



FINANCIANDO EL DESARROLLO • AMÉRICA LATINA



# Urban Transport Program

## Observatory of Urban Mobility for Latin America

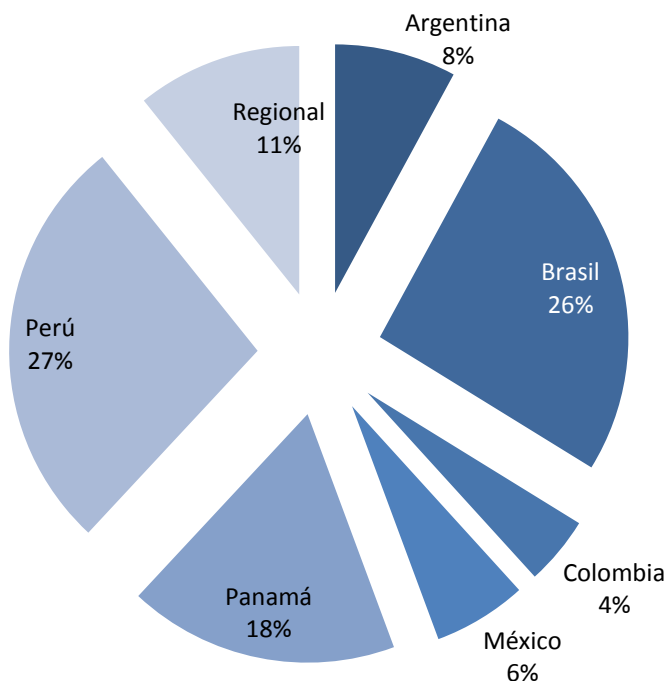
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CAF - Banco de Desarrollo de América Latina

In the last 12 years CAF has approved financing for 132 projects for a total of 9,339 MM USD

País	N° de Proyectos	Monto en USD
Argentina	6	487
Bolivia	34	1.812
Brasil	11	435
Colombia	9	1.284
Costa Rica	1	60
Ecuador	30	1.817
Panamá	4	199
Paraguay	4	165
Perú	13	1.443
Uruguay	4	245
Venezuela	16	1.391
Total	132	9.339

## Cooperación Técnica y PROINFRA



1,9 millones  
de USD en  
Brasil

**In the last 3 years technical assistance for Urban Mobility  
for 7.4 MM USD.**

## Urban Transport Infrastructure Approved Investment Projects

Año	Millones USD	Nombre del Proyecto
2006	18	Programa de Infraestructura Urbana y Sistemas de Drenaje en Sa Jose do Rio Preto
2007	12	Recualificación del sistema vial y de circulación en Florianópolis
2007	15	Marco PRAM Macro drenaje, recuperación ambiental y desarrollo urbano Fase I
2007	12	Marco PRAM Integración Urbana en Feira de Santa Ana
2008	75	Prog. De obras Viales (Mun. Manaus) - PRAM
2008	29	Prog. De Desarrollo de Infraestructura de Caxias do Soul - PRAM
	<b>161</b>	<b>Total</b>

## Urban Transport Infrastructure Evaluation Investment Projects

Año	Millones USD	Nombre del Proyecto
2009	1.000	Programa de Apoyo a Gobiernos Municipales y Estadales, Sede de la Copa 2014-Brasil
2010	165	Construcción de corredor BRT Eixo Sul- Brasilia
2010	100	Construcción de corredor BRT Porto Alegre
2010	65	Programa de Transporte de Gogiania
	<b>1.330</b>	<b>Total</b>

## Urban Transport & Mobility Sector Support

### Cooperación Técnica con Brasil

Elaboración de proyecto para 3 corredores BRT. Porto Alegre- Brasil	970.000,00
Diseño de un sistema VLT en centro de ciudad. Río de Janeiro -Brasil	777.000,00
Diseños de infraestructura de transporte. Feira de Santana- Brasil	166.000,00
	<b>1.913.000,00</b>



# The Latin America Scene



Promote a strategy of solutions that can be technical, economical, financial, environmental and socially sustainable to stimulate development and improve standard of living:

- Improve accessibility (for all)
- Reduce congestion and environmental impact
- Stimulate & strengthen public transport
- Improve safety
- Institutional and capacity building



Dissemination of information and horizontal transfer of knowledge and experiences are crucial elements of capacity building.



## **Creation of “*Observatorio de Movilidad Urbana en América Latina*”**

***(Observatory of Urban  
Mobility in Latin America)***



## Observatory of Urban Mobility for Latin America (OMU)

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Latin America is one of the regions of the world with the highest level of urbanization. More than 80% of the population lives in urban areas and this proportion is growing. More than 60 urban areas of the region have more than 1 million people (4 megacities have more than 10 million each).

Given the growing impact of the activities and functions of sustainable cities in the development of the region, CAF has come to the conclusion that the social agenda of Latin America is one of urban development. Because of that, CAF has recently established a Program of Urban Transport including the implementation of the first Observatory of Urban Mobility (OMU). This Observatory will facilitate the development of adequate policies and effective management of transport facilities and services within urban areas.

The OMU aims to help Latin American cities achieve their sustainable transport goals, through the dissemination of information about international experience and targeted work within cities. Public awareness, support and information are crucial to the formulation and implementation of any sustainable transport policy. This will also facilitate the benchmarking of good practices and policies within the Region without the need to establish comparisons with cities of other regions that are so different from the Latin-American ones.



The objectives of the OMU are:

- Understand the main characteristics of the transport systems y the urban areas served
- Improved the knowledge of the relationship between transport and accessibility, mobility an urban development
- Improved the ability of governments to propose and implement policies related to the decision making process in investments, production and social control
- Facilitate the interchange of information and best practices among transport systems and the cities involved
- Facilitate mechanisms to identify projects to be financed
- Help cities to improve and strengthen their institutional and operational capacities
- Establish networks of regional cooperation among professionals, authorities, ONGs, private sector and users



Initially 15 metropolitan areas has been analyzed: Bogotá, Bello Horizonte, Buenos Aires, Caracas, Curitiba, Guadalajara, León, Lima, México City, Montevideo, Porto Alegre, Rio de Janeiro, San Jose de Costa Rica, Santiago de Chile and Sao Paulo.

In this cities together live 106 million people; there are more than 24 million private automobiles.

People makes 215 million daily trips: 92 million in public transport; 62 million in private vehicles and 60 million is non-motorized transport.

The main problems found are the deterioration of public transport, the high level of fatalities compared with other regions of the world and the very high environmental impact of transportation.



The number of traffic death in the main cities of Latin-American is 4 to 10 times higher than comparable cities in Europe, North America or Asia. Air pollution produced by public transport is 4 to 8 lower than individual transport (automobiles). Private individual transportation consumes 73% of total energy and generates 80% of the pollution.

Mobility is the fundamental necessity of 21st century living, and brings access to primary services and leisure. But today, current patterns of provision and consumption of mobility are unsustainable and cities in the region suffer from high levels of traffic related congestion, pollution and the degradation of communities and social dysfunctions.



Policy-makers and Local Authorities are facing demands to meet the changing mobility needs of citizens in ways which are economically, socially and environmentally sustainable. Investing in efficient and sustainable transport networks will help stabilize the global energy market; contribute to alleviating the role of transport in climate change and support economic growth and quality of life in cities by relieving congestion and offering mobility to all.

Public transport offers many advantages over individual transport modes and means progress for societies.

BRT (Bus Rapid Transit) systems have proven to be catalysts in transforming cities into more livable and human-friendly environments. Transmilenio in Bogotá is one of the best examples of this. The appeal of BRT is the ability to deliver a high-quality mass transit system within the budgets of most municipalities, even in low-income cities.

In few places (high income) metros (subways or trams) and suburban railways have a role to play also.



## Observatory of Urban Mobility for Latin America (OMU)

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CAF is at present working with many cities in Argentina, Brazil, Colombia, Costa Rica, Ecuador, México, Panamá, Peru, Uruguay and Venezuela, in the development of urban transport projects. Due to increased pressure on public budgets, there has been a tendency towards underinvestment in public transport fleets and infrastructures for many decades.

Alternative funding streams and private investments are increasingly recognized as indispensable funding sources. However, demand for public transport has been growing and will continue to do so in most parts of Latin America.

There are many challenges facing the future of urban transport in the Region but the most relevant ones are the capacity on governments to establish the appropriate institutional framework and capacities to generate adequate policies to advance the agenda for development; the environmental sustainability (pollution, energy consumption and safety) and the financial sustainability the promote modernization and growth. To this respect the role of private sector and the appropriate development of mechanism for public and private cooperation are of key importance.

## Fase I

Buenos Aires  
Santiago  
Lima  
Río de Janeiro  
Sao Paulo  
Porto Alegre  
Belo Horizonte  
Curitiba  
Bogotá  
Caracas  
San José  
México D.F.  
Guadalajara  
León  
Montevideo

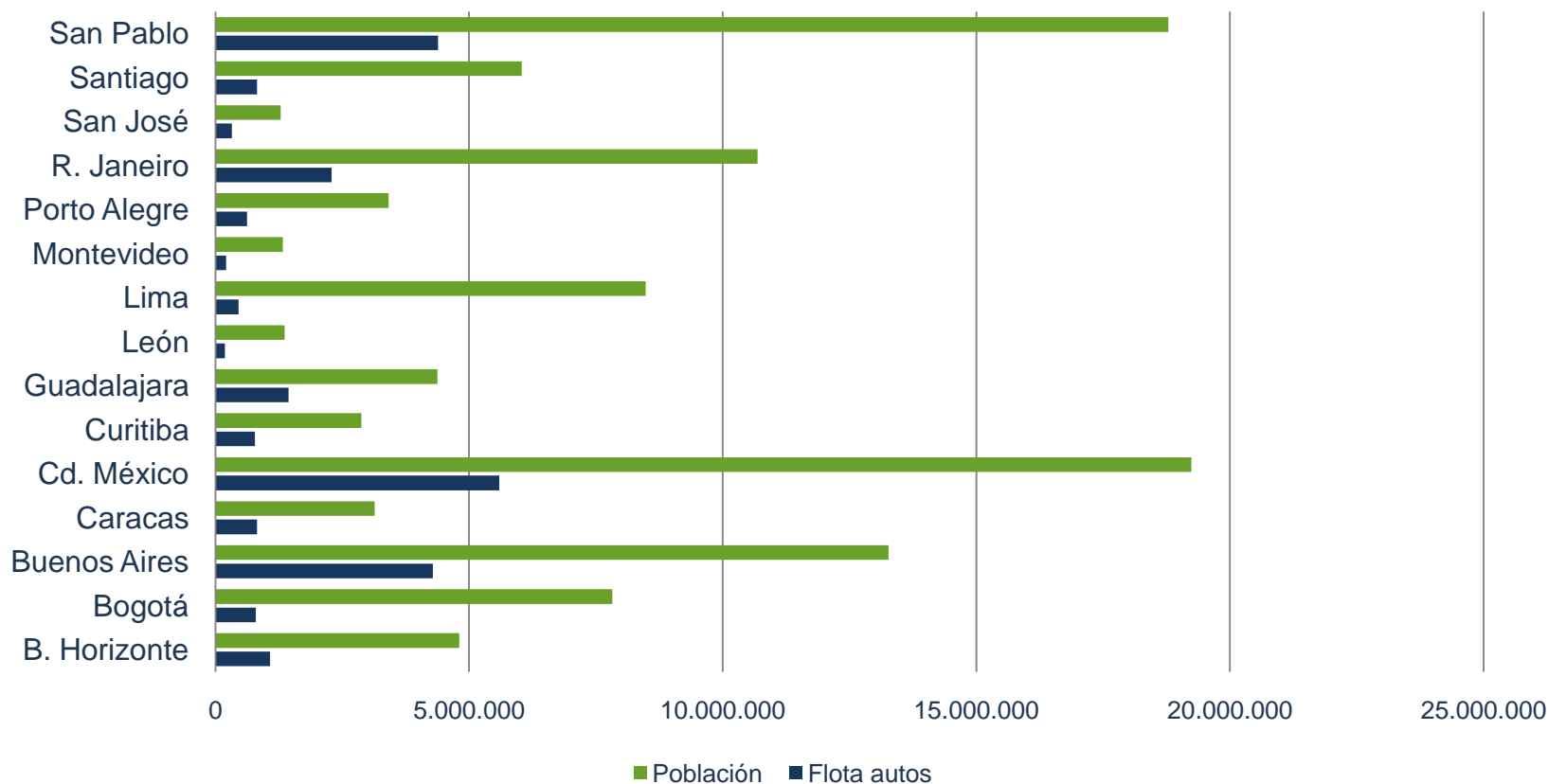
## Fase II

Quito  
Panamá  
Rosario  
La Paz  
Pereira  
Salvador  
Recife  
Fortaleza  
Brasilia



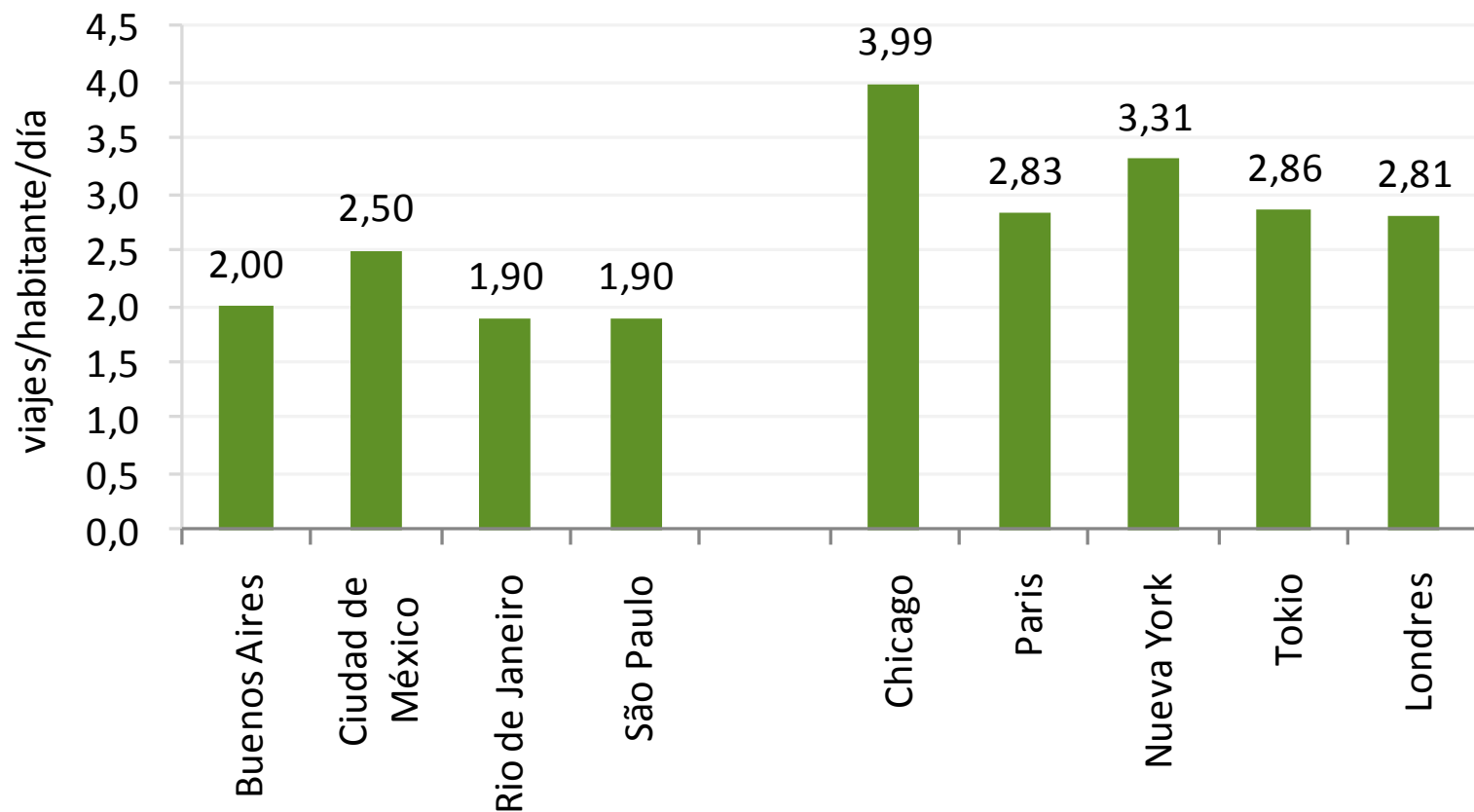
## Permanent Program & Progressive Development

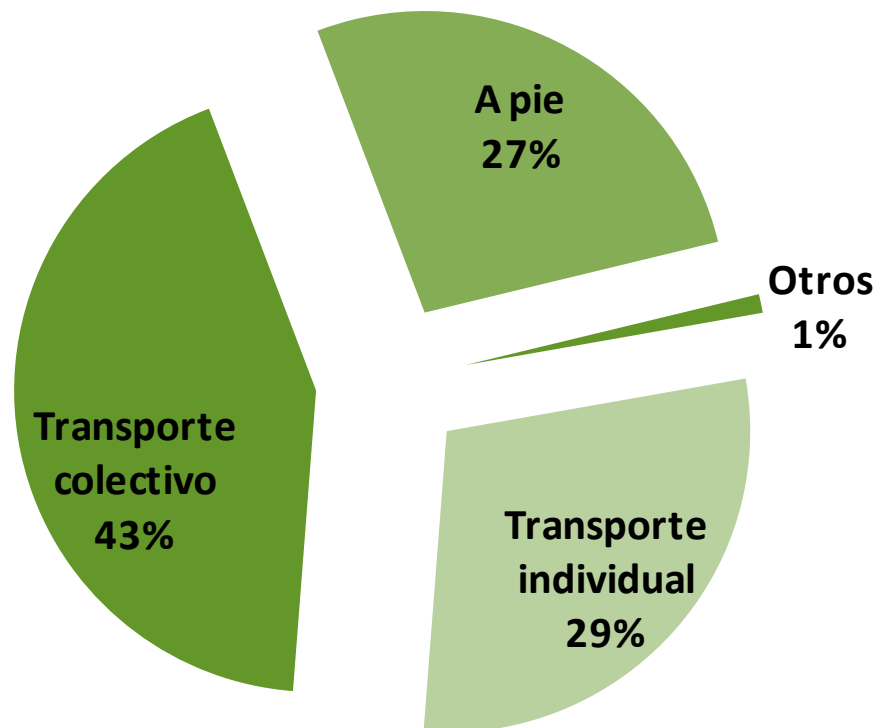




**Population: 107 millions Cars: 24 millions Motorcycles: 2,4 millions**

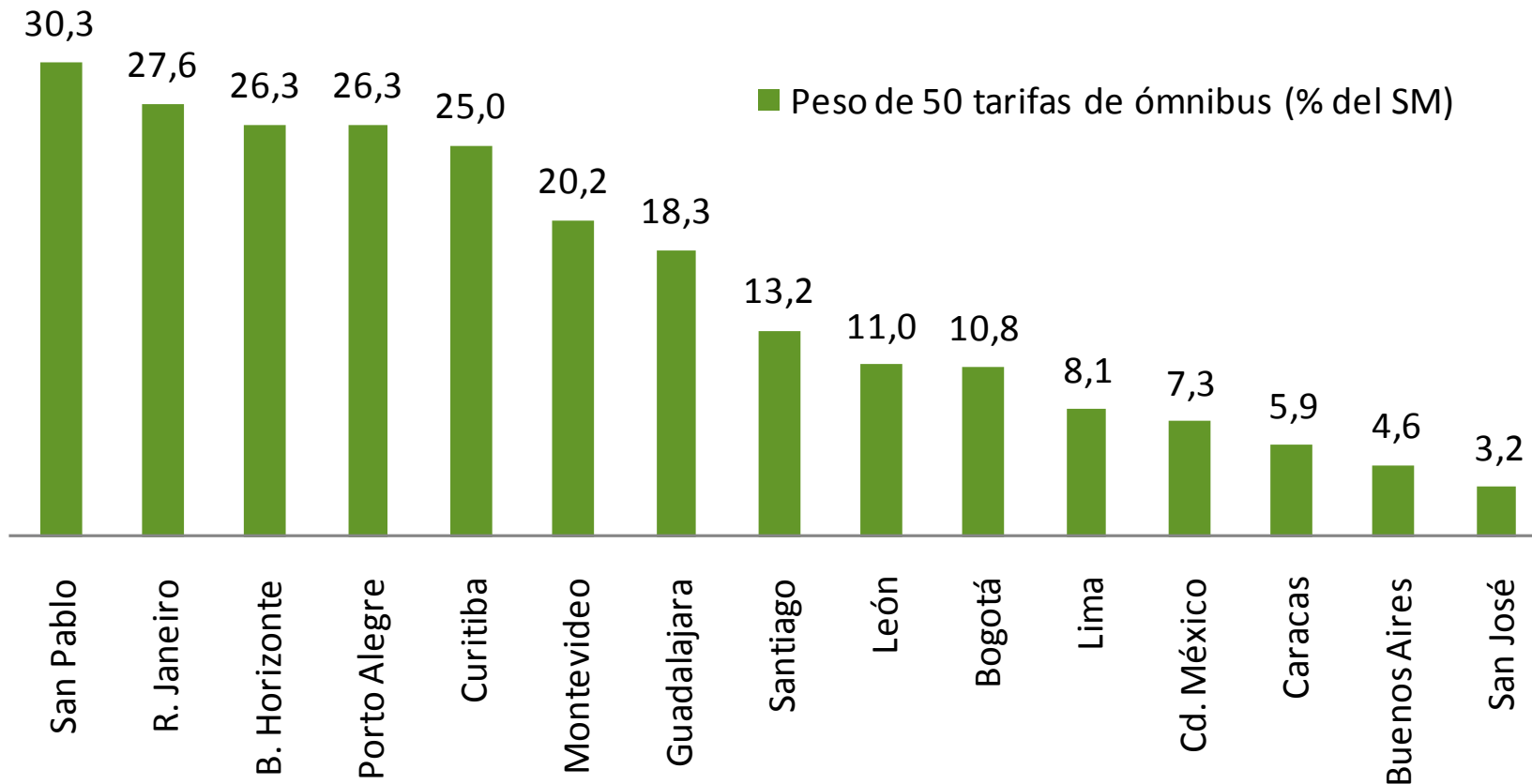
**Patrimony (infrastructure & vehicles): US \$ 660,000 millions (80% of GPI)**



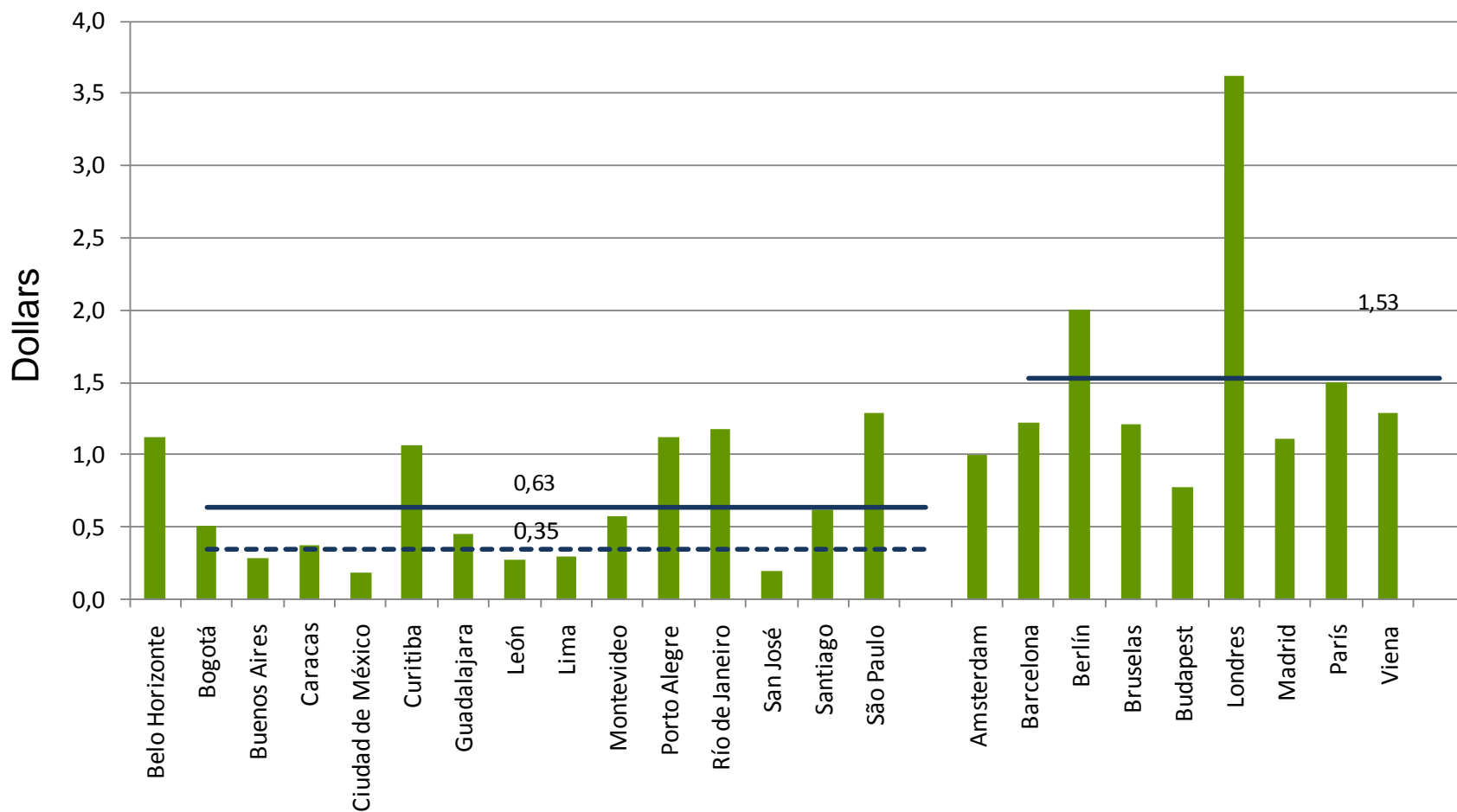


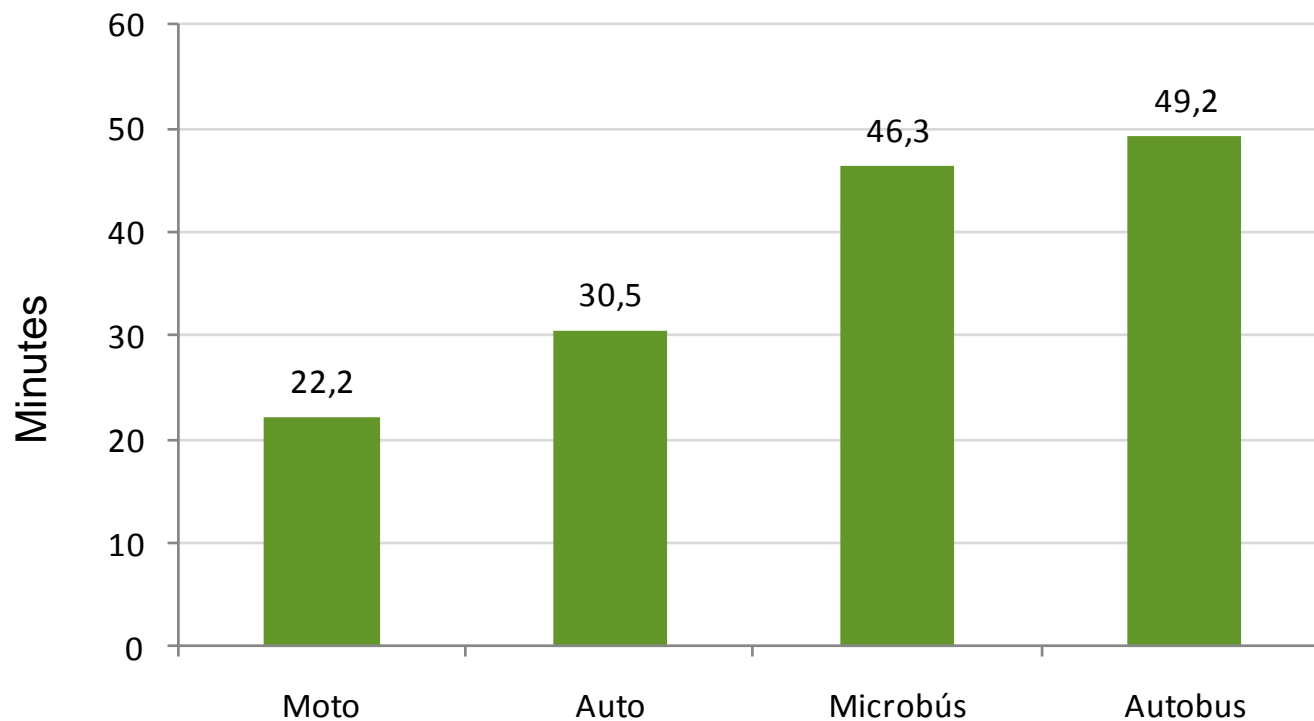
**Daily Trips : 216 millions**

**Total Expenditure : US \$ 82,800 millions/year**

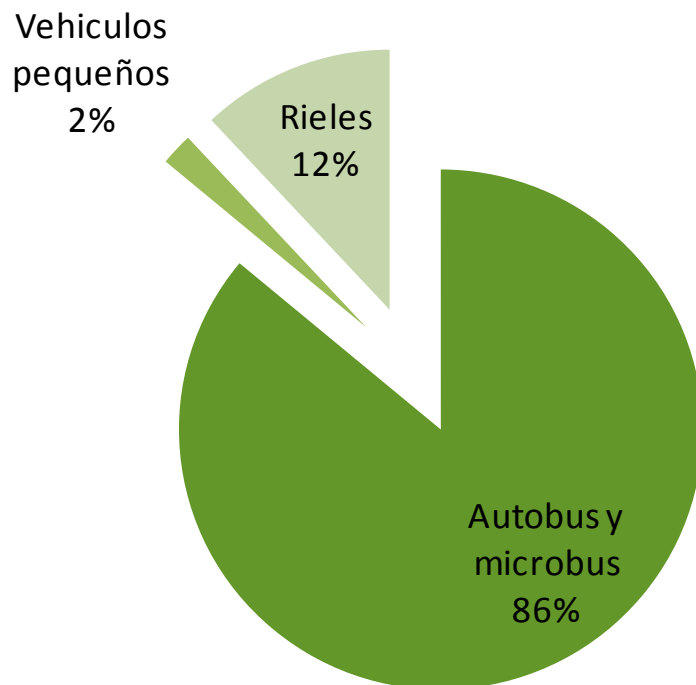


**NOTE: In Brazil , 40% of Travelers use the “transport bond”, bringing the impact down to 12%**





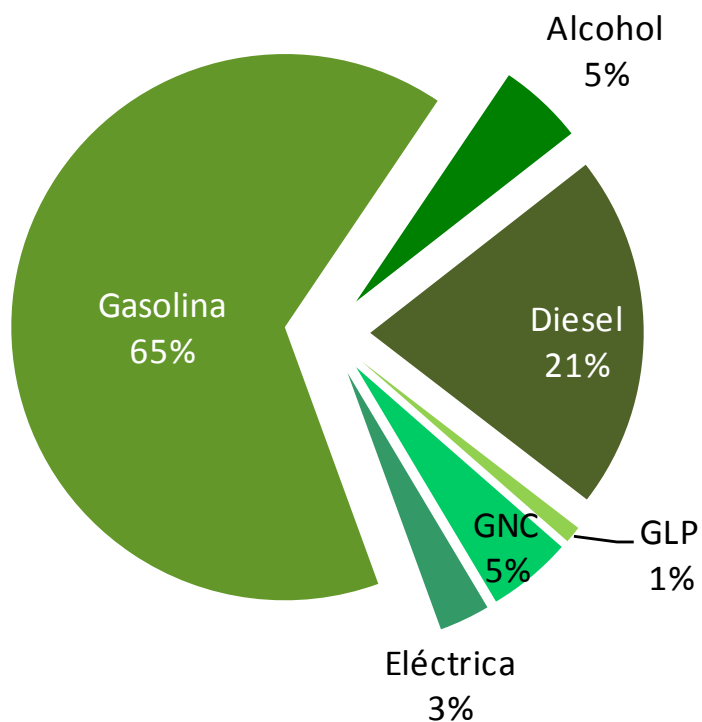




**Public Transport Vehicles: 230.000**

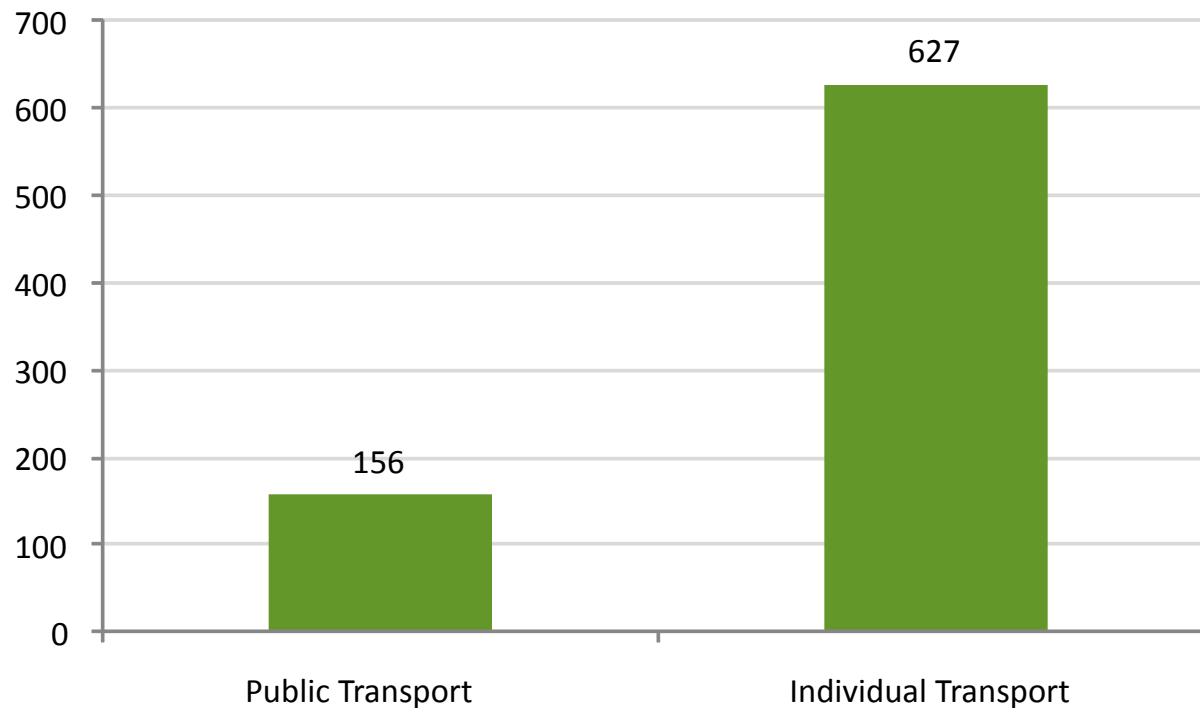
**Total Workers (including taxis): 909.000**

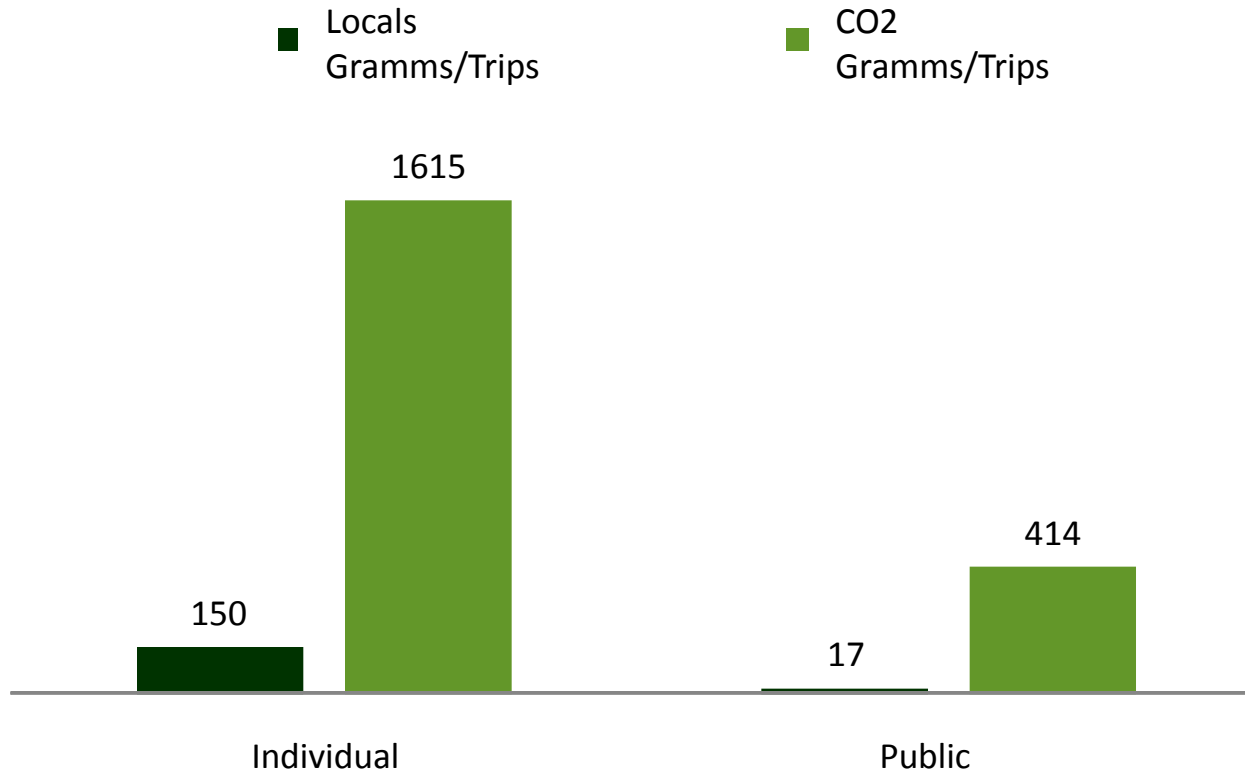
## Energy Consumption by Type

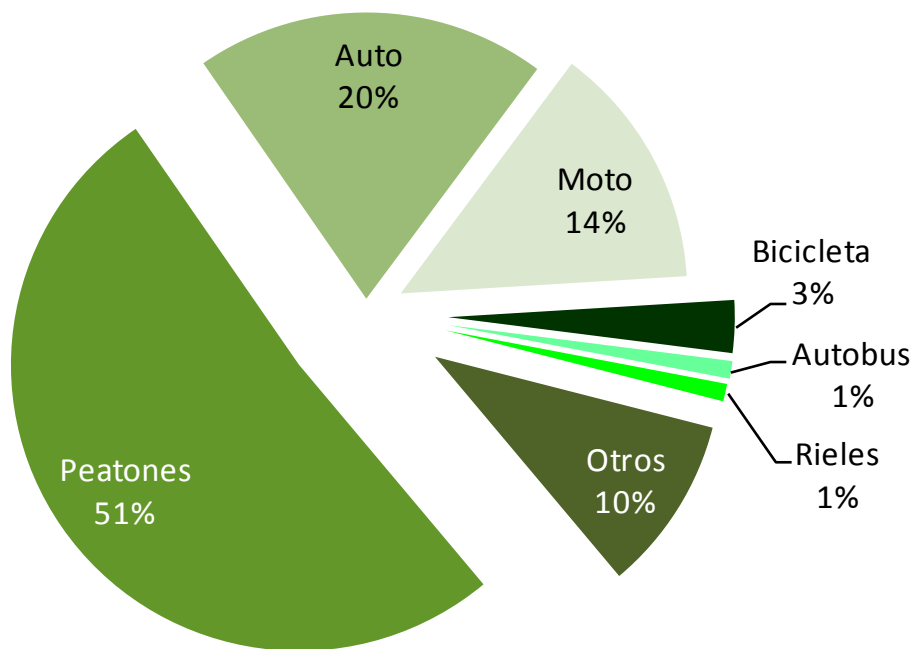


## Consumption of Energy per trip (EGP/trip)

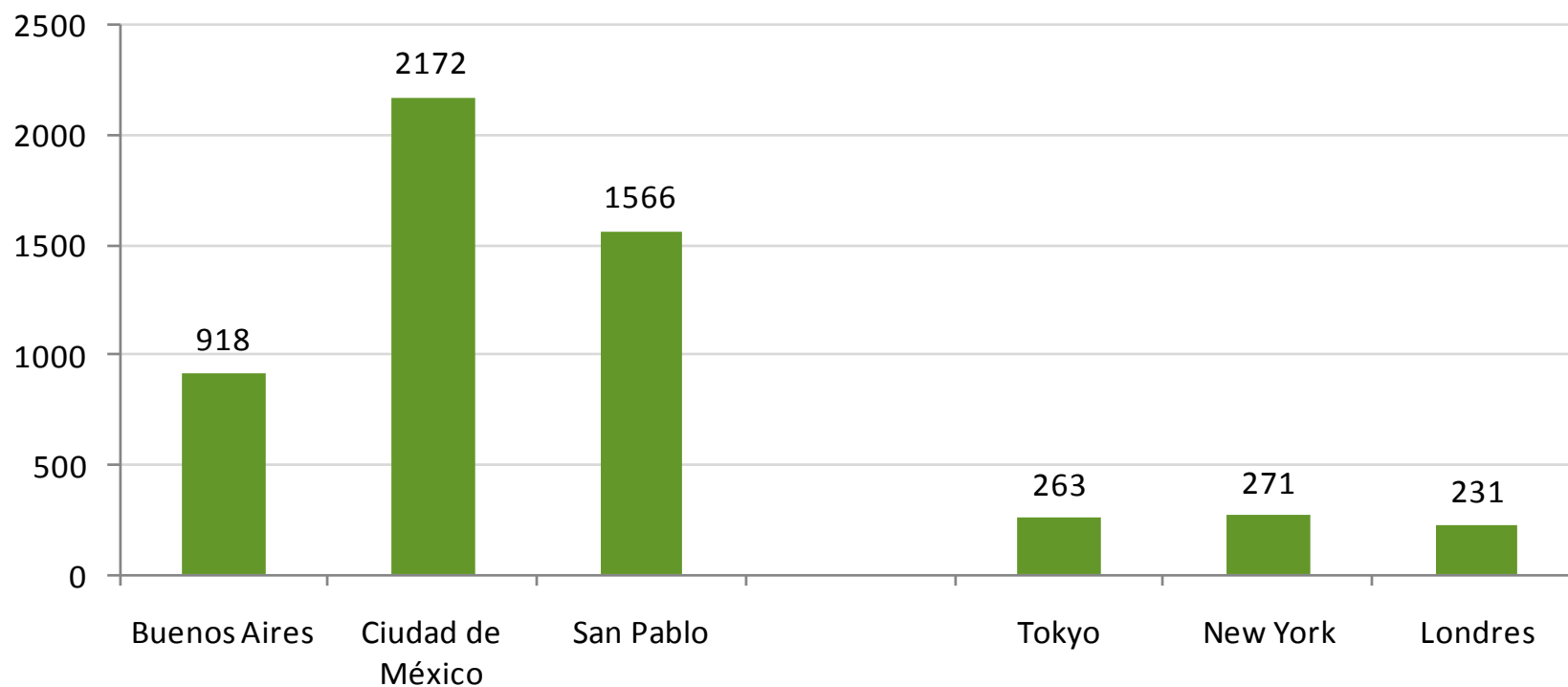
EGP: Equivalent Grams of Petroleum







## Deaths per year in central districts





Population	106,900,000	Inhabitants
Private Ownership	29,637,000	Vehicles
Public Transport Fleet	238,400	Vehicles
RR HH in Public Transport	909,000	People
Highway Network	244,790	Km
Public Transport Priority	904 km (2.3%)	
Bicycle Priority	996 km (0.4%)	
Pedestrians Priority	51km	
Traffic Lights	32,560	Quantity
Annual Cost of Mobility	82,800	Millions US\$
Trips per Day	216,000,000	Trips
Time Traveled per Day	117,581,000	Hours
Local Pollutants per Day	11,000	Tons
CO <sub>2</sub> per Day	139,000	Tons







# Observatory of Urban Mobility in the Region

## Products

[www.omu.caf.com](http://www.omu.caf.com)



Listado de documentos por taxonomía  
elementos SIN taxonomía

- [Relatorio Parte 1](#)
- [Relatorio Parte 2](#)
- [Todas las variables](#)

elementos CON taxonomía

- [Patrimonio Público y Privado](#)

**There are many challenges facing the future of urban transport in the Region:**

- **the capacity on governments to establish the appropriate institutional framework and capacities to generate adequate policies**
- **advance the agenda for development**
- **the environmental sustainability (pollution, energy consumption and safety)**
- **the financial sustainability the promote modernization and growth.**
- **the role of private sector and the appropriate development of mechanism for public and private cooperation are of key importance.**



CAF's Vice-presidency of Infrastructure, understanding the lack of solid and up dated information in the region, which at the same time hinders and undermines sound transportation and urban planning processes and holistic public policy development and implementation, has developed the first Latin-American Mobility Observatory—OMU.

This initiative builds on local information of 15 Latin American metropolitan areas in 9 countries, Buenos Aires, Belo Horizonte, Curitiba, Porto Alegre, Río de Janeiro, São Paulo, Santiago, Bogotá, San José, Ciudad de México, Guadalajara, León, Lima, Montevideo and Caracas, developing an integrated planning tool, including information on travel demand, transit and infrastructure supply, household and user socio-economics, energy consumption, emissions, and fare collection and subsidies, among others.

The OMU couples financial and technical support that CAF provides to the member countries, in order to promote the design and implementation of sustainable urban transport programs, projects and policies.

Next steps include definition of variables and indicators that must be updated, periodicity of these up datings, as well as incorporating new cities such as Pereira, Rosario, La Paz and Quito.

In addition, preliminary analyses of the database have shown a lack of understanding on several relationships among the different variables and factors included. These analyses, have led CAF to start a new phase, developing specific studies to deepen regional knowledge and understanding of travel behavior patterns, and their externalities and implications for sound planning and public policy definition and implementation.



- Geographic scope data collection:

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- Latin American metropolitan areas

- What parameters are being collected:

- Information on 11 variables is being collected:

- Socioeconomic characteristics
- Private and public assets
- Costs, fares and subsidies
- Road safety
- Local and global emissions
- Energy
- Public transport
- Pedestrian and non-motorized transport
- Fleet
- Infrastructure

- For more specific information on the variables collected visit:

<http://omu.caf.com>





- Data sources – questionnaire, other sources?

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  - Local Origin and Destiny surveys and Household travel surveys
- Data quality control:
  - CAF has developed a questionnaire which is completed by local authorities or local consultants after receiving a specific workshop on how to gather the data. In addition, information received is analyzed and double checked.
- Type of analysis conducted (including building up of time series):
  - CAF is developing around 30+ studies (next slide) on forthcoming analyses
  - Building time series is one of OMU's main goals
- Publication – dissemination data:
  - Both Publication (Spanish) and Data are available @ <http://omu.caf.com/>
  - English version forthcoming
- Timing of next round of data collection:
  - CAF is working with all its partners to consolidate information for an updated OMU during the second semester of 2011.

Item	Study	Brief Description	City / Country
Studies to Improve Data Collection Methodologies			
1	Road Safety Data Collection Improvement Methodology	Develop methodologies to improve data collection on road safety through 4 case studies which will enable a better understanding of the current practices and procedures to consolidate and aggregate data. Such works will also contribute to improve the mechanisms developed to update future OMU Phases.	São Paulo
			Bogotá
			México
			San Jose
2	Energy and Emissions in Transport Data Collection Improvement Methodology	Develop methodologies to improve data collection on the relationship between energy consumption and local and global emissions through 4 case studies which will enable a better understanding of the current practices and procedures to consolidate and aggregate data. Such works will also contribute to improve the mechanisms developed to update future OMU Phases.	São Paulo
			AMBA
			México
			Rio de Janeiro
3	Fare box and Subsidies Data Collection Improvement Methodology	Develop methodologies to improve data collection on subsidies granted to transit operation and its implication on fare box collection, through 5 case studies which will enable a better understanding of the current practices and procedures to consolidate and aggregate data. Such works will also contribute to improve the mechanisms developed to update future OMU Phases.	São Paulo
			AMBA
			México
			Rio de Janeiro
			Santiago
4	Mode Share Methodology	Develop simplified and low-cost mechanisms to measure and/or estimate modal share of motorized trips.	São Paulo
5	Congestion Methodology	Develop simplified and low-cost mechanisms to measure and/or estimate the degree of urban congestion in cities	São Paulo
6	User Perception Study	Develop a Survey to determine user´s perception on urban transport, including satisfaction degree and unsatisfied needs. This work includes the implementation of a pilot study which will be developed in Buenos Aires.	Buenos Aires

Item	Study	Brief Description	City / Country
Studies- State of the Art			
7	Political Economy in urban transport	Study the political economy of urban transport, identifying funding sources and allocation, including different government levels, institutional structures, jurisdictional issues.	Regional
8	Traffic Demand Management	Identify and analyze best practices on traffic demand management, searching for programs and policies which implementation is feasible in LAC.	Brazil (2)
9	Vehicle Inspection	Identify and analyze best practices on vehicle inspection, searching for programs and policies which implementation is feasible in LAC.	Brazil México Santiago
11	Vehicle Industry and New Technologies	Study the state of the art on new technology developments for the vehicle industry and its implications on the energy sector, searching for programs and policies which implementation is feasible in LAC.	Brazil (2) México Argentina
12	Motorcycles and its Implications on Road Safety	Study the phenomenon of the motorcycle as the new private mode in developing cities, and analyze its relationship with road safety. Study best practices to control and mitigate its negative externalities.	Brazil Colombia México
13	Urban Density, Mobility and Accessibility	Study the relationships among transport, accessibility and the different forms of urban density. Develop concrete analysis using OD data understanding mobility patterns and the influence of specific urban form characteristics.	São Paulo Santiago Bogotá Caracas