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TRANSPORT PANORAMA OF LATIN AMERICA AND THE CARIBBEAN IN 2001

MARITIME TRANSPORT AND PORTS: A TANGIBLE EVOLUTION FOR THE USER

Freight: In 2001, ocean freight rates dropped worldwide, with containerized traffic recording a decline of approximately 15%. In Latin America and the Caribbean also, freight rates resumed their decline, after an increase in 2000, which had caused the export sector problems. Investments by shipowners follow a cyclical pattern: when freight rates are high, the shipowners order new ships; once these are commissioned, there is oversupply in the market, freight rates drop, and shipbuilding ceases. Between January 2001 and 2002, the world container ship fleet grew by around 8% (in terms of TEUs, twenty-foot equivalent units), while shipyards' order books are currently 5% down from a year ago. (The data in this section was calculated on the basis of www.ci-online.co.uk, www.lrfairplay.com/ and www.eclac.cl/transporte/perfil).

Regular liner services: Since June 2001, the TEU capacity of shipping in South America rose by 10%. The five largest vessels with 3,739 TEUs are recent additions to the Hamburg Sud group, and were purpose-built for this market. The fleet employed in regular sailings from South America now comes to 477 vessels with a total capacity of 667,013 TEUs. It should be pointed out that virtually all these vessels, together with the new orders amounting to 3,800 TEUs put in by Aliança, have their own cranes. In the main markets of the industrialized nations, containerized traffic is handled by ships that do not have their own cranes, since it is more efficient to operate with port cranes. Using ships that come with their own cranes gives the ship operator more flexibility, reduces its dependency on port operations and enables it to put in at ports that function without cranes.

A total of 301 vessels operate in Central America, with an average size of 2,029 TEUs. This is 45% greater than the average for South America, and is attributable to the ships that cross the Panama Canal. The biggest ships continue to be those of the Panamax type (up to 4,890 TEUs), and as long as the Panama Canal does not undergo expansion, it is not anticipated that larger vessels will enter this market. Mexico is served by 186 container ships, with an average size of 1,793 TEUs, while the Caribbean is served by more ships (350), though of smaller size (average of 1,242 TEUs).

There was no noticeable increase in the consolidation of supply of regular services in 2001. In South America, the shipping line with the greatest share of TEUs is P&O Nedlloyd (12% of the total), whilst Maersk-Sealand is the biggest player in Central America (19%), Mexico (17%), and the Caribbean (17%). In Central America, the top 10 companies account for 75% of the market, compared to 67% in Mexico, 67% in the Caribbean, and 58% in South America. Most vessels operated by shipping lines are owned by other firms. Take for example South America, where only 157 ships (33%) are also owned by the same line, and where 69 shipping lines are registered, but owners of these same vessels number 162. In the Caribbean, the ratio is 51 shipping lines for 130 different owners.

Shipping companies: Over the course of 2001, shipping companies with head offices in Latin America or the Caribbean (both regular liners and tramp services, except open registers) increased their share of world deadweight tons (2.1% today, up from 2.0% a year ago), though lost share in terms of TEU capacity (1.3% versus 1.5%). Chilean companies continue to boast the greatest TEU capacity, with Compañía Sudamericana de Vapores (CSAV) and Compañía Chilena de Navegación Interoceánica (CCNI) the leading firms. Brazilian companies – chiefly Petrobras, Docenave, Norsul, and Aliança – are the biggest in terms of tons. Chilean companies specialize more in regular services, operating container ships under foreign flags, while their Brazilian counterparts transport more bulk cargo, in part in trade reserved for domestic firms.

Ship registrations: Fleets registered in Latin America or the Caribbean reached 33.1% of world fleet capacity, an increase of almost three points since January 2001. Of this capacity, 67% (equivalent to 186 million deadweight tons) was registered in Panama, followed by the Bahamas (17%), Saint Vincent and the Grenadines (4%) and Bermuda (3%), all of which were open registers. Of the fleets that fly the national flag but which are not open registers, the largest was that of Brazil (2.2% of the region, 6.1 million tons), followed by Venezuela (0.42%) and Chile (0.34%). During 2001, the fleet flying the Panamanian flag expanded by 16%, thereby consolidating its leading world position. The Venezuelan-registered fleet increased by 42% in terms of tons, no doubt a reflection of new legislation that facilitates the importation and bareboat chartering of vessels. The new open register of Bolivia also increased its share. On the other hand, Jamaica, which two years earlier had begun an initiative to offer an open register, could only manage five vessels under its flag.

Coastal shipping: 2001 saw a further expansion in coastal shipping services in Brazil, attributable in particular to Aliança (which also incorporated Transroll services), Docenave and Mercosul Line; as a result, overall coastal shipping trade reached approximately 115,000 full TEUs, involving 10 vessels (estimate according to www.centronavedatamar.com.br). The main reasons for this expansion are port improvements, which boost shipping's competitiveness compared to overland transport, and oft-cited inadequate standards of road maintenance. Coastal shipping continued to have considerable growth potential in Brazil. Since coastal shipping was subject to cargo preference in Argentina, Maersk-Sealand provided a feeder service to Ushuaia in Patagonia, via Montevideo in Uruguay, as that was the only way it could use non-Argentinian registered vessels. In Chile, it was estimated that foreign companies made more than 20 trips from the centre to the north and more than 40 trips from the north to the centre per month without being able to use their slack capacity to carry coastwise cargo on these routes. The Chilean Government has given thought to amending the legislation currently in force so as to also permit some foreign companies to provide coastal shipping services under a reciprocity arrangement. In 2001, the Andean Community also re-

examined the prospects for concluding regional agreements based on reciprocity.

Port activity: Colón port in Panama, including the terminals operated by Stevedoring Services of America (MIT), Hutchison Port Holdings (PPC), and Evergreen (CCT), continued to be the leading port in Latin America and the Caribbean in terms of TEUs transferred (1,210,852 TEUs in 2001), though it lost traffic to the Balboa terminal (also operated by Hutchison Port Holdings), which managed to transfer 358,868 TEUs in its first year of operation. Kingston in Jamaica also experienced growth, reaching an estimated 950,000 TEUs. As regards South America, preliminary data suggest that Santos, after five years, was once again the top port in the Mercosur, transferring 1,033,412 TEUs in 2001; this compares to 1,012,000 TEUs in Buenos Aires, which felt the negative impact of the economic crisis. The single most active terminal in the region continued to be MIT in Panama (959,674 TEUs); MIT also announced a new record for the Americas with 255.85 movements per ship-hour in a Maersk-Sealand container ship.

Telematics in ports: A meeting of UNCTAD experts was held in Geneva in September 2001 to analyse e-commerce and international transport services. One notable finding of the meeting was that port systems are an area where e-commerce could have a greater impact, since it links hi-tech international transport to local transport services. The experts urged governments to become more aware that ports and related services (customs, health and phytosanitary services and other authorities) play a key role in the competitiveness of their respective countries, and that these related services could become bottlenecks in the logistics system. As of 2001, most national legislation in Latin America and the Caribbean did not recognize electronic documents, especially electronic bills of lading.

Private port operators need to be able to invest in cutting-edge technologies and take full advantage of them; in order for this to happen, it is important to re-examine the issue of standards and come up with solutions for them that ensure interoperability of systems in the future. The issue of electronic data interchange (EDI) – which was widely publicized and discussed in the early 1990s –, as well that of as other standards, again loomed large, even though the technology scene of today is completely different: equipment is more accessible and connectivity of firms almost total, encryption algorithms are more secure and the implementation of EDI via the Internet makes it possible to use the system without the need for a value-added network (VAN), thereby simplifying and reducing operating costs.

A major development was the passage of legislation on electronic signatures in Argentina (December 2001) and Chile (January 2002). This sort of legislation provides the impetus for the creation of port portals such as that of Buenos Aires and Valparaíso. Bactassa, the Buenos Aires port operator, moved forward with its technology development programme, which enabled it to offer value-added services to its clients while at the same time reducing its operating costs. Information on export booking and cargo delivery was already available on the operator's extranet, and in 2001 an electronic payment system was added, whereby the agent can make the booking and arrange for the order of collection of containers, debit the customer's account and credit the port operator's account, all in a single electronic transaction.

Port reforms: The port concessions envisaged in Peru were once again postponed during 2001; in order for such concessions to be approved, an omnibus law on ports must first be in place. It is

worth noting that some countries including Chile successfully privatized their main ports without having enacted such omnibus legislation. Plans for Esmeraldas and other Ecuadorian ports were also put on hold. Costa Rica made significant headway in awarding concessions for its Pacific ports, but reform at Puerto Limón continued to be put off. Montevideo successfully privatized its container terminal. Point Lisas in Trinidad and Tobago was the awarded the title of “best port” in the Caribbean by the Caribbean Shipping Association.

Port labour reform: Another highlight in 2001 was the on-going decline in the demand for port labour, while again the requirements for higher levels of knowledge, skills and training intensified. However, in several countries, the large numbers of workers available in that segment of the labour market meant that it was difficult to reduce the persistently excessive number of workers in each work gang.

The labour situation in Brazil's ports: progress, barriers and possible solutions: Significant progress has been made on this front in Brazil since enactment of the Ports Act of 1993. Between 1996 and 2000, the number of port workers belonging to state-owned enterprises declined from 11,041 to 3,544, though it is estimated that around 70% of them have re-entered the same job market as casual workers. The Ports Act provided for the creation in each port of a new entity known by its acronym, OGMO, comprising operators and workers, responsible for maintenance of a register, administration and supply of port workers, a task previously carried out exclusively by the unions. Union resistance to these changes was especially fierce in Santos and up until March 2001, unions there refused to hand over responsibility for supplying labour to the OGMO. As of September 2001, the new body had a pool of 10,975 workers; however, it is estimated that 5,500 positions are surplus to requirements, given the current commercial conditions facing the port, and each worker receives just 18 days work on average per month.

In late 2001, steps were taken which were designed to pave the way for major progress toward decentralization and regionalization of the Port of Santos in 2002. The plan calls for the Ministry of Transport to transfer the operation and management of the Port to the São Paulo State authorities and the Santos, Cubatão and Guarujá municipalities. A new joint venture will be set up, and the Federal Government will assume cumulative debts, which total around US\$ 150 million. The staff retrenchment programme provides for voluntary redundancy payments (estimated at close to US\$ 80 million, to be financed using public and private-sector resources), as well as training and upskilling aimed at mitigating the effects of unemployment on the community. This process is also expected to lead to the creation of new firms seeking to add value to products, port services and related areas, with the potential to absorb redundant workers.

RAILWAYS: IN SEARCH OF NEW NICHES

Large-scale projects and modest initiatives regarding international railways: There is a dearth of international rail transport links in the countries of Latin America, with Bolivia the only significant exception. In 2001, as in previous years, many ideas were put forward to increase's rails share, with one of the most interesting calling for the reopening of the legendary Trans-Andean Railway over the central corridor between Argentina and Chile. A consulting firm based in Mendoza completed a prefeasibility study, looking into the possibility of restarting operations along the original route, which includes sections with gradients of up to 8%, but without reliance on traditional racks; the study envisages the use of sets of two locomotives of 1,500 hp each, which would pull

trains weighing 600 net tons (equivalent to 850 gross tons) high up on the mountainside. Should such a project come to fruition, it would offer the capacity to transport more than three million tons annually. The preliminary plan won the approval of the Chilean Government and Mendoza's Provincial Government. A consortium was then formed which included Ferrocarril del Pacifico (*Pacific Railway Company*), a Chilean operator, which must now carry out a feasibility study, the step prior to the possible awarding of concessions for rebuilding the railway and running the trains.

Throughout the year, there was some level of interest in another project to connect the narrow-gauge rail networks of Argentina and Chile, in the south, from Neuquén to Victoria. A plan to build a railway on this route was originally mooted in 1886, and up until 1962 rail points on opposite sides of the mountain range got closer to one another, but the prospects of a link-up remained low due to a lack of enthusiasm on the part of the governments of the two countries concerned. Among new projects canvassed in 2001 was a trans-Andean rail link between Brazil and Peru's northern coast and another link involving a second trans-isthmus railway in Panama.

Experience shows that most of these projects will never become reality. One railway project which suffered a setback in 2001 was the proposed link-up between the eastern and Andean networks of Bolivia, which would provide the missing link in a central transcontinental railway; the United States Government decided to put on hold an offer to finance the second phase of a feasibility study.

As has now become something of a trend, in 2001 the announcements of grandiose plans and projects, referring to rail transport as a component of an international transport network, largely failed to translate into actions on the ground. Perhaps the most significant initiative was the introduction in October by the Ferrocarril de Panamá (*Panama Railway Company*) of a container transfer service on the Central American isthmus. The international railways operating between Baquedano (Chile) and Salta, and Arica and La Paz, were withdrawn from service, on account of staff issues and natural factors, respectively, but re-entered service towards the end of the year or in early 2002.

The concessions that remain to be awarded are unlikely to attract potential bidders: By and large, concessions have already been awarded in respect of the most viable Latin American railways, and there remains very little of interest to the private sector. A well-structured initiative to award a concession for the Costa Rica railway fell through in 2001, partly due to investments in road systems that offer an alternative to rail. A feasibility study was conducted looking into the privatization of Paraguay's railway system, but no progress was made in this area during the year. However, it is possible that some already privatized railways may return to State control.

A niche for railways in the passenger transport market: Over the past 40 years, railways in Latin America have withdrawn from the long-distance passenger transport market. Notwithstanding the limited boost that certain services received in some countries, such as Argentina and Chile, this gradual trend showed no signs of reversal in 2001. However, some private railway companies are actively seeking out new niches in the tourism market. Perurail purchased additional luxury coaches second-hand in order to expand services on the Arequipa-Puno-El Cuzco route. (Cuzco is also the starting point for the branch line to Machu Picchu). Trenes y Turismo, the company which operates the Tren de las Nubes ("Train of the Clouds") between Salta and La Polvorilla, ordered a new locomotive, technically able to travel as far as Antofagasta, Chile. The plan to reintroduce the Trans-

Andean Railway envisages the operation of a service for tourists. Though they can never be compared in importance to goods-carrying trains, tourist trains are not only able in some situations to turn a profit for their private owners, but also have the potential to attract to the region tourists with high spending power, who contribute more to local economies than the margin over costs of the rail tickets they purchase.

If a country is facing economic difficulties, its railways will also be affected: The events of 2001 provided proof that the fate of a railway company is critically dependent on the economy of the country in which it operates. In Argentina, a pioneer in implementing rail privatization policies in Latin America, the difficulties faced by some concessionaire companies mounted during the year, partly as a consequence of the growing financial problems besetting that country. FerroExpreso Pampeano suspended operations on 12 December, due to insolvency, purportedly as a result of the failure of the Federal Government and the Buenos Aires provincial government to pay debts relating to infrastructure repairs and passenger train charges, respectively. Service resumed within a matter of days, but the country's delicate financial situation means that the continuation of this service over the long term is not assured. The Metropolitano Group, which operates passenger services in the Greater Buenos Aires area, was forced to seek bankruptcy protection due to unpaid debts and subsidies. Another suburban operator, Trenes de Buenos Aires, stopped operating one of its routes, prompting a violent reaction from its customers, furious that the company had not paid its employees their wages.

In contrast, companies such as MRS Logística and Ferrovia Centro-Atlântica, in Brazil, and the hundred-year-old Antofagasta-Bolivia Railway Company (FCAB), which conducted business in easier economic climates than their Argentinian counterparts, managed to carry record tonnages. Ferrocarril del Pacífico, of Chile, operated profitably for the first time in its six years of existence as a private company.

Natural disasters also add to railways' woes: It is not just man-made economic disasters, which bring railways to a standstill. Bolivia's Ferrocarril Andino was periodically faced with the destruction of portions of its line between Cochabamba and Oruro during the rainy season. In view of this situation, the company's board decided to hand control back to the Government. In Argentina, serious flooding contributed to the problems of FerroExpreso Pampeano, and other concessionaires, such as FerroSur Roca. The Chilean sections of the Arica-La Paz Railway and the Tacna-Arica Railway were rendered impassable by the rainwater, which overflowed the banks of the Lluta River. Generally speaking, the terms of contracts stipulate that the concessionaire is responsible for maintaining infrastructure, with government responsible for any repairs. However, there is not always a clear distinction between the two.

Railways are facing new competition, but the environment is turning into an ally against trucks: A number of firms operating new mines, such as Los Pelambres in Chile, decided not to smelt sheets or rods, which are able to be moved by train, opting instead to produce concentrates, and transport them to port via ducts. In 2001, State-owned Codelco put out to contract the building of works that would allow its copper concentrates to be moved using ducts also, thereby leaving the sole stretch still operated by the Ferrocarril Transandino unused. However, some railways found an ally in growing concern for the environment. Evidence of this came with the decision in April to switch shipments of sulphuric acid produced by the Codelco plant in El Teniente from public roads to rail. Encouraged by this experience, other municipal authorities also considering requesting that

dangerous substances be carried by rail, and a number of manufacturing and mining firms indicated their willingness to pay a surcharge to send such goods by rail, as part of efforts to protect their good image among customers, the public and governments.

ROAD INFRASTRUCTURE: A POSITIVE PICTURE IN 2001

Road concessions appear to be gaining fresh impetus: Recent years have been notable for a relative lack of activity as regards road concessions; in 2001 there were some signs of a pick-up in such activity, though not to the extent experienced previously, which saw road concessions awarded in 11 countries of Latin America.

On the one hand, the process of awarding concessions continued to move forward in Chile and Uruguay. Chile, in particular, has a well-structured concession scheme, which has gradually extended its coverage and encompasses a clearly-defined comprehensive bidding programme over the medium term, notwithstanding a number of reschedulings. In 2001, two large urban concessions were awarded in respect of the Santiago ring road, with a further two granted for suburban roads.

Uruguay has also adopted a systematic approach, having awarded concessions for the profitable routes based on toll revenues. In 2001, two concessions were granted, one with quite special conditions attached. It covers about 1,300 kilometres of roads with insufficient traffic to recover all costs, and for this reason the cost of routine maintenance is to be subsidized. The concessionaire is the National Development Corporation (CND), an autonomous State entity, funding is through bonds placed in the pension system and administration has been entrusted to the roads authority.

Costa Rica awarded a concession to build a 77 kilometre-long highway. This represents a new beginning, after the failure of the first concession, cancelled because the concessionaire was unable to begin work. Colombia invited tenders for the rehabilitation and maintenance of a 370 kilometre-long highway, thereby kicking off what has been called the third generation of concessions. In El Salvador, expectations were raised after the Government Procurement Act was amended to simplify the concession award process.

There were no major new developments in other countries that are seeking to initiate or expand road concessions. Countries such as Bolivia, Brazil, Ecuador, Honduras and Peru are considering a range of options, which are in various phases of study or planning, but have not been able to be implemented up till now for a variety of reasons, including in some cases economic or political difficulties at the national level.

Successful and expanding concession programmes, as well as some of those at a standstill, highlight the importance of a realistic and systematic programme, which considers financially sustainable projects and is backed up by suitable legislation that facilitates the process.

New technologies help ease traffic problems: Together with the concession of main highways, there has been a gradual move to acquire road technology, in order to enhance the safety and condition of these arterials. Accordingly, it is now quite common to see emergency telephones, variable message boards and electronic toll systems in operation on some Latin American roads.

During 2001, Brazil and Chile took steps designed to standardize automatic toll charging systems on highways, and this is expected to lead to the establishment of basic national specifications for the operation of electronic charging systems.

Positive news outweighs the negative on the road maintenance front: 2001 has been a positive year for road maintenance. The state of Goiás in Brazil set up a road fund, bringing to four the number of such financial entities in Brazilian states. Five Central American countries also have road funds.

The National Assembly of El Salvador approved the imposition of a tax on fuels aimed at financing the Road Maintenance Fund (Fovial). This amended the original law, enacted one year hence, which had not earmarked resources for the Fund. Fovial was able to commence operating immediately. Unfortunately, the same cannot be said of the fund for Nicaragua, which still does not have its own resources, and has accordingly been inactive.

In Brazil, after many years of discussion, the national constitution was amended and a law was enacted ushering in a tax on fuels, some of the proceeds of which will be allocated to transport infrastructure initiatives, including road maintenance. Promulgation of a law on criteria and guidelines for the allotment of funds was left until 2002.

The use of maintenance contracts that specify levels of service or standards has expanded strongly in the region. In some of the nine countries where this type of contract is in use, the process has slowed somewhat; that notwithstanding, in 2001 contracts covering more than 40,000 kilometres of roads entered into force, though there was considerable variation in their use from one country to the next. Contracts for a further 25,000 kilometres were at various stages of preparation.

One interesting innovation was introduced in Uruguay. The Roads Authority signed two agreements with each of the local maintenance bodies, which entered into a commitment to maintain some 730 kilometres to a specified standard. This represents the first time in Latin America that the concept of a contract specifying levels of service has been applied to cost plus. With this experiment, more than 60% of Uruguay's national road network, extending over some 8,600 kilometres, is subject to standards-based road maintenance.

INTERMODAL TRANSPORT: NEW OPPORTUNITIES AND HORIZONS

The Hemisphere: better transport practices: The Fourth Ministerial Meeting of the Western Hemisphere Transport Initiative (WHTI) held in Punta del Este on 14-15 March 2001 reaffirmed the Initiative's mission to facilitate consensus and achieve greater cooperation with its regional counterparts in Central America, the Caribbean, the Andean Community and Mercosur. Nafta has yet to formally set up a similar forum. The meeting adopted a Plan of Action for the integration of regional transport systems in the Americas, which should, inter alia, contribute, to providing case studies of best practices in intermodal transport in the Hemisphere, along with recommendations to assist in their application.

South America: progress and setbacks: 2001 marked the launch of activities by the Regional Infrastructure Integration of South America Initiative (IIRSA). Two ministerial meetings were held, along with a host of meetings attended by experts, focusing on three central themes. The meetings provided an opportunity to put the Initiative's operational mechanisms to the test and make progress on situational assessments and potential infrastructure integration projects. IIRSA provides a venue for developing a strategic vision within a coherent framework, just like the transport networks of the European Community, and is a mechanism for the development of key intermodal transport themes.

Moreover, in the business arena, logistics systems continued to develop as services that facilitate trade and as a framework for the planning and supervision of intermodal transport operations. In this regard, two meetings are noteworthy as, among other things, they underline the growing importance of such systems, viz.: a seminar entitled "Railways, ports and logistics in a global world", which was held in Santa Cruz de la Sierra in late July; and the Third Conference on Logistics conducted in São Paulo in August. On both occasions, the private and government sectors had the opportunity to study and take note of the need to support improved organization and planning of operations, which enables the advantages of each mode of transport to be combined.

Lastly, we should not neglect to mention that the border blockade carried out by Argentinian truck drivers in November, though short-lived, sounded alarm bells over the fragile situation concerning the circulation of people and goods in difficult economic times. This situation merits a brief discussion at this point.

It is well-known that trade liberalization is designed to facilitate economic growth through the expansion of markets and that international transport services benefit from regional integration initiatives. Having said that, people are also aware that asymmetries and different conditions at the outset have either a positive or negative effect on each nation's share of regional trade. The understandable demands put forward by Argentinian transport company owners are attributable to an unfavourable economic situation, which meant that they could not compete on a equal footing with their counterparts in other States members of the agreement, on account of the inherent rigidities of the prevailing economic model in Argentina.

The socio-economic chaos, which gripped Argentina in late 2001, prompted the authorities to take emergency measures, which, at the least, should result in a new environment where opportunities are better distributed among the truck drivers from the various nations.

Central America: new horizons: Two initiatives were implemented during the course of 2001 which deserve mention owing to their impact on the operation of integrated transport systems in the region. The Sectoral Council of Ministers of Transport of Central America (COMITRAN) met on 30 March 2001 in Managua, Nicaragua, where they considered the Central American Transportation Study (ECAT) to promote the development of an integrated transport system in the region; implementation of the proposed Regional Master Plan for the Development of Transport 2001-2010 would ensure such a system was both efficient and competitive.

The resolution adopted at the meeting in essence calls for adoption of ECAT and support for

implementation of the projects and the related timetable in accordance with the established order of priority, and also calls for the Regional Master Plan for the Development of Transport to be adopted and integrated into the countries' work plans.

In the other notable initiative, Mexico City played host on 20 September 2001 to a meeting of Transport Ministers of Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama, together with representatives of the Central American Bank for Economic Integration (CABEI), the Inter-American Development Bank (IDB) and the Secretariat for Central American Economic Integration (SIECA), to discuss the Roadway Integration Initiative included under the Plan Puebla Panama.

At the meeting, the ministers resolved to give priority to the physical integration of the Mesoamerican region in order to facilitate movements of people and goods and reduce transport costs, and also to accord high national and regional priority to projects relating to the Puebla Panama Integration Corridor, complementary routes to that Corridor, the Atlantic Road Corridor, harmonization of technical regulations and standards, and modernization of customs and border procedures.

URBAN TRANSPORT: A POSSIBLE REVERSAL OF TREND

A movement toward a sustainable city: Sustainability has rarely been a central goal of the transport policies implemented in the big cities of Latin America. Historically, Curitiba had been the only truly significant example of this. Huge sums of money have been invested in mass transit in many other cities, such as Caracas, Mexico, Santiago and São Paulo, while serious measures aimed at regulating the traffic have been implemented in some cities including Santiago and São Paulo. Generally speaking, however, the actions undertaken were designed primarily to prevent the collapse of the urban transport system. 2001 brought indications of a possible reversal of this trend, spearheaded by Bogotá, where a programme launched three years before produced increasingly impressive results.

The Transmilenio of Bogotá: This idea behind this project was to turn Colombia's capital into a sustainable city over the long term, in economic, financial and environmental terms, as well as an attractive place to live and work. Early in 2001, the *Transmilenio* system completed the trial phase and opened for business to the public. By 2016, the system is expected to meet 80% of the demand for public transport in Bogotá. In its initial phase, it operates on a network of exclusive corridors located on the three main avenues, extending over 41 kilometres. These lanes are served by articulated buses, both the express and standard kind, operated by private firms, which pick up and drop off passengers at stations with access restricted to ticket machines and which feature elevated platforms and automatic doors coordinated with those of buses. A satellite communication system monitors the buses at all times. There is a flat fare, which gives the user access to both the main and feeder services.

The viability of a mass-transit system, at an accessible cost: The *Transmilenio* represents the third phase of a movement that began in Curitiba in 1974, and whose second phase was played out in Quito, where an integrated public transport system based on trolley buses was inaugurated in December 1995. In terms of capacity, the movement reaches its peak in the third phase, that of Bogotá, where articulated buses operating on two lanes in both directions have proved their ability

to carry more than 30,000 passengers per hour, at an average speed of 25 kph. The investment in infrastructure amounts to some US\$ 5 million per km. It has therefore been shown that, for a fraction of the cost of a metro, bus-based systems can carry larger numbers of passengers than light metros, with no significant loss of speed. The system does have some limitations, i.e. operational difficulties which arise as it nears its capacity limits, and the association in the minds of the public with traditional buses (whose image is far from ideal); nevertheless, Transmilenio-type systems will inevitably fill that segment in the urban transport market which had been considered suitable for light metros.

Other measures taken by Bogotá to promote sustainability: The *Transmilenio* constitutes one of the mainstays of the transport initiative launched by the former mayor and continued by his successor; it bears mentioning however that this initiative encompasses other measures, such as cycle paths, which promote trips by bicycle, expected to be 6% of all trips undertaken in Bogotá in 2001. Another component is the *carless day*, a very well known phenomenon in Europe, but one, which is unknown in Latin America outside the Bogotá urban area. Cars are banned from travelling between 6.30 a.m. and 7.30 p.m. on one day of the year. A restriction on vehicles, dubbed “pico y placa” (“peak and number plate”) depending on the last number on the licence plate, means that on any given day of the week, 40% of private vehicles are banned from travelling during peak hours.

Chile adopts a different approach: New measures were implemented in favour of sustainability in Santiago, Chile, in 2001, with the main aim being to counteract the severe environmental pollution that affects the Chilean capital during the winter months. A raft of measures were introduced, some of which were designed to promote the functioning of public transport, such as the creation of an Emergency Road Network, consisting of six main avenues reserved in rush hour for buses and taxis. In addition, measures were put in place to facilitate the circulation of cars, including at peak times, such as reversibility of lanes, reserving them for traffic in the predominant direction, and a shift from street parking to new underground parking facilities. As regards longer-term measures, there is some duplication of objectives: on the one hand, plans were announced to virtually double the length of the metro network before 2006, to award a concession for a new suburban train service, and to invite tenders for a small tram network, and on the other, work was begun in 2001 on the construction of several new urban motorways, under a concession arrangement.

The focus in Santiago is different from that in Bogotá in that it requires greater outlays, both from the public and private sectors, and probably greater government subsidies, as well as placing greater emphasis on social equality. In the long term, the right approach will be the one that turns the city into an attractive place to live, work and invest.

The transport system as a barometer of quality of life: In 2001, the transport system in some of the cities of the region showed growing signs of decline, which impacted on the quality of life. Some cases in point are Rio de Janeiro and São Paulo, where the use of helicopters as taxis by some wealthier citizens points to the breakdown not just of the transport system itself but also of the wider urban environment. Travelling by helicopter not only cuts down on delays, but it also reduces the risk of robbery and assault. In São Paulo, there have been calls to regulate the routes flown by helicopters in order to prevent accidents. At the other end of the spectrum are the “cholo taxis”, or motorized tricycles, which cater to lower-income customers in Lima and other Peruvian cities, which cannot afford other transport services.

Such phenomena did not appear for the first time in 2001, but nor did they disappear during the year. The fact that they remain indicates that the transport dilemmas facing cities, and indeed citizens' wider problems, have yet to be resolved.
