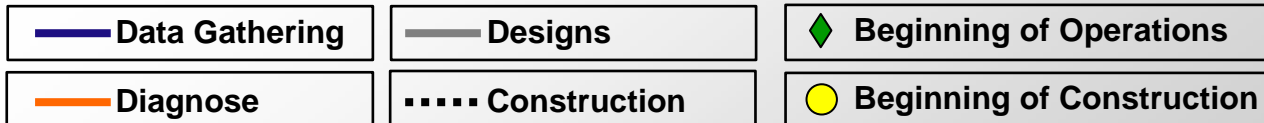
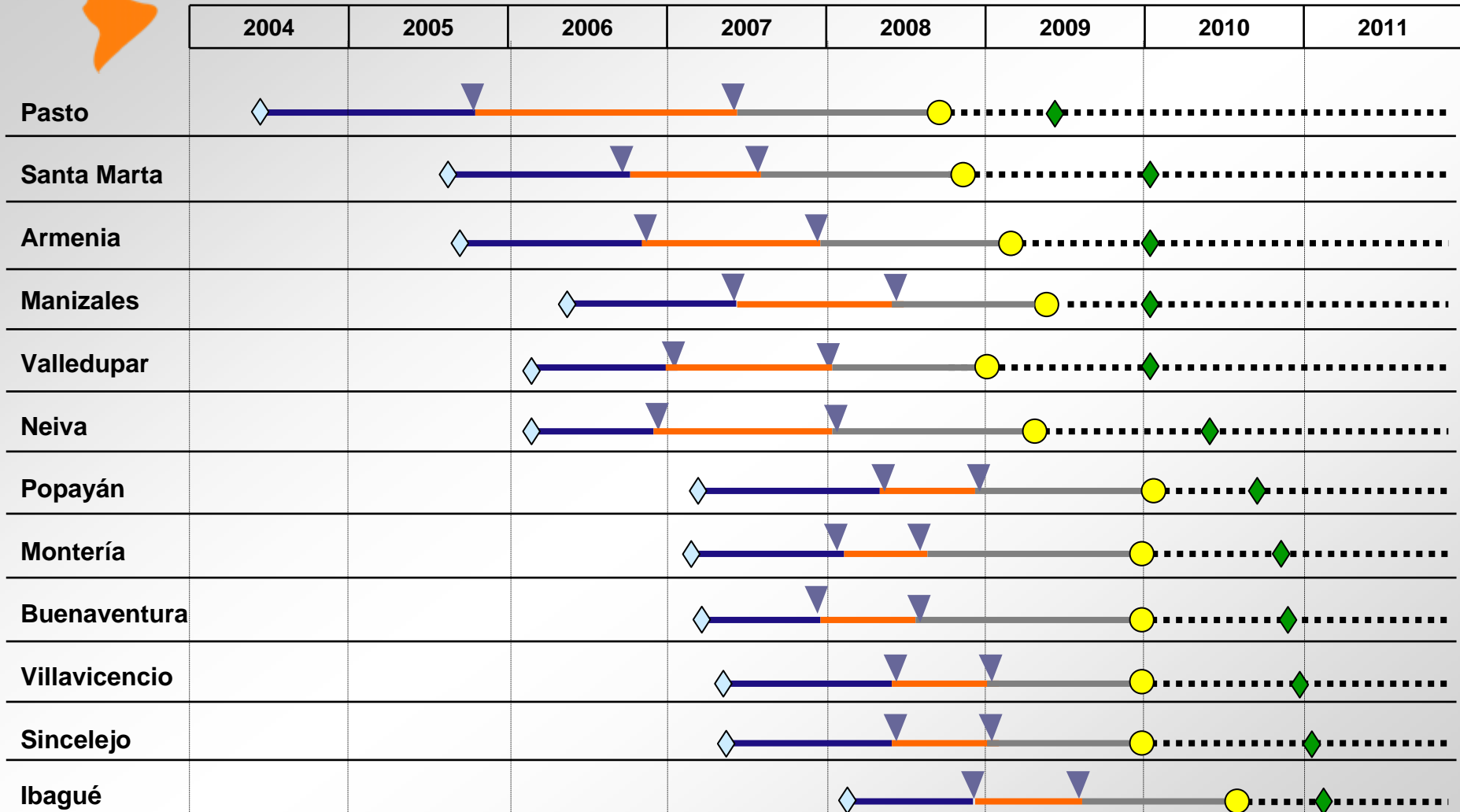
Design of a business model that makes viable the construction of all infrastructure required for the operation of the SETP's in all cities that belong to the project.

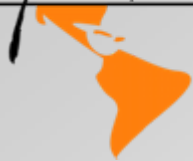


Required
Infrastructure
Construction

3. Time Table and Studies

Time Table





3. Time Table and Studies

Studies

No.	City	Investment in feasibility studies (USD '000)
1	Pasto	\$ 497.1
2	Santa Marta	\$ 400.0
3	Armenia	\$ 260.6
4	Manizales	\$ 360.0
5	Valledupar	\$ 285.7
6	Neiva	\$ 404.6
7	Popayán	\$ 314.3
8	Montería	\$ 69.7
9	Buenaventura	\$ 222.9
10	Villavicencio	\$ 152.1
11	Sincelejo	\$ 108.0
12	Ibagué	\$ 742.9
TOTAL		\$ 3,817.8

4. Required Investment

Public Investment

USD 824 Million

To be invested in:

- Road Maintenance
- Traffic Light Control Centers
- Operation Centers
- Main Hubs
- Operational Supervision
- Transfer Modules
- Bus stops
- Public Space Reconstruction

Private Investment

USD 559 Million

To be invested in:

- Unified tariff collection System
- Workshops and Parking lots
- Buses



4. Required Investment

Per city

	Public Investment <i>in USD</i>	Private Investment	Total Investment in City
Armenia	61,274,286	38,074,286	99,348,571
Pasto	84,542,857	44,251,429	128,794,286
Manizales	80,497,000	92,040,000	172,537,000
Popayán	66,817,143	32,245,714	99,062,857
Santa Marta	87,788,571	29,388,571	117,177,143
Neiva	58,485,714	45,280,000	103,765,714
Valledupar	58,245,714	41,160,000	99,405,714
Montería	61,102,857	41,154,286	102,257,143
Villavicencio	61,102,857	36,017,143	97,120,000
Buenaventura	60,531,429	27,788,571	88,320,000
Sincelejo	60,531,429	27,440,000	87,971,429
Ibagué	83,388,571	104,028,571	187,417,143
Total	824,308,429	558,868,571	

5. Contact Information

CONTACTS:

Pedro Luis Jimenez P

Coordinator – Urban Transportation Division
National Planning Department (NPD)

T: (57)-1-596-0300 Ext. 2720

pjimenez@dnpp.gov.co

Rene A. Cortés F.

Director – Infrastructure and Sustainable Energy Division
National Planning Office (DNP)

T: (57)-1-596-0300 Ext. 2150

rcortes@dnpp.gov.co