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**BULLETIN**  
FACILITATION OF TRADE AND TRANSPORT IN LATIN AMERICA AND THE CARIBBEAN



Issue No. 212, April 2004

## TRANSPORT PLANNING AND ITS IMPACT ON CITY COMPETITIVENESS

The economic and productive development of a region is closely tied to its transport infrastructure. Adequate transport infrastructure enables companies to increase their production levels as a result of lowered logistical costs, inventory savings and access to larger supply and labour markets.

The competitiveness of a city depends on elements of its economy and other aspects such as social disciplines. Despite being a rather broadly defined concept, it is widely used to categorise and compare cities, projecting the image of a prosperous city in the public eye.

The aim of this issue of the Bulletin is to identify the role played by investments in transport in the competitiveness of a specific city and to demonstrate the need for adequate transport planning to ensure that economic development does not interfere with the quality of life of city dwellers.

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### 1. CITY COMPETITIVENESS

There are various ways to interpret the concept of city competitiveness. A broad definition of competitiveness can be used to encompass economic aspects –including employment levels, job opportunities, internal investment and output measurements like productivity– and social aspects, such as the attractiveness of location, quality of life, and the social structure.

According to Storper,<sup>[1]</sup> competitiveness reflects an economy's ability to attract and retain companies with stable or growing activity levels while maintaining or raising the quality of life of those who participate in the economy.

Literature relating to city competitiveness indicates that transportation is not commonly reported as a critical component of competitiveness. More important aspects include the availability

of factors of production, level of demand, related and complementary industries, together with strategies, structures and the competencies of companies.<sup>[ii]</sup> However, transportation has an important role to play in providing a 'favourable business environment.'

## 2. TRANSPORT PLANNING: AN INTEGRAL CONCEPT

Transport reflects the ties between various activities in a city. In order to provide acceptable transport conditions and travel times and improve the quality of life of city dwellers, transport planning must be considered a fully integrated part of urban and land-use planning.

This challenge has promoted the design of complex computer models capable of simulating the interaction of transport systems, activities (land use) and the environment so as to assess the impact of strategic projects on some of them.

Determining the nature of relationship that exists between transport systems and land use is of utmost importance. In the case of the capital city of Santiago, various agents (households or firms) take the transportation factor, measured in terms of accessibility, into consideration when deciding where to settle in. However, factors such as the social environment (average income for the area), the proximity to 'bothersome' activities such as industry and the availability of equipment (commercial and services), among others, are of greater importance.<sup>[iii]</sup>

## 3. TRANSPORT PLANNING AND COMPETITIVENESS

Transport systems do not only facilitate the movement of persons and property. Their operating characteristics have a great impact on land use, economic growth and quality of life. The infrastructure associated with transport is considered fundamental to the economic development of an area, although less important than other factors such as skilled labour, the existence of open space areas, political and economic stability and the provision of public services, inter alia. Transportation cannot stimulate development on its own, but its absence or slack performance is a limiting factor.

SACTRA<sup>[iv]</sup> believes the main mechanism through which transport systems can affect the economy is by modifying the costs of mobility. A thorough review of existing literature<sup>[v]</sup> shows the potential impact of transport infrastructure on economic development, such as:

**Economic Growth:** According to several authors, transport infrastructure contributes to the virtuous cycle of growth when the costs of its use are lowered,<sup>[vi]</sup> although the resulting effect not be immediate.<sup>[vii]</sup> In this connection, a key question is put forth by SACTRA (1999): What is the critical factor in this context? Mobility in general, improved accessibility or increased vehicular traffic?

**Congestion:** Congestion is believed to increase the productivity of businesses, however, telecommuting has prompted doubts regarding such an effect. In this context, transport infrastructure reinforces the trend since it enables businesses to move to suburbs without having to compromise access to the labour market or raw materials. As such, the importance of location diminishes.

**Productivity:** It is estimated that slack transport infrastructure increases the cost of business due to the saturation and restriction of the labour market.

**Employment:** Promoters of transport infrastructure projects highlight the positive impact of such

projects on employment and point out opportunities to increase the size of the accessible labour market. However, studies on the impacts of transport initiatives on employment in particular have been both substantial and insignificant. The impacts tend to re-direct rather than generate new jobs, [vii] which can translate into social costs, such as the movement of sources of employment to other areas.

**Attractiveness of Internal Investment:** Reports on case-studies show both positive and insignificant effects of a business' specific location on its level of attractiveness.

An important aspect of the problem lies in pinpointing the dependent variable in the relationship between transport and economic development. It is unclear whether investment in transport is the result of regional economic development or whether such development is driven by investment in transport. In this regard, Chumacero and Quiroz[ix] show in a thorough econometric study that, in the case of Chile, investments in road resurfacing and urban roadways are dependent on the Gross Domestic Product (GDP) of the country.

#### 4. THE CASE OF CHILE

Urban transport systems are planned by the Interministerial Secretariat of Transport Planning (SECTRA), a Chilean government agency dependent on the Ministry of Planning and Cooperation (MIDEPLAN). The aim of the urban planning transportation policy promoted by the Government is to help improve the quality of life of the inhabitants of various cities in the country. To this end, the following four lines of action are considered:

##### A) Socially equitable transport systems

Access to various means of transport must be guaranteed for all, irrespective of social status, with equal levels of service, security and comfort.

##### B) Sustainable transport systems

The development of urban transport systems must not cause imbalances in the long term that would hamper the natural development of a city.

##### C) Transport systems consistent with urban factors

The design of proper instruments that adjust to mobility needs, urban growth and an adequate quality of life.

##### D) Transport systems without significant negative impacts

Low environmental and noise pollution levels and an adequate level of security.

In accordance with the guidelines provided, SECTRA has formulated Master Plans for Developing Urban Transport Systems in principal Chilean cities. The primary goal of these plans is **to give preference to the mobility of persons over the mobility of vehicles**, so as to ensure the development of sustainable transport systems that greatly benefit the population.

The Chilean economy has been one of the most dynamic in Latin America over the past decade,

which has translated into sustained increases in household income, the car population and the mobility of persons. The worst situations of traffic and pollution are found in the capital city of Santiago, where 5.5 million reside and approximately 900,000 vehicles circulate. Figure 1 shows the trend seen in the main indicators of the transport system in Santiago over the past decade:

Figure 1: Indicators of the Urban Transport System in Santiago

Indicator	1991	2001
Households	1.162.845	1.473.735
Vehicles per household	0,36	0,56
No. of vehicular travel	4,99	6,34
Use of private transport (*)	19,7 %	39,0 %
Use of public transport (*)	70,5 %	51,8 %

(\*): estimate divided by total vehicular travels made.

**Source:** Survey on Travel Origins and Destinations, Santiago, 2001.

The response of the Authority to the growing decline in the operating levels of the urban transport system in Santiago was Transantiago, [X](#) an ambitious transport plan comprising 12 programmes, the goal of which was to increase the use of the public transport system. To this end, a modern system of public transport will be inaugurated in 2005 that is integrated both fare-wise and with respect to physical infrastructure (between bus and metro), doubling the current size of the metrorail system (from 40 to 80 km) and modernizing bus circulation and operating conditions. Likewise, in allowing roadway concessionaires, the private sector can invest in roadways for private transport, thereby freeing up the resources necessary for the State to modernize the public transport system.

Also in the pipeline are transport plans for the cities of Valparaíso and Concepción, the primary line of action of which is the modernization of the public transport system.

## 5. CONCLUSIONS

The economic development of countries has a sizable impact on the operating characteristics of transport systems. An increase in household income prompts a rise in the vehicle-use rate and that of the mobility of persons and property, while decreasing the quality of life of city dwellers by exposing them to externalities such as traffic and pollution.

According to the definition of Storper described in the first section of this article, only adequate planning for expanding transport systems will ensure the competitiveness of economies that are developing in certain regions. Giving preference to more socially efficient modes of transportation, such as public transport, allows acceptable operating levels for transport systems to be maintained, providing widely known social benefits.

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1 Storper, M. (1998) Regional worlds of production: Learning and innovation in the technology districts of France, Italy and the United States Vol. 27, No. 5, pp. 443-455.

2 Porter, M.E. (1990) *The Competitive Advantage of Nations*, London, Macmillan.

[iii] Analysis of Land-Use Policies, Mideplan, December 2000.

[iv] SACTRA (1999) Transport and the Economy, HSMO, London.

[v] Llewelyn-Davies, Banister and May (2004). Transport and City Competitiveness – Literature Review, Department for Transport, United Kingdom.

[vi] For example, Baum and Kurte (2001). Report. Transport and Economic Development Round Table 119. ECMC/OECD.

[vii] Banister (2000). Sustainable Urban Development and Transport: A Eurovision for 2020. Transport Reviews, Vol. 20, No. 1, pp. 113-130.

[viii] Boddy et. al. (1999). Bristol Business Survey: Central and North Bristol undertaken within the ESCR Cities, Competitiveness and Cohesion Research Programme.

[ix] Chumacero R. and Quiroz J. (1998). Modelos de Proyección de Inversión en Pavimentación y Vialidad Urbana, Mideplan, 2000.

[x] Transantiago, [www.transantiago.cl](http://www.transantiago.cl)

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