



# Implementation of sustainable urban transport in Latin America

Dario Hidalgo<sup>a,\*</sup>, Cornie Huizenga<sup>b</sup>

<sup>a</sup> *EMBARQ, The WRI Center for Sustainable Transport, 10 G Street Suite 800, Washington, DC 20002, USA*

<sup>b</sup> *Partnership on Sustainable, Low Carbon Transport SLoCaT, USA*

## ARTICLE INFO

### Article history:

Available online 20 July 2012

### Keywords:

Urban transport  
Latin America  
Sustainability  
Motorization  
Modal shares  
Mass transit  
Non-motorized transport  
Urban transport policy

## ABSTRACT

Transportation provides vital support to the economic and social development of Latin America cities, but current growth patterns and trends are not sustainable. While non-motorized and public transport modes have the largest shares in passenger transport, there is a strong increase in ownership and use of cars and motorcycles. In Latin America in 2010 there were 2.5 new motor vehicle registrations for every new child being born.

Motorization results in congestion, air pollution, and greenhouse gas emissions. In addition, motorization increases the use of fossil fuels and results in reduction of physical activity, which in turn increases obesity and related illnesses. Costs of negative externalities are estimated to be around 18% of the average income of 15 selected cities in the region. There is a direct relation between fatalities and air pollution with automobile use, so curbing motorization might prove beneficial for the society at large.

There is considerable evidence from Latin America that it is possible to modify motorization trends. This can be done through reallocation of resources already dedicated to transportation to emphasize the provision of access for people and goods rather than maximizing transport activity. Mainstreaming sustainable transport will benefit from cooperation among countries – as it was agreed in the Bogotá Declaration (*Foro de Transporte Sostenible de América Latina*, 2011). It will also require improved information and institutions, and support from the international community, through focused financial instruments, development assistance and technical cooperation.

© 2012 Elsevier Ltd. All rights reserved.

## 1. Introduction

Transport is at the heart of human development and economic activity. However the current transport patterns, based primarily on automotive transport powered by fossil fuels, generate multiple social, economic and environmental impacts, and are not sustainable (Dalkmann & Sakamoto, 2011). Transport planning and investment therefore requires a paradigm shift, to favor access rather than mobility, focus on efficient modes of transport, and promote low carbon and clean vehicles and fuels. This paradigm shift can be summarized in three types of actions: avoid long and unnecessary motorized travel, shift the movement of goods and people to most efficient modes and improve the technology and operational management of transport services (Dalkmann & Brannigan, 2007).

This paper recognizes the multiple dimensions of urban transport; provides a definition of sustainable transport consistent with the human and economic development needs of countries in Latin America; presents a diagnosis of current conditions of selected

countries and cities in the region; lists examples of best practices in Latin America and assess the status of sustainable urban transport policies; and presents a strategic framework for sustainable growth of the transport sector which was agreed by representatives of 8 governments in South America and México in September 2011.

As most Latin American cities are at an intermediate stage of development, they have the opportunity to develop their transport systems in a manner consistent with the principles of the Avoid–Shift–Improve paradigm. If so, they can avoid large negative impacts associated with unchecked growth of motorization and forego major and much more expensive retrofits of their transport systems and urban fabric later on, as has been the case in other developing and industrialized nations. There are good practices across the region, by they remain dispersed, and often secondary to road expansions. There is an opportunity to scale up these initiatives into mainstream practices. This requires, however actions on policy, financing and institutional development.

## 2. A vision toward sustainable urban transport

There are many definitions of sustainable transport, derived from the general concept of sustainability: meeting current needs

\* Corresponding author.

E-mail address: [dhidalgo@wri.org](mailto:dhidalgo@wri.org) (D. Hidalgo).

**Table 1**  
Population and urbanization for South American countries and México (2010).

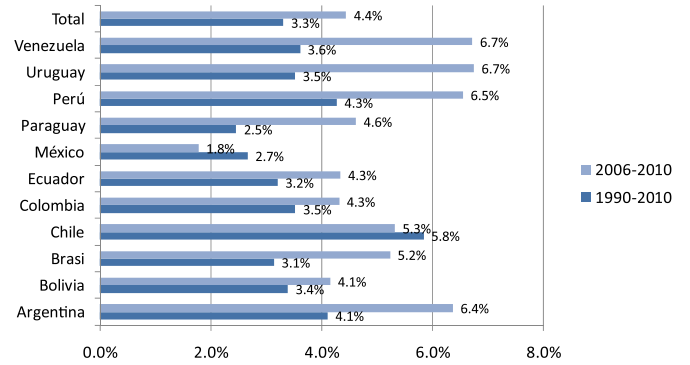
	Population (2010)	Percent urban population (2010)
Argentina	40,738,000	93.11
Bolivia	10,131,000	66.39
Brazil	195,498,000	85.01
Chile	17,133,000	87.52
Colombia	46,299,000	78.51
Ecuador	13,773,000	65.00
Paraguay	6,460,000	61.42
Peru	29,495,000	73.37
Uruguay	3,372,000	92.41
Venezuela	29,043,000	93.59
México	112,323,000	78.81

Economic Commission for Latin America and the Caribbean, ECLAC, 2011.

without compromising the ability of future generations to meet their own needs (United Nations, 1987). Some of these definitions have been compiled by Litman (2011). In line with the many definitions of sustainable transport, government representatives of 8 South American countries and México embraced the following definition (based on Dalkmann & Huizenga, 2010): “the provision of services and infrastructure for the mobility of goods and people, needed for economic and social development and for improving quality of life and competitiveness. These services and transport infrastructure provide safe, reliable, economical, efficient, equitable and affordable mobility, while mitigating the negative impacts on health and the local and global environment, in the short, medium and long term without compromising the development of future generations.” (Foro de Transporte Sostenible de América Latina, 2011).

This understanding of sustainable transport is consistent with the principles of the “Green Economy” (UNEP, 2011). The Secretary General of the UN in his report on the objective and main themes of the Rio+20 UN Conference on Sustainable Development stated “Green Economy in the context of Sustainable Development and Poverty Eradication is broader than simply low-carbon growth. The social dimension and poverty eradication remain paramount for most developing countries”. (UN General Assembly, 2010) This makes the transport sector an excellent fit for the green economy theme of the Rio + 20 conference. The main driver for development of the transport sector in developing countries has been and continues to be to enable, facilitate and catalyze economic and social development.

Urban transportation is at the intersection of human development and the environment and both need to go forward in a balanced way. This is not the current situation: there is a deep

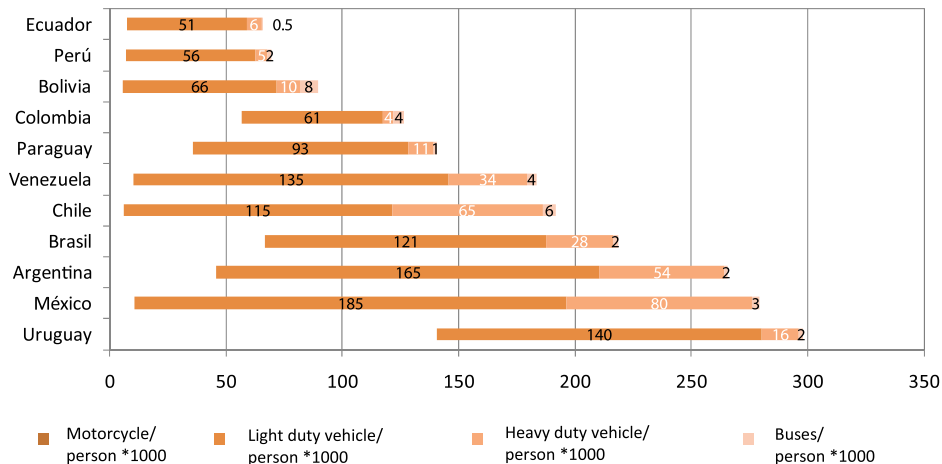


**Fig. 1.** GDP annual growth in South America and México 1990–2010 and 2006–2010 (Economic Commission of Latin America and the Caribbean, ECLAC, 2011).

imbalance created mainly by the heavy reliance on motorized transport powered by fossil fuels. The prevailing paradigm results in high inefficiency in the freight and passenger transport; high logistics costs; congestion; air pollution; road traffic deaths and injuries; high energy consumption and increase in greenhouse gas emissions. The negative impacts are particularly strong in the most vulnerable population: children, elderly, disabled and low-income population (Dalkmann & Sakamoto, 2011).

It is not likely that the situation in developing and emerging countries will improve under the current transport paradigm and the pressures arising from rapid economic growth (Candiracci, 2009). As a result, it is expected to have further increased congestion, pollution, crashes, negative health impacts, energy consumption and greenhouse gas emissions. For example, the World Health Organization projects that road crashes will be the fifth leading cause of death in 2030, with over 2 million deaths a year (WHO, 2004). Meanwhile, the International Energy Agency, projects that energy consumption from transport under the Business as Usual scenario will increase by 50% by 2030 and 80% by 2050, with the majority of these increases coming from the expansion of individual motorized transport in developing countries (IEA, 2010).

This can change. Studies informing the document “Transport: Investing in Energy and Resource Efficiency, Green Economy Report, UNEP” (Dalkmann & Sakamoto, 2011), show that by making use of available resources (USD 419 billion per year for the next 40 years) and introducing enabling policies, it is possible to achieve a 68% reduction in overall greenhouse gases emissions (8.4 Giga



**Fig. 2.** Motorization by type of vehicle (FTS survey, ECLAC, 2011; UNCRD-IDB, 2011).

Download English Version:

<https://daneshyari.com/en/article/7386133>

Download Persian Version:

<https://daneshyari.com/article/7386133>

[Daneshyari.com](https://daneshyari.com)