

BETWEEN MARKET PRINCIPLES AND EQUITY CONCERNS – THE PROVISION OF BASIC SERVICES IN CITIES OF LATIN AMERICA

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ABSTRACT: Following the new economic paradigm, most Latin American countries undertook deep reforms in the 1990s, privatising and reforming key urban services – such as water, electricity, social housing, public transport and telecommunications – in order to make them function ‘efficiently’ and according to market principles. But more recently, equity concerns are beginning to matter again, linking the success of the reforms not to the privatisation or modernisation of the service, but rather to their capacity to deliver affordable services for the poor (UNDP, 2006).

This paper presents the case of Lima, Peru, which implemented significant market-oriented reforms of its urban services. This study focuses on three of them: telecommunications, water provision, and public transport, attempting to answer to what extent these reforms have been successful in terms of delivering affordable services for the poor, which make up a great proportion of Lima’s population.

KEYWORDS: telecommunications, water provision, public transportation, Lima

1 INTRODUCTION

The tension between economic growth and equity concerns has characterised the debate on the development of cities, especially those with high poverty restrictions. International agencies have been alternatively dominated by economic growth or poverty alleviation objectives at different periods (Zanetta, 2001). They have also allocated development funds according to these two paradigms. When ‘La Question Urbaine’ was published in the 1970s, a great deal of attention was given by international agencies and the academic world to urbanization issues, poverty alleviation and pragmatic solutions to the growing urban concerns in Third World cities.

But in the 1980s, a new political and economic spirit made national and international development policies shift sharply and economic growth became the greater good. International funding agencies advocated thorough political and economic reforms within the frame of a new paradigm towards greater reliance on market practices and the withdrawal of the state. Developing countries were compelled to change their model of economic development, opening national borders to global trade and capital. In Latin America, the IMF (International Monetary Fund), the World Bank and the IADB (International Development Bank) encouraged a profound restructuring of the state. Following these recommendations, most Latin American countries undertook deep reforms, reducing the state apparatus and privatising key urban services in order to make them function efficiently and according to market principles. Public utilities – energy, gas, water, sewerage and telecommunications – were reformed and in many cases privatised. Other important urban sectors as social housing and public transportation were also reformed to limit the state’s role and to improve market practices.

Peru was no exception. The political-economic reforms occurring across Latin America were radically initiated after the investiture of Fujimori as president in July 1990. Fujimori applied “shock therapy” to the economy and drastically reduced the state apparatus, withdrawing the state from many urban sectors. In this context, processes of privatisation and deregulation were launched and the largest public enterprises were rapidly sold. Admittedly, the public utilities were in serious need of efficient administration because the economic crisis of the 1980s had produced a vicious circle of under-financing, under-maintenance and under-expansion. The prevailing ideology in policy circles considered that the public sector was incapable of functioning with the necessary efficiency to overcome these problems.

The basic formula for the reforms was simple and included (a) the privatisation of the involved sector, (b) implementation of free competition and (c) (independent) regulation of the sector to guarantee free

competition. The logic behind this is the idea that free market competition would extend access to services to all by lowering prices, while the privatisation of the utilities would improve their efficiency. The reforms were framed by successive laws for each of the involved sectors, whose expedition was the first step towards neo-liberal reforms.

After many years of crisis and high economic and political instability, Peru's economy began to grow in 2002, with an average rate of growth (as percentage of the GDP) of over 4%, which, since 2005, is 2% higher than the average for Latin American countries. The consequences of the growing economy in the capital city have been evident. "Blocks of flats or offices are under construction on nearly every street. New hotels and restaurants sprout on every corner, while shopping centres multiply in what were once shantytowns. Across the city, thoroughfares have been torn up to make way for new bus lanes and terminals. Such is the anarchic volume of traffic that just crossing the street has become a time-consuming and perilous exercise. Lima, Peru's capital of 8m people, is shedding its former air of provincial lassitude and turning into a bustling metropolis. The city is the visible face of a boom that has made Peru South America's fastest-growing economy." (The Economist, 2008, p. 56)

The improvement of the economy has unquestionably increased the availability of public and private resources. After several years of growth without redistribution during the Toledo administration (2001-2006), the new government, installed in July 2006, made the fight against poverty its main goal. *Educación para todos* (Education for all), *Agua para todos* (Water for all), *Vivienda para todos* (Housing for all) – are some of these programmes, whose name suggest their redistributive aims. Poverty rates are decreasing but not as fast as expected. 39.3% of all Peruvians lived in poverty in 2008; one third of this total is classed as extreme poor. In urban areas 25.7% of all people were poor, and 3.5% were extreme poor (INEI, 2008).

In this context, the present study examines up to what extent the reforms to improve Lima's basic urban services are successful in terms of delivering affordable services for the poor. By asking who are the main beneficiaries of the new situation after the reforms of the water, public transport and telecommunications sectors, this paper aims to spell out how the tension between market principles and equity concerns operates in a city of the Third World with high poverty restrictions. The paper is organised in five sections, from which the following three pay attention to each one of the urban sectors reformed. The last section provides the results of the examination and conclusions.

2 TELECOMMUNICATION SERVICES: ACCESSIBLE BUT UNAFFORDABLE

Before the reforms of 1993, the telecommunications sector had extremely low coverage. In 1993 Peru had 2.7 lines per hundred inhabitants – one of the lowest of the Latin American region. Telephone service was concentrated in Lima's wealthy neighbourhoods. Monthly charges were cheap (US\$2) but to get a new line was very expensive (\$1500) and demanded an average of 118 months of waiting time. Service quality was also remarkably low: 40% of phone calls were not completed due to congestion, because of the low capacity and obsolete network technology (Torero, Schroth and Pascó-Font, 2000).

The Telecommunications Law of 1993 established the free market as the new model for the sector, forbidding state involvement in its operations. It also created an institution to regulate the sector and promote free competition: OSIPTEL. In 1994, the two utilities were sold to Telefónica de España, on the condition they expand and modernise the networks. The telephone networks now cover the whole metropolitan area and are almost completely digital. The universalisation of telecommunication services in the whole metropolitan area is established by the law. Consequently, Telefónica is obliged to provide both telephone and Internet connectivity (through ADSL lines) to any household or business that asks for it within Lima's metropolitan area, including the informal settlements.

The modernisation of the networks improved the quality of the service. Teledensity, the number of telephone lines in service per hundred inhabitants, also increased but not as expected because of the high(er) charges for the service. The effects of these two features combined – better quality at higher prices – can be observed in the evolution of fixed phone density in Peru (black in Fig. 1 left). During the three initial years (1994-1997) teledensity almost doubled. But after that period there was very little increase. In the late 1998, there was even a drawback, as a consequence of a recession period linked to the Asian crisis and the Niño phenomenon. In Lima, 150,000 users (more than 9% of the total users) cancelled their telephone lines during the second quarter of 1998, because the service became too expensive. Since 2003 a small improvement can

be observed, due to reduced tariffs. Total teledensity in Metropolitan Lima¹ (Fig. 1 right) almost doubles the rates for the whole country, but presents the same trends observed at national level.

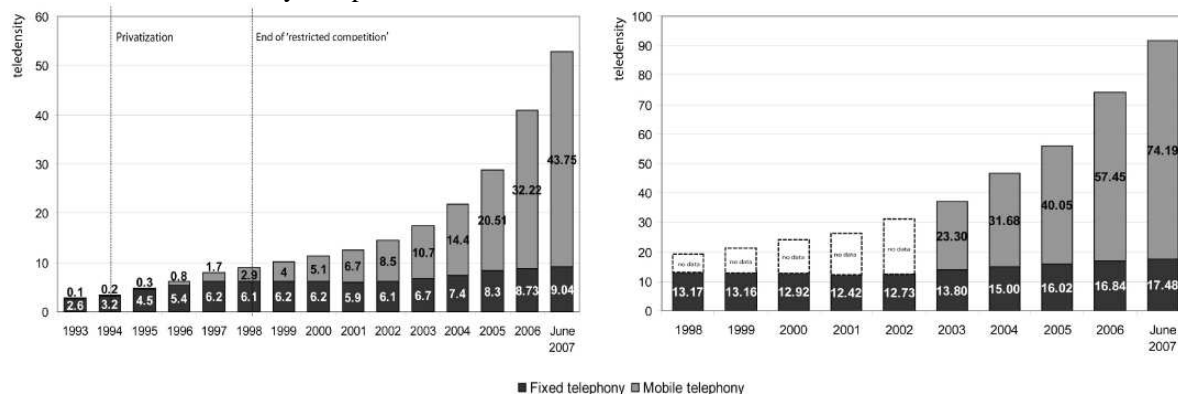


Figure 1 Teledensity in Peru, 1993-2007 (left); Teledensity in Metropolitan Lima, 1998-2007 (right) (Elaborated with data from OSIPTEL, 2007).

Mobile telephones, however, show a sustained growth and are the reason for the swift increase of the total teledensity. After the arrival of Claro in 2005, the prices of mobile phones and pre-paid telephones decreased. There were 4.85 million subscriptions in Lima in 2006, of which 4.25 million were prepaid accounts – attractive because they give the possibility to control the expenses – compared with just 598,000 monthly accounts (OSIPTEL, 2007). Despite the improvements, the Peruvian teledensity is still one of the lowest in the Latin American region (see Table 1). In 2003 it was less than half the teledensity rate of the largest countries of the region and even lower than other Andean countries such as Ecuador and Bolivia. Chile had four times more teledensity than Peru. Only Cuba, Haiti, Honduras and Nicaragua had lower teledensity rates.

Table 1 Total teledensity in Latin American countries in 2003 (Plunckett, 2004).

Country	Teledensity	Country	Teledensity	Country	Teledensity
Chile	73.2	Argentina	39.6	Ecuador	31.2
Brazil	48.7	Venezuela	38.4	Bolivia	22.4
Uruguay	47.2	Paraguay	34.5	Peru	17.3
Mexico	40.1	Colombia	32.1		

According to the 2004 National Home Survey (INEI, 2007) the average penetration of fixed telephones in Metropolitan Lima was 54.1%, for mobile telephones 34.1%, and Internet 5.8%. However, 35% of households had none of the three services, suggesting a concentration of the telecommunications services in the higher income groups. Among poor households, 27.9% had a fixed line telephone, 14.6% had a mobile phone and 0.2% an Internet connection, while 62.7% of them had none of the three. Therefore, the universalisation of telecommunication services in Lima still has a long way to go. The existing low rates are related to the high tariffs in relation with the (low) average income level, and to uncertainty about future income. Until 2001, the telephone charges increased approximately every three months, which led to great complaints amongst users. Under pressure of OSIPTEL, however, tariffs have begun to decrease slightly since 2001, and especially after 2003. The average charges (March 2007) of the local telephone service (monthly charges plus 150 pulses, equivalent to 102 calls), are approximately at the level of 1996: \$20 (OSIPTEL, 2007). Despite the decreasing trends in tariffs, teledensity has not increased much, which suggests that the tariffs are still too high.

In Internet connectivity a similar situation exists: access is hindered by the monthly charges and costs of the necessary hardware. To cope with this situation, people use public telephones and collective Internet services, which have become consolidated as a neighbourhood facility even in the most distant informal neighbourhoods. In 40% of the total urban households in Peru at least one member goes to cybercafés for Internet connectivity (Fernandez-Maldonado, 2008).

In summary, the reform of the telecommunication sector has improved the efficiency of the service: it is

¹ There were no statistics for Lima for fixed telephones before 1998 and for mobile telephones before 2003.

now easy to get a telephone line or Internet connection. But there is no equity in the access: the service is unaffordable for one third of the population. With such results, an important aim of the reform has not been achieved. Lima's telecommunications have a visible divide, which reproduces the socio-economic divisions of the city. The poor have to use out-of-the-home services or, at best, pre-paid schemes to accommodate their needs. Weak regulation has been unable to balance the hegemonic position of Telefónica to get a more sensible tariff structure making it more affordable for users. The existing trends toward diminishing tariffs promoted by OSIPTEL however, may increase in the future thanks to competition from a new operator. Current tariffs still remain high for the average citizen.

3 THE WATER SECTOR REFORM: CONSTRAINED BY POLITICAL OPPORTUNISM

From the 1970s, water supply was problematic for Lima, due to falling groundwater tables. The districts of central Lima are settled in former agricultural land, while most peripheral poor settlements (*barriadas*) have settled in desert land which never had natural water. In the 1980s, the water utility, SEDAPAL, became unable to meet water demands and water quality standards. Lack of financing led to under-maintenance and no expansion. When Fujimori began his administration in 1990, the water system was in a state of near collapse: there was severe rationing and frequent interruptions of the service, while water became unsafe to drink.

To complicate matters, a cholera epidemic affected Peru, and Lima, at the end of the 1980s, causing economic damage estimated at three times the national expenditure on water and sanitation during the whole decade and spreading to neighbouring countries (Fernandez-Maldonado, 2008). This event raised the awareness of the significance of the water issue, as well as the willingness of international donors and governments to help to expand water networks.

In 1994, the new law opened the sector to private capital and created a regulatory body, SUNASS. However, the privatisation attempt did not prosper. Lima is a water-scarce area, with an extremely low average rate of precipitation. It occupies the valleys of the rivers Rímac, Chillón, and Lurín, which have very low and irregular flows. Lima's geographic location, therefore, demands high production costs. This, in combination with the long neglect of the networks obstructed the intended privatisation (Alcázar, Colin Xu and Zuluaga, 1999). Very high charges for water services would have to be imposed, for a private investor to have a reasonable return on capital expenditure. After heavy debates and street demonstrations against privatisation, it was decided to carry out a process of reform and regulation.

SEDAPAL became the responsibility of the national government. Extending the networks to the peripheral areas of Lima became a crucial mission for SEDAPAL. Beside the loans and money from international donors, the government used money from FONAVI (National Housing Fund) for this goal, when its original goal was housing construction. However, the continuous formation of peripheral informal settlements makes complete coverage an overwhelming task. Figure 2 illustrates the utility's race to reach complete coverage in Metropolitan Lima since 1980. It shows that coverage has improved both in absolute and relative terms but there is still a long way to go to achieve universalisation of water services. In 2006 there were one million people in Lima without water connection (León, 2006).

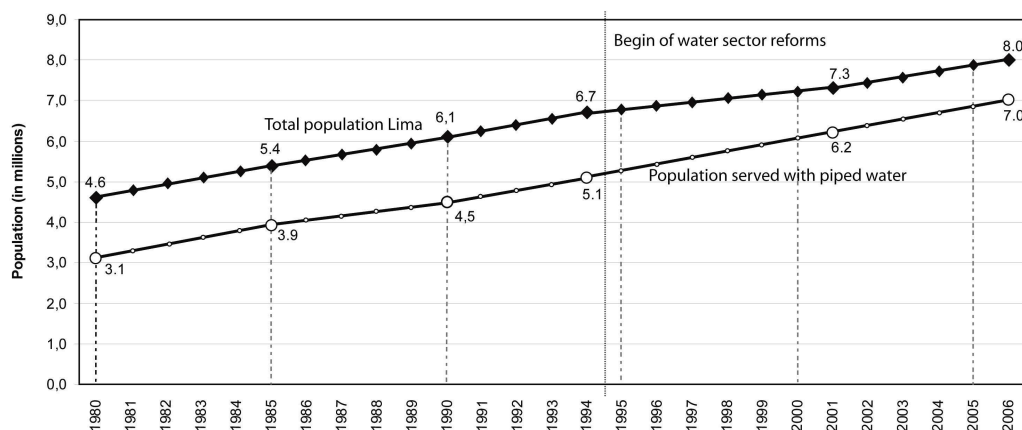


Figure 2 Evolution of water network coverage in Metropolitan Lima 1980-2006 (León, 2006)

The figures from the last two national censuses of population and housing (1993 and 2005) give an idea of the improvements in water coverage between these two moments (see Table 2). Water connection (which includes 1+2+3) improved from 81.78% to 89.03% in this period.

Table 2 Evolution of water provision in Lima (not including Callao) according to the 1993 and 2005 National Census of Population and Housing (INEI, 1993 and INEI, 2005)

Types of water provision		1993	2005
1	Connection to public network within the home	66.65%	78.03%
2	Connection to public network out of the home, but inside the premises	8.01%	6.19%
3	Public standpipes	7.12%	4.81%
4	Water trucks	12.93%	8.50%

Figure 3 shows the advances of home connection to water services according to the 1993 and 2005 censuses in each district of Lima. In 2005, four areas can be distinguished: (a) the better served central districts with more than 80% of home connection. The old *barriadas* districts are also in this category, which suggests their achieved level of consolidation; (b) the middle-aged *barriadas* districts, which emerged after the 1970s, with rates of connection between 79% and 50%; (c) the more peripheral districts, with recently-formed *barriadas*, with a rate of connection between 49% and 25%; and (d) the most distant districts, which still have relatively few residents, with less than 25% of households with home water connection.

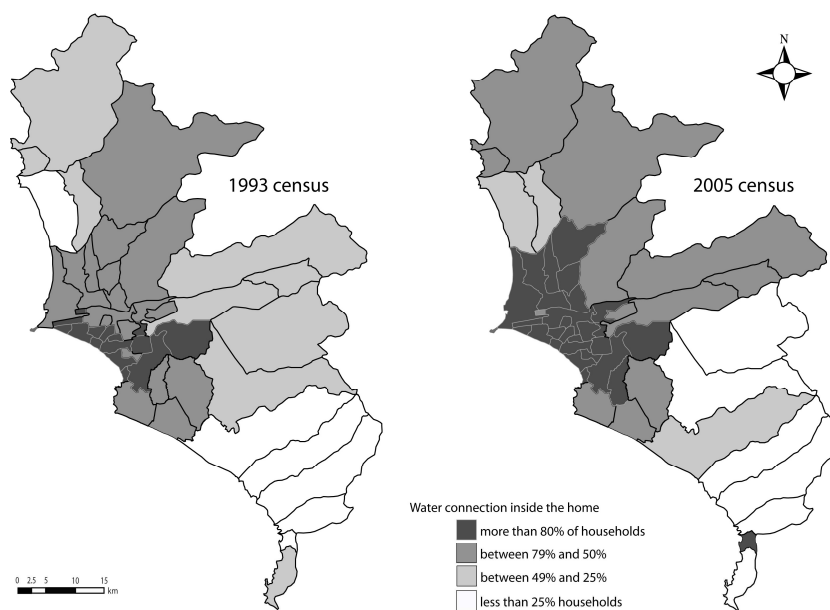


Figure 3 Dwellings with water connection inside the home in the 1993 and 2005 Census (INEI, 1993 and INEI, 2005)

The people without connection to the water network live in the peripheral districts of Metropolitan Lima, which coincide with the most recently-formed *barriadas* of the three Cones. They have to buy water from truckers, who sell it at \$2.20 to \$3.00 per m³, which represents up to nine times SEDAPAL's social tariff (León, 2006). Consequently, these households consume much less water. However, water availability not only depends on connection to the network but also on water pressure and the regularity of the supply. These two variables depend on water production and distribution. Different water supply and water pressure in combination with different habits and incomes result in different rates of water consumption per district. Figure 4 shows the average volume of billed water per dwelling in the 49 districts of Metropolitan Lima in January 2007, illustrating Lima's typical centre-periphery segregation. The districts with more than 27m³ of household consumption per month (in black) coincide with the most consolidated areas of the city.

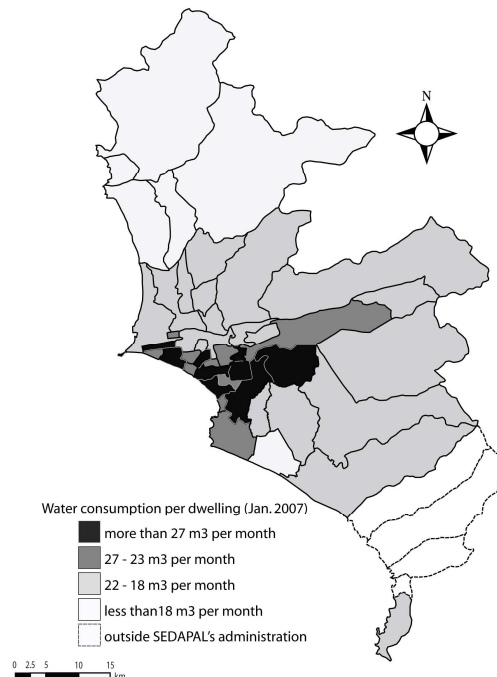


Figure 4 Average water consumption per dwelling in Lima, 2007 (Elaborated with data from IMP, 2005)

A study of the national ombudsman concluded that the tariffs are a key element for the efficiency of the water system and recommended SUNASS to revise its tariff regulations, focusing the subsidies exclusively on the poorest groups (Defensoría del Pueblo, 2005). According to law, the resources for expansion and maintenance should come from increased tariffs and public-private partnerships (SEDAPAL, 2005), but the political pressure to maintain low tariffs is becoming a bottleneck for SEDAPAL. The three largest Peruvian cities are among the cities with the lowest tariffs in Latin America (ADERASA, 2005). Low tariffs are explained as a result of ‘governmental opportunism’, in which governments “which have relatively short time horizons, prefer poor services and low prices over taking politically costly actions, such as increasing rates, whose benefits are only seen in the mid- and long-term.” (Marmanillo, 2006, p. 334). An example: in January 2006, SEDAPAL announced plans to increase tariffs according to the SUNASS formula: 136% of the existing tariffs. But President Toledo declared that “in no way such increases will be approved”. SEDAPAL withdrew its proposal, stating that it would not present another proposal until SUNASS revised its regulatory frame and the tariff regulations (Guerra, 2006).

SEDAPAL needs to invest \$1.29 billion in the 2006-2011 period for the expansion at 100% of water and 90% of sewerage connection, as well as for the maintenance of the system (SEDAPAL, 2005). However, lack of progress on the expansion and maintenance of water and sewerage networks is evident. On April the 19th 2008, the collapse of a sewerage collector obliged the government to declare Lima’s sewerage system in state of emergency. The utility will have to replace 22% of the main sewerage networks which are older than 50 years, while 17% of them are between 30 and 50 years. Currently, SEDAPAL only treats a small proportion of sewerage water in Lima; the rest goes to the ocean without treatment. Not surprisingly, citizens are extremely unhappy with SEDAPAL’s performance.

In summary, the reform of the water sector cannot be considered a real reform since little has changed from the previous situation. The structural problems of the sector have remained: the lack of sustainability of the water system is directly related to the dependence from the government funds and willingness to act. In the water sector, short-term political considerations have overruled the technical considerations and actions towards a sustainable and efficient system.

4 PUBLIC TRANSPORTATION: FIGHTING INFORMALITY

Metropolitan Lima has problems of a structural nature regarding the organisation of public transportation. Due to the economic crisis of the 1980s, few people could afford a private car and public transportation was in a state of collapse, with few, very old, and hugely crowded transport units. This

situation changed in 1991, after the government privatised and deregulated the system, allowing the importing of second-hand vehicles for public transportation. These measures, however, were launched in a moment of high unemployment linked to the radical reduction of the public sector. To work as a (taxi or van) driver became, for many people, the way to survive. Lima gradually lost its few units of massive transport – articulated buses – and rapidly acquired a disproportionately large number of smaller units (Villalobos and Torres, 2006). Figure 5 (left) shows the increase in the number of total vehicles in Peru since 1980, showing the leap in the 1990s after the liberalisation of transport and import of used vehicles in 1991. Since that time, there are 1.5 imported used vehicles acquired for each new one (Herrera Orsi, 2008). Despite the new units that arrived in the 1990s, Peru has a relatively small vehicle stock compared to other countries in the region (see Figure 5, right) and very small compared to developed countries; 49 vehicles per 1000 inhabitants in 2006. However, the public transport fleet is over-represented in the total vehicle stock.

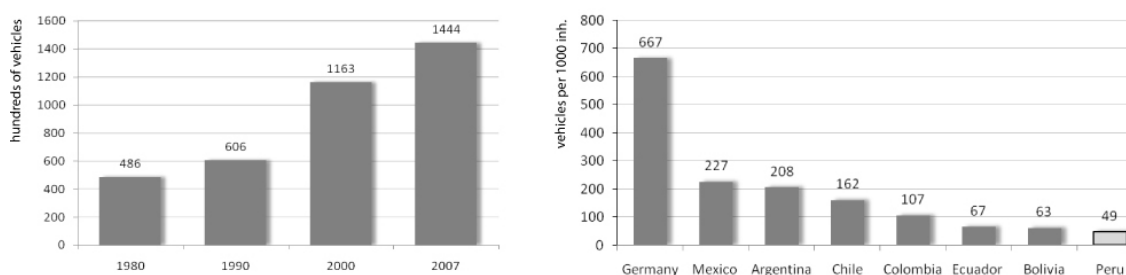


Figure 5 Total number of vehicles in Peru, in hundreds, 1980-2007 (left), and Number of vehicles per thousand inhabitants in 2006 (Herrera Orsi, 2008)

Furthermore, the deregulation of the system was not accompanied by a plan to organise the sector. The annual technical control of vehicles was stopped in 1988. The public transport fleet consists of small old units – with an average age of 18 years, among the oldest among Latin American cities (Barbero, 2006) – which have been adapted to accommodate more people than the vehicle was originally designed for. The lack of an organised system for massive transport in Lima, in combination with the lack of regulation has produced most of the problems in Lima’s public transportation. The five million users of Lima’s public transport system experience long trips, low levels of comfort, many accidents, high levels of air and noise pollution, irresponsible behaviour of drivers, little respect to traffic regulations and low levels of security.

The deregulation of the sector has produced a system whose only goal is to reduce the costs and increase the benefits, without taking into account the quality of the service. Formal enterprises can hardly compete in this distorted market, which works according to the rules of the informal sector. It is estimated that only 70% of public transport vehicles are formally registered (Barbero, 2006). The composition of the system is:

1. *Combis* (vans) (average of 11 passengers), which constitute 49% of the supply and 33% of the trips;
2. Buses (average of 38 passengers), which constitute 18% of the supply and 29% of the trips; and
3. Micro-buses (average of 22 passengers), which constitute 33% of the supply and 38% of the trips.

The enterprises that have the license allowing vehicles to work a certain route do not own a fleet of vehicles but subcontracts individual operators, who have to pay to be able to work on that route (Barbero, 2006). Metropolitan Lima has 440 routes, but most are concentrated in the most ‘profitable’ roads, which makes them very congested. Nine main roads bear 78% of the total public transportation fleet (Villalobos and Torres, 2006). Leaving the sector in the hands of the market has visibly increased congestion. On the other hand, there are 188 bus routes that are not in operation because they are not considered profitable. The routes are not only saturated but also very long and winding, because the operators save money paying for only one route. This, in combination with high unemployment and no regulation, has led to the over-supply of poor public transportation. There are approximately 26,000 units of public transport in Lima, while it is estimated that only 9,400 are needed (Sebastian, 2008).

Oversupply results in a great competition for passengers between the different units, in order to be more profitable. Evidently, “the competition for passengers in the route substantially contributes to traffic chaos, accidents and environmental pollution.” (Barbero, 2006, p.276). At the same time, there are in Lima 220,000 taxis, while 100,000 are considered enough for the current demand (Sebastian, 2008). Taxis and motor-taxis – there are approximately 45,000 – also work in the informal sector, with its characteristic low prices but also low quality services. Only 20% of taxis are registered and authorized to provide the service (Villalobos and

Torres, 2006). Taxis have no meters and the tariffs are the product of negotiation between driver and passenger.

Since 1980, the municipality of Lima has prepared several plans to improve public transport which were not realised. In 1999 public transportation was declared in state of emergency due to its critical situation. The *Comité de Transporte Metropolitano* (TRANSMET) (Metropolitan Transport Committee) was established with the mission of coordinating between the different agencies involved in public transport, which are: the *Gerencia de Transporte Urbano*, GTU, (Urban Transport Management Body) – the leading agency, in charge of licensing the public transportation routes and vehicles, and organising vehicular traffic – the *Empresa Municipal Administradora de Peaje*, EMAPE, (Municipal Company for Toll Administration) – responsible for road and access works – *Protransporte* – in charge of COSAC, the new system of mass transit – *Tren Urbano de Lima* – the urban train – and several smaller agencies.

The Urban Transport Management Body (GTU) began to work more proactively after 2004, initiating actions to improve the sector. The re-initiation of the technical control of vehicles was announced, after 19 years without any type of control, but was delayed due to resistance from the operators. In 2007 the technical revisions finally began to be implemented, but the municipality stopped the process after four months. According to some local experts, it was because 40% of the vehicle stock could not pass the technical control. This made the process politically unviable; especially in light of the power of the public transport operators sector, which have paralyzed Lima on several occasions. In July 2006 the municipality decided not to give licenses to buses older than 35 years, to promote the renewal of the fleet. 150 buses were stopped from circulating in 2007 and it is expected that 311 will do the same in 2008. However, experts point out that the 35 year threshold is still too low. They propose instead 15 years as a limit (Santillán Arruz, 2008), but this is, again, politically unviable.

Financed by the Japanese Cooperation Agency (JICA), TRANSMET commanded the Urban Transport Master Plan for Metropolitan Lima, made with surveys to 35,000 households in Metropolitan Lima. The plan includes a massive transport system, the management of demand and the improvement of the road network. The Municipality of Lima has uncritically embraced the recommendations of this study, without taking into account who are the winners and the losers of the implementation of the new system (Avellaneda and Dextre, 2008).

The same year, Lima launched the COSAC project, a Bus corridor scheme, inspired in the Curitiba model. It is a public-private project, in which the municipality provides the infrastructure and the private sector the equipment (Villalobos and Torres, 2006). Ten priority road corridors have been identified, which will be tendered in the future. COSAC's dedicated lane will run from the north (Comas) to the south cone (Chorrillos) (see Fig. 6). It will have 18 meter-long articulated buses with a capacity of 160 passengers, and 12 and 8.5 meter-long feeder buses, with a capacity of 80 passengers (Castillo, 2008).

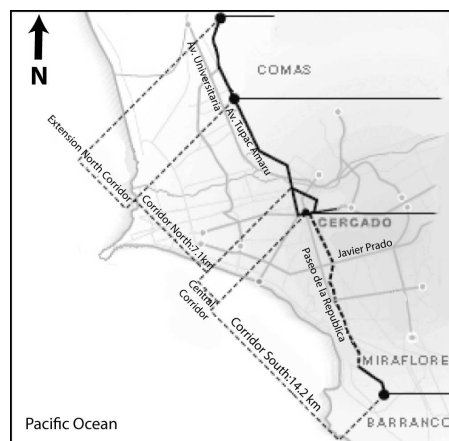


Figure 6 The COSAC bus corridor route (Castillo, 2008)

The second project for massive public transport is Lima's city train. The decision to build it was taken by the first García administration in 1986, without serious studies about its feasibility. The original design of the route did not run along dense enough roads to justify its operation. After the construction of 9.2kms of line by an Italian consortium (TRALIMA), the project was paralyzed in 1990 due to lack of funds. In 2001,

the system was transferred to the municipality of Lima but the train was never able to operate regularly.

Recently, the municipality developed a plan to expand the train by 11.7kms to the city centre (see Fig. 7) and to acquire the necessary equipment to make it operative. A central station is currently being built in downtown Lima (Avenida Grau) to integrate the train and the COSAC corridor. It is expected that the train will provide mobility for 300,000 to 400,000 passengers a day. The plan for the train, however, departs from some assumptions that generate doubts about its viability. The projected demand of passengers has two requirements: (a) a profound reordering of the public transport routes; and (b) that users, mostly of relatively low income, would be willing to pay more to save travel time (Villalobos and Torres, 2006). So far, the municipality has not tackled the reordering of the existing public transport routes, and there is no clarity about the fees that users will pay for the new system. In spite of the criticism from local experts, the government has continued with the project. In April 2008, it ordered the execution of works on the second phase of the project, which will link the south cone with the centre of Lima along a 16 station route. The estimated total cost is US\$362 million, from which \$220 million will be public funds. The difference will come from the company or consortium that wins the tender, which includes the works and project management for 33 years (Tren Urbano, 2008).

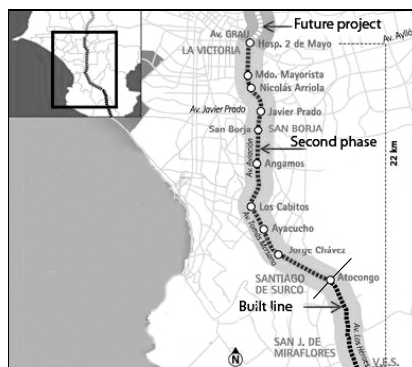


Figure 7 The route of Lima's urban train, with main stations (Source: www.trenurbano.gob.pe)

To summarise, the early reform transformed the old public transportation from an overcrowded and insufficient system into a system characterised by oversupply and low quality services. A recent study has demonstrated that this defective system has important elements of social efficiency, due to its wide territorial coverage and very high frequencies, even in remote *barriadas* (Avellaneda, 2007). It is, therefore, very much adapted to the existing demand, so it is convenient to the poor. However, public opinion is unhappy with the current system due to the problems of congestion, accidents and pollution. On the other hand, the new public transport projects, currently in their construction phase, have been thought of in terms of the passengers circulating in central and not peripheral areas. Once again, the poor, and especially the very poor, have not been taken into account.

5 CONCLUSIONS

The analysis of the effects of reforms in the three sectors, which make up an important part of the quality of life of urban residents in Lima, gives a clear picture in providing an answer to the main question of this study. The reforms in telecommunication, water, and public transportation have certainly improved the proportion of the population that has access to these services at aggregated level. However, a closer examination of the results shows that the new policies are also promoting the fragmentation and exclusion of other groups, precisely the less advantaged groups.

- The telecommunication sector has seen an incredible improvement in the quality of the service and the universalisation of the service to all sectors of the population. But the regulatory body has not been successful in promoting competition and lower the tariffs. Approximately one third of the inhabitants of Lima still have no telecommunication service inside their house.
- In the water sector, the expansion of the networks towards peripheral areas during the 1990s was not a result of the reform, but of the international mobilisation after the cholera epidemic. The situation of the water sector is still worrying and has not been tackled in a structural way by the government, who are still in charge of the sector. The tariffs remain a large problem for the utility. Political opportunism constrains the implementation of a policy of cross-subsidies to benefit the poor, while the regulatory

body has been unable to overcome this problem.

- In public transportation the reform improved the coverage, but the withdrawal of the government from the organisation of the sector has produced an informal and chaotic system, which produces daily congestion, discomfort, pollution and accidents. The efforts to improve this situation, however, do not seem addressed to benefit the most vulnerable groups, inhabiting the peripheral areas. Political opportunism might also play a role in the lack of a structural solution of this sector.

The changes brought about by the reforms can be summarised as an improvement in the overall access to these three urban sectors, accompanied by disregard to the situation of the poorest and most vulnerable sectors. The reforms have not been accompanied by the necessary correction mechanisms to provide subsidies to those in real need. On the contrary, the current subsidies are being given to the less disadvantaged groups. In this way, the main beneficiaries of the new situation regarding water provision, public transport and telecommunications have been the middle- and low-middle income sectors. Consequently, the reforms have been unsuccessful in terms of delivering affordable services for the poor. These results indicate that in the tension between market principles and the equity concerns of the reforms, market principles have definitely outweighed equity concerns.

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