

**Ricky Burdett (ed.)**

# South American cities: securing an urban future

## Report

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# **SOUTH AMERICAN CITIES: SECURING AN URBAN FUTURE**





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# URBAN AGE SOUTH AMERICA

In bringing the Urban Age to São Paulo, the London School of Economics and Deutsche Bank's Alfred Herrhausen Society are confronting the changing realities of one of the most urbanised regions of the world. Like its seven predecessors, the eighth Urban Age conference addresses the social, economic and spatial conditions of urban South America through an interdisciplinary lens, focusing on the interconnected issues of security, mobility, climate change, governance, urban design and development.

Following in-depth analysis of New York, Shanghai, London, Mexico City, Johannesburg and Berlin – brought together in **The Endless City** book published earlier this year – the Urban Age in 2007 turned its attention to cities in India and now to São Paulo, Rio de Janeiro, Buenos Aires, Bogotá and Lima. In 2009, the focus will be on Istanbul and urban development in South-Eastern Europe, with a concluding Urban Summit and major exhibition in Berlin in 2010.

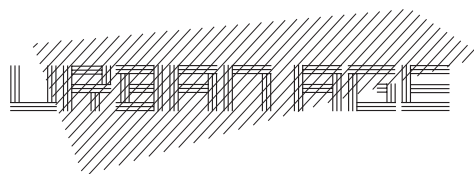
The South America Urban Age conference in São Paulo will be the largest and most complex of the series, bringing together 80 experts and civic leaders from over 25 cities from 14 countries. It follows a year of research and a series of workshops in London and São Paulo, as well as input drawn from submissions to the second annual Deutsche Bank Urban Age Award, created in 2007 to recognise and celebrate creative solutions to the challenges facing cities. Working closely with academic and institutional partners and by inviting speakers from around the world to share their urban experiences, the Urban Age conference offers a mirror to reflect on São Paulo's problems and opportunities at a time of intense social, political and economic change.

### Ricky Burdett

Director, Urban Age  
London School of Economics  
and Political Science

### Wolfgang Nowak

Managing Director  
Alfred Herrhausen Society  
Deutsche Bank



Urban Age is a worldwide investigation into the future of cities.

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POLITICAL SCIENCE ■

**Alfred Herrhausen Society**  
The International Forum of Deutsche Bank



### URBAN AGE CONTACT

Cities Programme  
The London School of Economics  
and Political Science  
Houghton Street  
London WC2A 2AE  
United Kingdom

T +44 (0)20 7955 7706  
urban.age@lse.ac.uk  
www.urban-age.net

Alfred Herrhausen Society  
Deutsche Bank  
Unter den Linden 13/15  
10117 Berlin  
Germany

T +49 (0)30 3407 4201  
ute.weiland@db.com

www.alfred-herrhausen-gesellschaft.de

# FINE TUNING SOUTH AMERICAN CITIES

Shifting the Urban Age focus to development trends in South America, **Deyan Sudjic** outlines the contours of urban form that are shaping the economic and political narratives of life in São Paulo, Rio de Janeiro, Buenos Aires, Bogotá and Lima.



Tuca Vieira

Built in 1953, Oscar Niemeyer's Copan building in the centre of São Paulo is the largest structure in Brazil and has the largest floor area of any residential building in the world.

Urban Latin America is one thing. Urban South America is quite another. The former is dominated by Mexico City, by far the largest city of the two entities with Miami as its other putative, though offshore, capital. Perhaps that's why South America is a construct that appeals to Brazil's boosters. Geographical fine-tuning allows São Paulo's Metropolitan Region with 19 million people to make an unblinking claim to be the unchallenged leader, if not of Latin America, then at least of South America, of which it is indisputably the largest city.

Even if São Paulo, for all its economic dynamism, sometimes suspects that it lags behind Mexico City – not just in size, but in its cultural and political clout – it is certainly way ahead of Rio de Janeiro. When Juscelino Kubitschek, Oscar Niemeyer's greatest patron, transferred his government to establish a new kind of country with Brasília at its geographical heart, it was a huge political gesture. One unintended consequence was that it tilted the balance between the country's two largest cities even further towards São Paulo. Rio is now a place in which once languid embassies are hemmed in by angry favelas.

But that sense of confidence and self assertion, marked by the building of Brasília, is a reflection of the rather different status that South American cities have when compared with some of the other regions visited by Urban Age. By comparison with Shanghai, with its strongly centralist government, cities in South America display a much more sophisticated level of 'social entrepreneurship' and civic engagement. There, active pressure groups, religious, ethnic and political groups – in the wealthy districts as well as the highly organised favelas – are not beholden to central government. South America also has the benefit of civic initiatives that can pay off. Brazil has the example of Curitiba and beyond that, the work done by reforming mayors in Bogotá, a Metropolitan Area that with eight million people is far more relevant in terms of scale.

In the last ten years, Bogotá has built more than 50 new schools, a tangible investment in the quality of life of some of the city's poorest inhabitants. It has done a lot, not just to reduce truancy rates, but also to create a sense of inclusion. The city has initiated a vigorous programme to build new libraries, and an impressive public transport system based on special rapid transit bus lanes, which has succeeded in persuading commuters to leave their cars at home. Bogotá has tackled crime through its visible commitment to social justice, bringing its murder rate down from frightening levels, and raising literacy in its overwhelmingly young population. Bogotá shows its neighbours what can be done, given will, organisation, and rational priorities.

In the network of South American cities, São Paulo certainly eclipses Buenos Aires, which, despite its nineteenth-century classical architecture and its European airs has still to regain the equilibrium of its time in the sun in the 1940s. Argentina's farmers are still angry enough with their government's economic policies to ignite the protest fires that left Buenos Aires trapped in a cloud of choking smoke last winter.

Yet Brazil's huge size, and population in excess of 180 million, gives it a different urban pattern to that of its South American neighbours Argentina, Peru, and Colombia, who each have one overwhelmingly dominant city. One in every three Argentineans and Peruvians live in their capital cities compared to only one in every nine Brazilians who live in São Paulo. Lima's dominance in Peru has virtually destroyed the national system of cities, a trend that was not even halted by the dismantling of Lima's public transport system in the early 1990s following the government's espousal of the most aggressive neo-liberal reforms in South America. Given the city's unique physical setting, constrained by mountains and the sea, and the absence of growth controls, Lima could develop into a 300 km long linear megacity that encroaches on adjacent low-value

desert land; an unsustainable scenario in an environment where water supply and transport accessibility are already at their limits.

São Paulo and Mexico City are very different models of what a city can be. Mexico City's roots go back far into the Pre-Colombian past. São Paulo was a tiny colonial outpost until the beginning of the last century. São Paulo is now the largest city in one of the world's most important new economies, representing the B in that uncomfortably named entity, BRIC, of which the other members are India, China and Russia.

Brazil has the tenth largest market in the world, and an art biennale that has global clout. São Paulo's GDP is in excess of US\$ 10,000 per head, and it has 30,000 millionaires. It has an economy that has powered past that of Mexico, to become bracketed by booming India and Russia. A very large part of Brazil's economic strength can be ascribed to the extraordinary growth of São Paulo. It has exploded in size from just 240,000 people in the early years of the last century. Despite a recent slowdown in its economic prowess, it has been a job-creating machine, absorbing successive waves of migrants: from Europe and Japan, as well as from Brazil's poor North-East. By many measures, it is an unqualified success.

And yet, it is a country and a city that cannot control crime. A year ago Brazil found itself unable to trust the safety of its skies and found itself paralysed by air traffic restrictions. The clichés about São Paulo come thick and fast. It has more private helicopters registered to its citizens than any other city in the world. Its prison system is in a permanent state of insurgency. Its tribes of street children are brutalised both by crime and the police. It is also the city whose reforming Mayor reclaimed the public realm by banning outdoor advertising, leaving the ghostly traces of billboards stripped of their posters and the charred surfaces revealed by neon signs that have been dismantled. And it is a centre for media that has created the *telenovella*, spreading a very particular kind of Brazilian culture to audiences around the world.

São Paulo is the classic second city, built on an industrial explosion from almost nothing. And it is that industrial base that makes the Brazilian economy different. It has moved far beyond the natural-resource based boom-and-bust cycles of its neighbours. São Paulo could have been a Manchester, a Shanghai, or a Chicago. But where Rio lost the will to work after it ceded its capital-city status to Brasília, São Paulo is a second city that became a first city. Its infrastructure may be in a ramshackle state. Its crime really is an issue. But like Johannesburg, São Paulo has the vitality and drive that keeps it moving. São Paulo is an authentic metropolis with the racial diversity to prove it with a Japanese and an Arab quarter as well as a Balkan district.

In urban and architectural terms, Brazil is still overshadowed by the remarkable generation that began by creating Rio's great Corbusian monument: the Ministry of Education. It may have lost the remarkable landmark building skills of Oscar Niemeyer. The remarkable architectural talent of Lino Bo Bardi, who arrived from Italy in São Paulo after World War II has not yet been overtaken by her successors. But in the shape of the Campana brothers São Paulo has developed its visibility as a centre for creative design.

In urban terms the question that faces it is how to address the inequalities, and the fractured nature of its public services. If it does that it could yet find itself becoming a Tokyo, where prosperity and organisation overcame an equally random pattern of dizzyingly rapid growth.

*Deyan Sudjic is the Director of the Design Museum in London. Sudjic was formerly the design and architecture critic at The Observer and has published several books on the subjects of design, architecture, and cities.*



# THE SPECIALISED DIFFERENCES OF GLOBAL CITIES

**Saskia Sassen** describes how the specialised capacities of cities feeding the global economy have been misunderstood and overlooked by the attention given to homogenised standards for new state-of-the-art built environments.

There is no such entity as ‘the global economy’ in the sense of a seamless economy with clear hierarchies. The reality consists of a vast number of highly particular global circuits: some are specialised and some are worldwide while others are regional. Different circuits contain different groups of countries and cities. For instance, Mumbai is today part of a global circuit for real estate development that includes firms from cities as diverse as London and Bogotá. Global commodity trading in coffee includes New York and São Paulo as major hubs. Buenos Aires is on a global commodity trading circuit that includes Chicago and Mumbai. Globally traded commodities – gold, butter, coffee, oil, sunflower seeds – are redistributed to a vast number of destinations, no matter how few the points of origin are in some cases. And the current collapse of major financial institutions involves particular sets of global circuits and hence does not affect all global cities in the same way.

Not only global economic forces feed this proliferation of circuits. Migration, cultural work, and civil society’s struggle to preserve human rights, the environment, and social justice, also feed the formation and development of global circuits. Thus NGOs fighting for the protection of the rainforest function in circuits that include Brazil and Indonesia, the global media centres of New York and London, and the places where the major forestry companies and the main buyers of wood are headquartered, cities as diverse as Oslo, London and Tokyo. The other side of all these trends is an increasing urbanising of global networks.

Adopting the perspective of one of these cities reveals the diversity and specificity of its location on some, or many, of these circuits. These emergent inter-city geographies begin to function as an infrastructure for multiple forms of globalisation. The first step is to identify the specific global circuits on which a city is located. These will vary from city to city, depending on a city’s particular strengths, just as

the groupings of cities vary on each circuit. All of this also shows us that the specialised differences of cities matter, and that there is less competition among cities and more of a global or regional division of functions than is commonly recognised.

For example, the knowledge economies of São Paulo, Chicago and Shanghai all share a long history of servicing major heavy manufacturing sectors. Theirs are economic histories that global cities such as New York and London never developed. Out of these specialised differences comes a global division of functions. Thus a steel factory, a mining firm, or a machine manufacturer that wants to go global will go to São Paulo, Shanghai or Chicago for its legal, accounting, financial, insurance, economic forecasting, and other such specialised services. It will not go to New York or London for this highly particular servicing.

Recognising the value of the specialised differences of cities and urban regions in today’s global economy shows how the deep economic history of a place matters for the type of knowledge economy that a city or a city-region ends up developing. This goes against the common view that globalisation homogenises economies. How much this deep economic history matters varies, and partly depends on the particulars of a city’s or a region’s economy. It matters more than is commonly assumed, and it matters in ways that are not generally recognised. Globalisation homogenises standards – for managing, for accounting, for building state-of-the-art office districts, and so on. But it needs diverse specialised economic capabilities.

The capabilities needed to trade, finance, service, and invest globally need to be generated. They are not simply a by-product of the power of multinational firms and telecommunications advances. The global city is a platform for producing these types of global capabilities, even when this requires large numbers of foreign firms, as is the case

## TOP PLACES FOR BUSINESS IN LATIN AMERICA



This list ranks ‘urban competitiveness’ as measured by a composite of indicators that compare each Latin American city’s capacity to attract and keep companies doing business in their city. It was prepared by *América Economía* and analyses each city’s economic structures, geo-strategic advantages, service industries available for businesses, intellectual and human capital and services for executives.

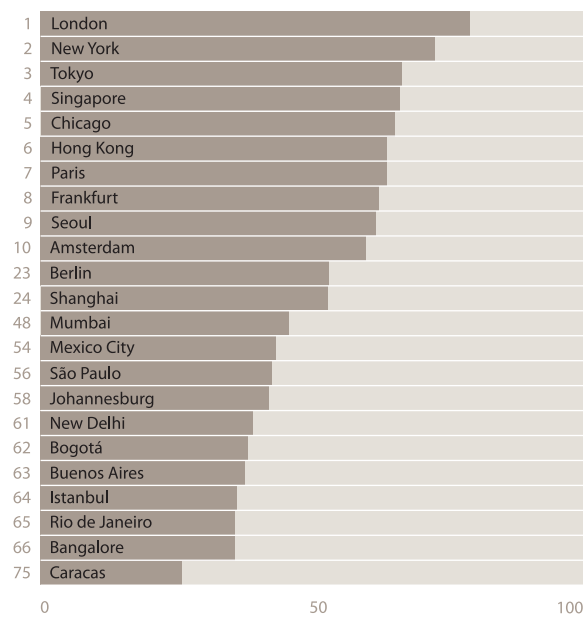
in cities as diverse as Beijing and Buenos Aires. Each of the 70 plus major and minor global cities in the world contributes to the production of these capabilities in its home country, and thereby functions as a bridge between its national economy and the global economy. In this networked multi-city geography, most of the 250,000 plus multinational corporations in the world have kept their headquarters in their home countries, no matter the vast numbers of affiliates, subsidiaries or offshore sourcing sites they may have around the globe. So have Latin American multinationals with expanding global regional and global operations. Brazil’s over 1,200 multinational firms, the single highest concentration in the region, have basically kept their headquarters at home, with a strong concentration in São Paulo.

Within a vast and diverse region such as Latin America it has now become clear that several cities function as key hubs, each representing a distinctive mix of strengths. In a top tier we find São Paulo, Mexico City and Santiago, and in a second tier Buenos Aires, Bogotá, Caracas, Montevideo, Monterrey, Quito and Lima. Finally, there is a global Latin American space economy that includes cities outside the geographic region: Miami and Madrid are prominent in this space. For instance, the 20 major banks headquartered in Central America have about 200 correspondent links with Miami, compared to 35 with New York. In a comprehensive survey asking businesses in Latin America what is the best city to do business in Latin America, *América Economía* found that Miami appeared regularly in the answers.



Substantial local and foreign investment to revitalise the Puerto Madero waterfront in Buenos Aires – in the form of hotels, restaurants, shops and commercial and residential complexes – continued despite the onset of a deep depression in 2001 which cut Argentina’s GDP in half.

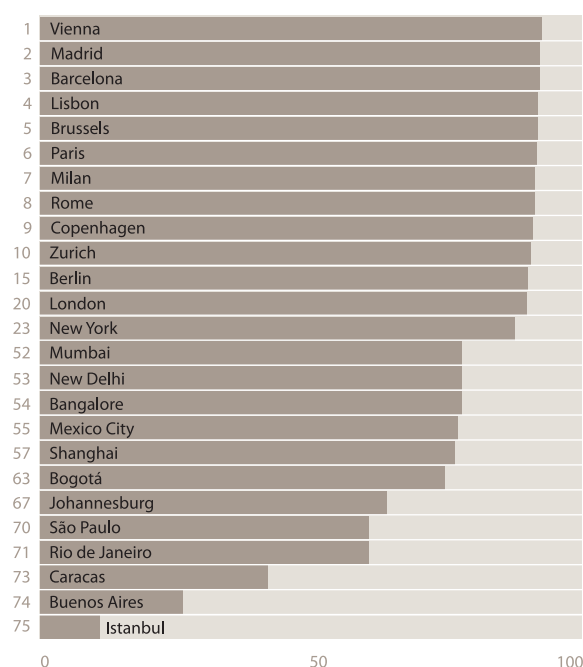
## TOP CITIES FOR WORLDWIDE COMMERCE



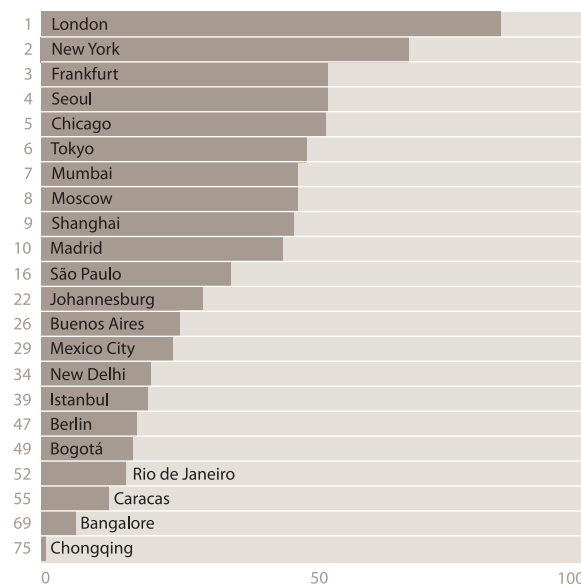
The other side of this dynamic is that for a firm to go global it has to put down its feet in multiple cities that function as entry points into national economies. This bridging capacity is critical: the multiple circuits connecting major and minor global cities are the live infrastructure of the global economy. It indicates that cities do not simply compete with each other. A global firm does not want one global city, even if it is the best in the world. Different groups of cities will be desirable, even if they have some serious negatives. This helps explain why there is no one 'perfect' global city. Today's global phase does not function through one imperial global capital that has it all.

A large study by MasterCard of 75 cities rates the top cities for worldwide commerce. Not one of them ranks at the top in all of the 100 factors, and not one gets the perfect score. London and New York, the two leading global cities, rank low in several aspects – neither is in the top ten when it comes to starting a business, or closing a business. If we consider a critical variable in the 'ease of doing business' indicator, part of which is 'ease of entry and exit', London ranks 43rd and New York ranks 56th. Perhaps most surprising, London ranks 37th on 'contract enforcement' and 21st on 'investor protection'. It is Singapore that ranks number one in relation to all three variables. Less surprising is that New York ranks 34th on one of the data points for 'livability': health and safety. In the global South, cities like Mumbai and São Paulo are in the top group for financial and economic services, but are brought down in their overall score by their low rankings in factors related to the ease of doing business and livability, given their especially low levels

## ECONOMIC STABILITY



## FINANCIAL CENTRE



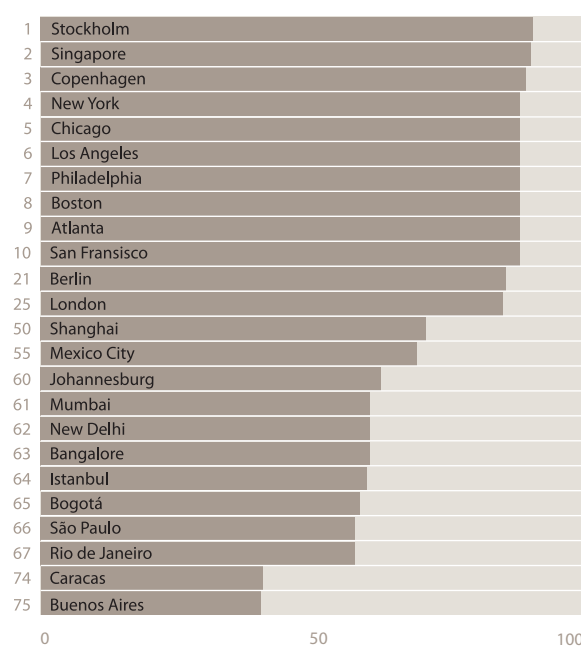
of well-being for vast sectors of the population.

Overall, São Paulo is in a middle-ranked group of about 20 cities framed at the top by Dubai and at the bottom by Shenzhen. The group includes some of the most powerful in the world. Furthermore, it is a power based on multiple and various conditions: cities as diverse as Beijing, Mumbai, Tel Aviv, Moscow, Johannesburg and Kuala Lumpur. This group ranks between Dubai's 44th place with an overall score of 47, and Shenzhen's 60th place with an overall score of 40. The scores for the top two cities are 79 for London and 72 for New York; further down, Amsterdam's score is 60 followed by Madrid at 59, respectively the 10th and 11th ranked global cities in the world for commerce.

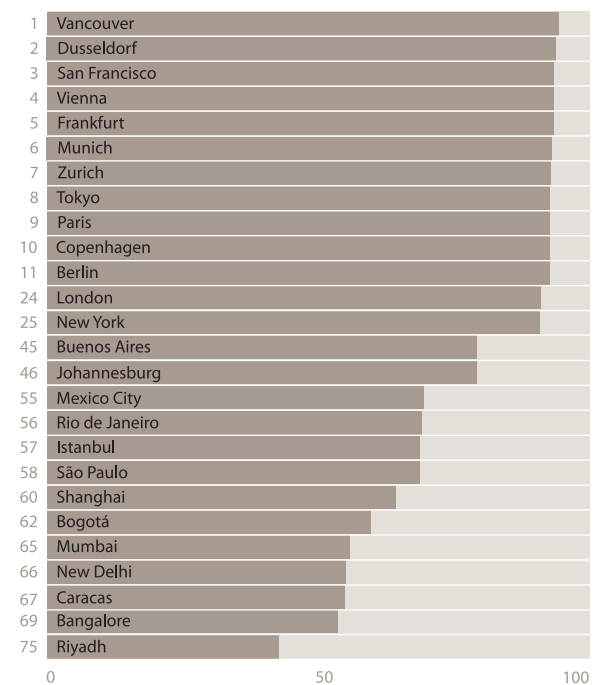
Some of São Paulo's lowest rankings are in macro-economic variables, such as 'political and legal framework' and 'economic stability'. Cities at similar levels on these two indicators within South America are Bogotá, Caracas, and Buenos Aires, and, outside of South America, Johannesburg, Mumbai, Moscow, Budapest and Istanbul. Sub-indicators such as 'dealing with licenses' and 'registering property', where the city's implementation of national regulations and laws can make a difference, point to a considerable variability in performance. São Paulo does not do better than in the basic macro-economic variables such as inflation. But Bogotá, Buenos Aires and Caracas all do much better on these two sub-indicators than they do on purely macro-economic variables, pointing to more successful implementation.

This negative urban performance also comes through on the indicator measuring the 'ease of doing business'.

## LEGAL AND POLITICAL FRAMEWORK



## LIVABILITY

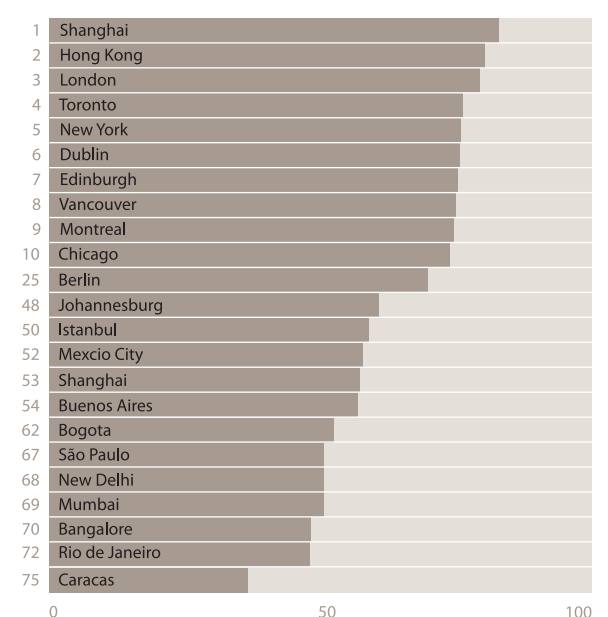


São Paulo ranks considerably below its overall ranking in the global set of 75 cities. With Dubai it is just the inverse: on 'ease of doing business' it does much better than its overall ranking. When disaggregated into sub-indicators, São Paulo is below its overall rank on 'starting a business', 'employing workers', 'closing a business', 'banking services' and 'contract enforcement'. São Paulo ranks well above its overall score on 'investor protection', 'getting credit', and 'ease of entry and exit' – though on this last one Caracas does even better.

São Paulo's ranking of 16 on the 'financial centre' indicator sits sharply above its overall ranking, putting it in the top echelon of the global economy; Santiago, Mexico City, Buenos Aires and Bogotá also rank much higher on the 'financial centre' indicator than they do overall. The sharpest differentials are for São Paulo and Buenos Aires. On some of the sub-indicators São Paulo's rank jumps to the top ten: 'total number of derivatives contracts' at 7, and 'total number of commodities contracts' at 9. It ranks 12th globally in its 'banking and financial services companies', 20th in 'investment and securities firms', 23rd in 'equities trading'. Its lowest score on the financial dimension is 39th on 'insurance companies', which is still well above its overall rank. Similarly, Buenos Aires is in the top 20 for particular financial circuits – 14th in the number of 'commodities contracts' and 15th in the 'value of bond trading'.

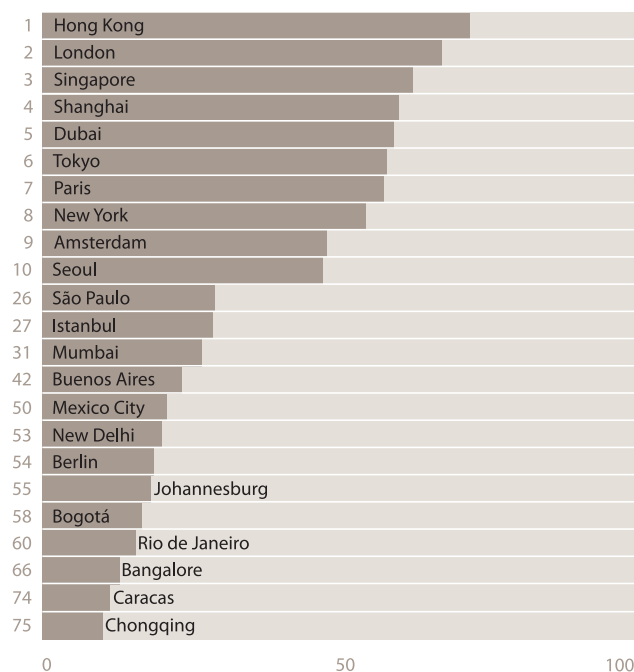
Clearly São Paulo is one of the major global financial centres in the world. Its overall score of 34.92 may not make that immediately evident. But the top-ranked financial centres are also well below the perfect score of 100: London

## EASE OF DOING BUSINESS





## BUSINESS CENTRE



has a score of 67.44, New York 54.60, Frankfurt 46.73, Seoul sits at 52.76, and Chicago 40.52 while Dubai is valued at 24.74, Atlanta at 8, and Edinburgh at 2. These 'financial centre' indicator scores are partly a function of a) the enormous weight of the major centres and b) the fact of multiple specialised types of financial circuits (equities, commodities, derivatives, bonds). This leaves even significant centres such as Dubai and Edinburgh with a very low relative score which can nonetheless override the fact that Dubai, for instance, ranks number one in 'banking services' along with most of the top 20 centres, except for Chicago at 41, as it has lost all its major banks, Seoul at 57 and Tokyo at 23.

São Paulo gets its second highest indicator ranking, at 26 as a business centre. Its highest score is for 'volume of commercial real estate development', placing it 4th, right, below Shenzhen, which has seen a vast building boom. Even so, São Paulo's contrasts among its sub-indicator rankings are sharp, placing it 49th for international airport traffic.

In this growing number of global cities and in their differences we see the larger story of a shift to a multi-polar world. The loss of position of US cities compared with the 2006 survey is part of this shift: Los Angeles dropped from the 10th to the 17th rank, and Boston from 12th to 23rd, while European and Asian cities moved up in the top ranks, notably Madrid going from 17th to 11th. These shifts give added content to the loss of position of the United States as the dominant economic and military power. It is not that the United States is suddenly poorer, it is that other regions of the world are rising and that there are multiple forces feeding these multi-sited economic, political, and cultural strengths.

The recent growth of informal economies in major global cities in North America, Western Europe, and to a lesser extent, Japan, raises a number of questions about what is and what is not part of today's advanced urban economies. Three trends suggest that much of today's informalisation is actually linked to key features of advanced urban capitalism. One is the sharp emergence and growth of informal economies in the major global cities of the North. Secondly, the mostly overlooked proliferation of an informal economy of creative professionals – artists, architects, designers, software developers, event choreographers, etc. working in these cities. Finally, the new types of informalisation of work actually function as the informal equivalent of the formal deregulation in finance, telecommunications and most other advanced economic sectors pursued in the name of 'flexibility and innovation'. The difference is that while formal deregulation was costly, and was paid through tax revenue as well as private capital, informalisation is low-cost and sits largely on the backs of workers and informal firms themselves.

<sup>1</sup>For one of the most detailed accounts on four favelas in São Paulo and how they are connected to the new economic trends see Simone Buechler's chapter in *Deciphering the Global: Its Scales, Spaces and Subjects* (Routledge 2007).

## BUSINESS CENTRE SUB-INDICATOR RANKINGS

BUSINESS CENTRE RANK	CITY	PORT CARGO TRAFFIC	AIR PASSENGER AND AIRCRAFT TRAFFIC	AIR CARGO TRAFFIC	INTERNATIONAL AIR PASSENGER TRAFFIC	5 STAR HOTELS	COMMERCIAL REAL ESTATE DEVELOPMENT
17	Madrid	46	12	40	11	4	17
18	Milan	48	17	23	12	19	9
19	Beijing	63	15	17	32	13	38
20	Atlanta	49	3	21	45	21	44
21	Toronto	38	18	31	24	33	5
22	Osaka	16	36	18	37	59	15
23	Dallas	39	6	20	61	61	60
24	Sydney	17	31	24	40	26	33
25	Shenzhen	4	53	25	75	69	21
26	São Paulo	65	24	30	49	14	4
27	Istanbul	29	33	41	29	24	29
28	Moscow	57	16	47	16	63	20
29	Barcelona	12	27	63	22	37	42
30	Houston	18	8	34	53	71	68
31	Mumbai	36	39	29	54	12	36

The 2008 Worldwide Centres of Commerce Index by MasterCard compiles 100 factors which cover a wide range of conditions – from macro-level factors such as 'political and legal frameworks' to the particulars of how easy it is to execute an import or export operation, how many days it takes to open and to close a firm, as well as livability and a city's global recognition. For example, the macro level 'Business Centre' ranking is compiled from the six sub-indicator rankings listed above. It is impossible to show the whole data set and one of the key values of the study, which is the variability among cities on diverse indicators and sub-indicators, including among cities that share a similar overall value.

This new creative professional informal economy greatly expands opportunities and networking potentials for these artists and professionals to operate at least partly informally. It allows them to function in the interstices of urban and organisational spaces often dominated by large corporate actors and to escape the corporatising of creative work. In this process they contribute a very specific feature of the new urban economy: its innovativeness and a certain type of frontier spirit. We can see it as a reinvention of Jane Jacobs' urban economic creativity.

Conditions akin to those in global cities of the North may also be producing a new type of informal economy in global cities of the south, including a professional creative informal economy. Their emergence may be far less visible than in the North because they are partly submerged under the old informal economies that continue to operate in the global South, and are still more a result of poverty and survival than of the needs of advanced economic sectors.<sup>1</sup>

In brief, the same politico-economic restructuring that led to the new urban economy emerging in the late 1980s also contributed to the formation of new informal economies. The decline of the manufacturing dominated industrial complex that characterised most of the twentieth century, and the rise of a new, service-dominated economic complex provide the general context within which we need to place informalisation if we are to go beyond a mere description of instances of informal work.

Thus while much has been said about the global economy homogenising national economies, these urban facts actually point in the opposite direction: different cities have different strengths. Global firms and markets, but also cultural enterprises, want many global cities because each of these cities expands the global platform for operations, and because each is a bridge between the global and the particularities of national economies and societies. This also underlines that global cities are built, developed and made.

The rebuilding of central areas that is occurring in all of these cities, whether downtown, at the edges, or in both areas, is part of this new economic role. Rebuilding key parts of these cities as platforms for a rapidly growing range of global activities and flows, from economic to cultural and political also explains why architecture, urban design and urban planning have all become more important and visible in the last two decades. And it explains the growing competition for space in these cities and the emergence of a new type of politics, one centred in the right to the city.

Whether all of this is good or bad for the larger social

fabric of these cities and their countries is a complex matter, and the subject of many debates. But the fact that global firms need cities, and indeed groups of cities, should enable the political, corporate and civic leadership in those cities to negotiate for more benefits for their cities from global firms. This could lead to overall positive outcomes if the governing classes can see that these global economic functions will grow better in a context of a strong and prosperous middle class rather than the sharp inequality and polarity that exists among a growing share of households. European global cities have done better than global cities in the United States precisely for this reason.

As was evident at the Urban Age India conference, the trends in the new rising global cities of the South have seen the now familiar trends of the North: the growing numbers of the very rich and of the very poor, along with the expansion of the impoverished old middle classes. What there will be less of in these cities is the modest middle classes and the modest-profit making economic sectors that once were the major presence in these cities: they are critical to the urban economy because they have incomes which are most likely to be fully spent in the city's economy. Their presence is a built-in resistance to the spatial and social reshaping of cities along extreme class lines. Finally, my most pessimistic scenario is that conflict is now wired into urban space itself, partly due to gentrification and displacement and the resulting politics for space. In some cities, for instance New York and Los Angeles, it takes the form of a diffuse petty criminality and mostly violence of the disadvantaged on the disadvantaged. In other cities, the European ones but also the rising Shanghais, it takes the form of new racisms that can lead to physical violence. And yet in others, perhaps São Paulo or Rio de Janeiro, at its most extreme it takes the form of partial sporadic urban warfare, including warfare in the space of prisons.

In my view we urgently need to innovate on the front of urban governance. The old bureaucratic ways will not do. This is a whole new urban era –with its share of positive potentials and its share of miseries. In cities our governance challenges become concrete and urgent. National states can keep talking; urban leadership needs to act.

*Saskia Sassen is the Lynd Professor of Sociology and a member of The Committee on Global Thought at Columbia University. She has written extensively on topics such as globalisation and urbanisation.*



# BUILDING URBAN ASSETS IN SOUTH AMERICA

In an in-depth overview of the various forms of regional governance across South America, **Jeroen Klink** analyses the institutional capacity of metropolitan areas to influence and restructure the urban economy

The development trajectory of the South American continent in the 1980s has commonly been interpreted by macro-economists in terms of 'the lost decade', specifically in light of the debt crisis and the subsequent cumbersome structural adjustment programmes. Nevertheless, it can be claimed that the region suffered a second, perhaps less visible setback in the 1990s, from which it has been trying to recover only recently. More specifically, while many South American countries witnessed an intense socio-economic, technological and regulatory adjustment process, with often dramatic impacts on cities and metropolitan areas, there was a surprising lack of a solid and transparent institutional and legal framework that could guide transformations in South American city-regions and metropolitan areas in a sustainable manner. The institutional vacuum in metropolitan areas was all the more dramatic considering the continent's relatively urbanised profile, in which large city regions had often been the spatial nodes of earlier national import substitutions strategies, and where, to some extent, challenges at the national and the metropolitan or regional scale – social exclusion, environmental degradation and overall loss in competitiveness – had become increasingly interdependent. Moreover, as has been analysed extensively by South American scholars of urban development, the continent's cities and city regions were entering this new stage of the internationalisation process when historical deficits, both in terms of access to basic services, land and sustainable and predictable sources of finance, had, to say the least, not been settled satisfactorily; as a matter of fact, there was suspicion that in many South American metropolitan areas disparities had actually been growing during a large part of the 1990s.

A few examples to illustrate the point. Greater Santiago generates about half of Chile's GDP, while approximately two thirds of the country's population is concentrated in the city regions of Santiago, Valparaíso and Concepción. Although the Chilean development model has generally been recognised for its achievements in terms of growth with poverty reduction, Santiago has increasingly been facing rapid sprawl, reduction of environmental quality, socio-spatial segregation and escalating intra-metropolitan disparities. Recent theoretical work on the spatial evolution of Greater Santiago has confirmed a (postmodern) pattern of fragmented land uses, privatisation of public spaces and social-spatial segregation, as reflected in the proliferation of gated (vertical and horizontal) communities, often directly connected to specific workplaces by (frequently privately financed) motorways, the rise of completely new towns and isolated industrial, commercial and technological parks and districts. At the same time, this patchwork of cities is situated in an institutional limbo, particularly considering the fact that Chile doesn't have specific arrangements for metropolitan areas and agglomerations. This is all the more worrying particularly for Santiago, where governance is fragmented over three provinces (one being Santiago itself, which is in turn subdivided into 32 municipalities).

Along the same lines, the agglomeration of Greater Buenos Aires, although not existing as a formal political and administrative body as such, but nevertheless loosely defined as the Autonomous City of Buenos Aires and the surrounding 32 cities, concentrates approximately half of

the production and a third of the population of the country. In the 1990s, the city region was the central stage of a traumatic process of productive restructuring and de-industrialisation. The absence of clear metropolitan governance structures, reflected in a complex and overlapping set of responsibilities allocated between a strong province, the federated Autonomous City of Buenos Aires, peripheral local governments and the institutions of the national government, made it all the more difficult to develop effective strategies to deal with the rapidly growing intra-metropolitan disparities and a pattern of environmental degradation. It was not that surprising, therefore, that during the 1990s Greater Buenos Aires witnessed a proliferation of suburban gated communities and metropolitan sprawl.

According to 2003 data, Greater Bogotá, roughly composed of the central city (7 million inhabitants) and 24 surrounding municipalities (giving a total population of about 8.2 million), concentrated approximately 30 per cent of the national GDP (and 40 per cent of national industrial GDP), and about one fifth of the national population. The opening up of the Colombian trading regime reinforced the region's attractiveness and its role as the main national economic powerhouse. By the year 2010, the city-region is expected to grow to 9.6 million inhabitants. In the last few years, the traditional polarised relationship between the central city of Bogotá and its surrounding municipalities has given way to a gradual process of regionalisation of production and land uses. Thus, several surrounding municipalities have been growing much faster than Bogotá itself; the lack of physical space, and the relatively higher land prices have also induced industries to increasingly locate themselves directly outside the central city, attracting subsequent additional investments in the tertiary sector and in complementary infrastructure to such areas as Sabana.

This process has only increased the stakes to develop adequate arrangements to deal with the many challenges the region faces: socio-spatial exclusion (some 40 per cent of metropolitan income of Greater Bogotá is concentrated in the hands of the upper 7 per cent), the rapid increase in Bogotá river's pollution levels, the inter-municipal transportation of freight and people as well as land use planning in environmentally sensitive areas. The Regional Roundtable of the Bogotá-Cundinamarca region, launched in 2001 and involving the national government, the state government of Cundinamarca, the city of Bogotá itself as well as 116 surrounding municipal administrations and three environmental special purpose districts, was an innovative approach, aimed at creating an informal multi-stakeholder policy so as to bring together a fragmented metropolitan system. However, recent evaluations by the United Nations Center for Regional Development, which has been supporting this process since the beginning, have stressed the need to strengthen these mechanisms with more formal arrangements.

The Brazilian scenario of the 1990s was no exception to this overall pattern of intense national socio-economic restructuring coupled with the lack of an institutional, financial and managerial framework to collectively work on a strategic agenda for metropolitan areas. An agenda like that would have established key priorities in order to both capture the potential economies of agglomeration on the one hand, and to reduce the historical social deficits in metropolitan areas on the other hand. Like in other countries in the region, this agenda didn't emerge in Brazil. The metropolitan scale may have been associated with the military regime, which indeed allocated resources on the basis of an authoritarian metropolitan logic, and this may explain why the issue of city regional governance was practically neglected by the national constitutional assembly of 1988, heavily influenced as it was by new stakeholders such as the mayors and the social movements. These actors pushed for an agenda in terms of decentralisation and democratisation, which, by and large, neglected the issue of inter-municipal and inter-sector territorial coordination.

Thus, during the 1990s, Brazil's industrial heartland of São Paulo, and specifically the so-called ABC region (sometimes labelled the Brazilian Detroit), which concentrated the bulk of the country's car industry and a substantial part of its petrochemical complex, had to face the negative consequences of the changing Brazilian macro-economic regime without any consolidated framework for metropolitan governance. While the national government emphasised



A new waste management plan is expected to help keep the streets of downtown Buenos Aires clean. Uncoordinated and fragmented policies for services – with the exception of solid waste management – across the metropolitan area are largely to blame for Greater Buenos Aires' environmental degradation.



a strategy of deregulation and retreat from active industrial and technological policies, the restructuring of big industry in the region caused high unemployment and underemployment, increasing poverty rates and social-spatial exclusion. Real estate speculation and lack of local government control over land markets also triggered a proliferation of slums and irregular settlements in the outskirts of the São Paulo Metropolitan Region, frequently in environmentally sensitive and watershed protected areas. Being a highly politicised region that had participated actively in the process of Brazilian re-democratisation, and counting with proactive segments such as the labour unions and the social movements, an innovative response was organised by local stakeholders, which collectively created and negotiated the elaboration of an inter-municipal consortium, a Regional Chamber for Participatory Strategic Planning and an Economic Development Agency. In spite of the innovative character and the entrepreneurial drive behind some of these initiatives, it should not distract attention from the fact that, at least until recently, the low financial capacity, the weak institutional recognition within Brazilian fiscal federalism and the high dependence on individual leadership (particularly late Mayor Celso Daniel from the city of Santo André, and leaders from the labour unions and industry), proved to be bottlenecks in increasing the scale and continuity of this informal system of regional governance, and replicating it in other metropolitan areas.

The institutional and political vacuum that surrounds metropolitan regions has even affected cities that were considered to be model cases of good urban governance and urban planning in the South American context. For example, the city of Curitiba has been widely benchmarked as a sustainable and well-planned city, specifically so in its capacity to guide city growth through financially accessible and good quality public transportation linked to land use planning. Recent developments have shown that this picture does not quite match the reality of Greater Curitiba. Along the same lines as other South American experiences, the process of metropolisation, which is reflected in an increasingly dense pattern of functional interdependencies between the central city and its outskirts, has revealed the deficiencies of the Curitiba model in a painfully clear manner. For instance, while development in the eastern zone was proscribed in the 1978 metropolitan master plan and its recent update, since that area concentrates the environmentally sensitive areas and the watersheds, and provides approximately 70 per cent of the urban water supply, this was exactly where urban growth occurred. Part of this distorted land use pattern could be explained by the aggressive subsidies and tax incentives that had been given to attract industries away from the more expensive locations in Brazil (particularly the State of São Paulo). At the same time, Curitiba's highly acclaimed integrated public transportation system has not been able to cope with the rapid growth in inter-municipal journeys between the central city and the metropolitan outskirts. Since the late 1990s, congestion and private car ownership have grown exponentially.

It should be acknowledged that governments in South America have increasingly become aware of this interdependence between what happens in their metropolitan areas and national welfare. The Brazilian government, for example, created a new framework law on inter-municipal consortia to strengthen the institutional and organisational capacity of these bodies and allow their transformation from rather loose planning institutions into bodies that are also capable of effectively implementing city, regional and metropolitan functions, such as transport, watershed planning and management, solid waste disposal and economic development, among others. Nevertheless, laws by themselves are no substitute for political leadership; a remarkably small number of inter-municipal consortia has been created since the promulgation of the law, probably also in light of a 'zero sum mentality' of some of the local leadership. This lack of a strategic view could well represent



Development of new concrete and brick houses in Rocinha, the largest favela in Brazil located on the hillside of Rio de Janeiro, is largely driven by auto-construction. Even so, basic sanitation and infrastructure is better here than most favelas across the country due to systematic community intervention.

Dante Basquet

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**The bulk of Brazilian metropolitan land markets is guided by a patchwork of masterplans... without incorporating a more strategic view on the sustainable development of the metropolitan areas.**

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a concrete bottleneck in terms of moving towards a scenario in which local governments voluntarily plan, finance and implement services of common interest, either with state and national support or not. Ironically, the ABC region's inter-municipal consortium mentioned above, which proved both to be one of the more innovating initiatives in the 1990s in terms of city regional governance and which had also lobbied successfully for the new federal legislation on public consortia, has to date not adapted its legal and organisational structure in order to make use of the potential offered by the law.

As mentioned earlier, social movements and non-governmental organisations, although not always holding a metropolitan perspective, did succeed in pressing for improvements in the transparency and effectiveness of governance systems in South American city-regions. In this respect, the Brazilian innovative and progressive legislation on the so-called 'Statute of the City' is a paradigmatic example; its elaboration and approval in 2001 can be considered a direct result of more than a decade of political mobilisation by housing movements, planners, intellectuals and professional associations, focused on improving urban land markets. The legislation has allowed for the implementation of municipal masterplans that incorporate a series of instruments – special low-income zoning, development exactions, progressive land taxes on vacant land, etc. – which, at least in theory, increase the leverage of local governments over the functioning of urban land markets. Nevertheless, the instrument has yet to provide a concrete solution to the dilemma of uncoordinated and fragmented land uses at the metropolitan level. As a matter of fact, the law has no built-in mechanism for the coordination of individual municipal masterplans; thus, in practice, the bulk of Brazilian metropolitan land markets is guided by

a patchwork of masterplans that have been elaborated on the basis of different criteria and methodologies, without incorporating a more strategic view on the sustainable development of the metropolitan areas as such.

Perhaps this is one of the key lessons that emerges from the intense process of urban and economic restructuring in the last two decades or so in these city-regions: although occasional successes have improved the governance of these areas, involving both public sector innovation, decentralisation and mobilisation of non-governmental stakeholders, the challenges to systematically reduce socio-spatial exclusion, organise fragmented and speculative land use markets, confront environmental degradation, intra-metropolitan disparities and loss of economic competitiveness remain impressive. In effect, it seems that the decentralisations and democratisations of the 1990s were only the first steps in what can be considered to be a collective learning process that has only just started. In that sense, both the fragmented pattern of functional regionalism in Greater Buenos Aires, the intense conflicts between the central city of Curitiba and its peripheral towns regarding the management, finance and organisation of particular services, the Regional Roundtable of Bogotá-Cundinamarca and, last but not least, the challenge faced in the ABC region in Metropolitan São Paulo in terms of developing a regional public consortium that takes advantage of the new federal framework legislation, are in effect different sides of this complex and multifaceted collective learning process.

National and state government should stimulate the negotiation and mobilisation of these territorial pacts aimed at the collective creation of public goods in metropolitan areas. After all, it is the socio-economic and political complexity as well as the richness of city-regions and metropolitan areas that allow us to go beyond the abstract macro-economic dichotomy of inflation control versus growth, which in fact has narrowed down so much of the debate on the future development of South American countries.

*Jeroen Klink is the Director of Institute of Science, Technology and Society of the Federal University of the ABC Region in São Paulo. Klink was formerly the Secretary for Local Economic Development in Santo André.*



# POLITICS, POWER, CITIES

In an excerpt from 'The Endless City', **Enrique Peñalosa** describes the urgent need for governments to create socially inclusive and well-designed public spaces and cities.

There is not a scientifically or technically correct or incorrect way of making a city. Defining what makes a good city is more a matter of heart and soul than of engineering. It is more akin to an art than to a science. Yet, despite the subjective nature of urbanism, a government must adopt a vision and promote it, make decisions, build, define rules and enforce them – it must not only envision but also enact the city. If a good city is society's collective work of art, then its government acts as the piece's conductor and often its composer as well.

Urbanism has to do with community and society decisions, enforced through some form of government. It is not possible to leave it up to private entrepreneurs whether there should be pavements or how wide they should be, how tall buildings should be, whether there should be parks and, if yes, where or how big they should be, and whether there should be a mixture of residential and commercial buildings. The fact that government intervention is essential, together with the reality that there are multiple possible designs for a city, makes urbanism one of the few remaining realms of ideology.

In actual urban environments, Adam Smith's notion that individuals seeking their own benefit brings about the best for society as a whole is not always valid. An entrepreneur may want to build a high-rise building in the midst of a three-storey townhouse neighbourhood; but it is also a logical individual decision to drive to work in the comfort of one's private car, yet if all the residents of a large city were to do that, it would end in a traffic jam. Should the owner of rural land near a city be allowed to do whatever he wants with it, including, for example, use it to build a low-density gated community, far from the reach of public transport? How should scarce road space be distributed between pedestrians, bicycles, buses and cars? It would seem that public transport should be given priority over private cars in the allocation of road space, if democracy and the public good are to prevail.

There are at least two types of equality we can realistically strive for in our time: the first is equality in quality of life, particularly for children. All children should have the same opportunities to develop their potential and be happy, have access to green spaces and play areas, to libraries and waterfronts. The second kind of equality – which is still within our reach – is to make truly effective the principle that the public good must prevail over private interest. The first article in every constitution stipulates that all citizens are equal before the law. Consequently, some state explicitly that the public good must prevail over private interest. In cities the interests of a few individuals often conflict with those of the community as a whole. It is the role of politics and governmental institutions to manage those conflicts and find ways of promoting inclusion and social justice.

According to the United Nations, there will be nearly 2.8 billion new inhabitants in cities in developing countries over the next 40 years. Yet the growth of those cities will be more than proportional to their population growth for the following reasons: households will have fewer members and thus more dwellings will be needed for the same amount of people; more economic development means that institutional buildings take up a larger share of city space; and, people demand larger homes as their income grows. It is in cities in developing countries that many of the core urban and environmental challenges are concentrated in this century. And issues of equality and inclusion are particularly

relevant there, as their societies are highly unequal. Inequality and exclusion can be even more painful than poverty, but the way we create and organise cities may be a powerful instrument in constructing equality and social justice.

Public space dedicated to pedestrians can be a means to a more inclusive society. During work time the highest executive and the lowest-ranking employee may be equally satisfied or dissatisfied; in public space they both meet colleagues and do their jobs. It is only during leisure time that an abyss separates their quality of life. The upper-income executive goes home to a large house, probably with a garden, has access to sports clubs, country houses, restaurants, expensive cultural activities and trips abroad. The low-income person and his or her children live in a very small dwelling and the only alternative to television for spending their leisure time is public space accessible for pedestrians. Pavements, bicycle lanes, plazas, parks, promenades, waterfronts and sports facilities show respect for human dignity and begin at least to compensate for inequality in other realms.

Access to green spaces may be the most formidable barrier to inclusion, not only now but also in the future. Until recently, few people believed the poor would own refrigerators, ordinary telephones, much less mobile ones, colour televisions, washing machines or sophisticated hi-fi systems, all of which are becoming common, even in lower-income homes in developing countries. Lower-income citizens will soon all have access to computers and a wide array of electronic equipment. What they will not have is access to green spaces and sports facilities – unless governments act today. Neglecting to acquire and secure open spaces today is not something that can be remedied easily in the future. It would be extremely difficult to purchase and demolish hundreds of buildings in order to create green spaces. And lacking such spaces severely affects quality of life, inclusion and as a result the legitimacy of

social organisation. Beyond the basic public pedestrian space, which should be found throughout the city, a good city should have at least one, and ideally several, 'grand' public spaces. That is to say, spaces of such quality that even the wealthiest members of society cannot avoid frequenting them.

A protected bicycle lane in a city in a developing country is a powerful symbol, showing that a citizen on a US\$ 30 bicycle is as important as one in a US\$ 30,000 car. A protected bicycle lane along every street is not a cute architectural fixture, but a basic democratic right – unless one believes that only those with access to a car have a right to safe mobility. Quality pavements and bicycle lanes show respect for human dignity, regardless of the level of economic development of a society. Many citizens in economically advanced societies cannot drive, because they are too young or too old, or because they have some kind of disability. A democratic city must be designed for the most vulnerable of its members.

It is with regards to transport that governments have most dramatically failed to comply with democratic principles in cities in developing countries. There is a fight for the scarce road space between cars and public transport, pedestrians and cyclists; and there is a battle for public funds between car owners demanding more road infrastructure and lower-income citizens demanding schools, sewage systems, housing, parks and other basic infrastructures. The minority of car owners usually command the most political clout and thus direct public investment to road infrastructure aimed at reducing peak-hour traffic jams, leaving the needs of the poor unattended. Both urban and rural roads ignore or take poor care of pedestrians' and cyclists' infrastructure needs.

There is no 'natural' level of car use in a city. Mature city governments such as those of Paris, New York, Tokyo, Berlin or London, explicitly or implicitly defined long ago that regardless of traffic conditions no more road infrastructure would be built in their core areas. Resources would be concentrated on public transport. If governments in Manhattan or Paris had built more and bigger roads, there would be increased car use in those cities. On the other hand, if these governments had built fewer or smaller roads, car use would have decreased there. In summary, it is the amount of infrastructure available for cars that determines the level of car use.

The governments of less-advanced cities are reluctant to make the inevitable decision: no more road infrastructure



Initiatives to improve rapidly growing informal neighbourhoods of Bogotá have created new public space while enhancing services and the area's transport infrastructure.





Oscar Diaz



Karl Fjellstrom



Carlos Pardo

Key transformations include the widely recognised success of the TransMilenio bus rapid transit system with dedicated lanes (left) to bring residents from outer areas to the city centre (middle) as well as the creation of new schools and libraries (right). Hundreds of new parks and pedestrian pathways have been created, making Bogotá's cycle networks – ciclorías – among the most extensive in the world.

in the built city. Resources will be concentrated not on more or bigger roads but on creating, expanding and improving public transport. From then on, car use must be restricted explicitly through means such as number plate-based use restrictions, tolls, parking limitations; or implicitly, through traffic. Many advanced cities have seen famous citizen battles against urban motorway projects. One of the most high-profile is Jane Jacobs' fight against the Lower Manhattan cross-town expressway. In most advanced cities today 'transport policy' really means finding ways of achieving lower levels of car use and a higher share for public transport, cycling and walking. In cities in developing countries 'transport policy' still largely means the opposite: how to facilitate more car use. In societies in developing countries, where less than 50 per cent of households do not have a car, having one is held as a visible certificate of belonging to society's higher echelons. Upper-income people in less-developed and highly unequal societies tend to see using public transport alongside lower-income citizens as an affront to their position in society. Although they gladly use public transport when they travel to more advanced countries, they rarely go near it in their own.

This partly because a city that makes too much room for fast-moving cars becomes less humane and loses quality of life, but also because road-infrastructure investments primarily benefiting higher-income citizens, redirect public funds away from schools, parks, housing and many other needs. The most vulnerable members of society, such as the poor, the elderly, children and disabled citizens, are not normally conscious of their interests and rights and do not have much political influence. A democratic government must act as their proxy and confront powerful minorities on their behalf. It must convince even upper-income groups that car-use restriction benefits them as well in the longer term. But in the end it must wield its decision-making power in order to implement its vision regardless of political costs.

A frequent source of inequality is the division of cities or metropolitan areas into several, sometimes dozens of municipalities. Unfettered market forces create a situation in which expensive neighbourhoods for wealthier citizens attract similar high-income developments around them. Land around high-income developments tends to be expensive and normally low-income neighbourhoods will not be established there. The reverse is true too: a high-income housing development will not usually be developed next to a low-income one.

A healthy, large city will have both low- and high-income groups. Higher-income groups provide tax funds to tend to the needs of lower-income groups. They pay high taxes and often do not even use many services provided by the city: they use private healthcare services and their

A government that cares about quality of urban life and democracy has to progressively veer away from trying to reduce traffic jams through investments in new or bigger roads, and instead concentrate on creating or improving mass-transit and pedestrian and bicycle facilities.

children go to private nurseries and private schools. Municipalities with lower-income citizens have a greater need of social services provided by government, yet no possibility to muster the necessary funds to provide them. Inequality ensues. Blunt extraction of funds from wealthier municipalities in order to transfer them to lower-income ones does not solve the problem: it has been found that those who spend funds not generated by themselves tend to do so inefficiently. To make matters worse, poorer citizens with lower levels of education tend to be easy prey to demagogues and corrupt politicians.

While there may be historical reasons for the existence of several municipalities within one city, once they are part of a large, modern metropolitan area there is little justification for them. Most citizens cross municipal borders unaware of their boundaries, except of course when the absurdity of such political subdivision is so extreme that public transport has to turn back at the border of the municipality, as happens in São Paulo. Long-term planning also becomes complicated when such subdivisions exist. Even the construction of a critical road artery or rail line becomes problematic. When different political parties control different municipalities, more problems arise, as has been the case in Mexico City. Bureaucratic expenses of many small municipalities are higher than those of one large one, and often the level of professional competence is lower within the smaller municipalities.

For these reasons Canada has merged nearly 1,000 municipalities over the last decade, achieving more social justice, lower bureaucratic expenses and better long-term planning. In Johannesburg several municipalities were also merged after the end of the apartheid regime, in order to achieve greater equity. Higher-income citizens tend to oppose these mergers, as some of their funds will subsequently have to be redistributed to lower-income areas. Many small-town politicians also oppose them as they may end up in an unelectable position, or simply because they prefer to be, as the saying goes, the head of a mouse rather than the tail of a lion.

Innovations are always difficult to implement. The

status quo is maintained through a majority support, while ideas for change start with only a minority behind them. Government must act on behalf of the majority and also of the most vulnerable members of society, but it must also act on behalf of future generations. It is not possible for governments to provide all citizens with individual goods, yet it is possible to provide quality public goods and services: schools, libraries, transport and green space. Moreover, once citizens achieve a certain income level, it is easier to increase well-being through public goods than through private goods: through a concert hall, a green area, a waterfront.

Inequality permeates everything around us so pervasively that it is difficult to differentiate between what is inevitable – or tolerable inequality – and that which could or should be altered. From today's perspective it seems that the social changes achieved by the French Revolution were obvious, almost natural, since the injustices redressed were so flagrant. However such injustices were not considered flagrant and not even evident before that moment in time. In the same way, we are often not aware of many cases around us in which the public good does not prevail over private interest. Investments in flyovers to minimise traffic jams for upper-income groups seem normal. The poor in the same city might lack schools or basic sanitation and sometimes even clean water, while private waterfronts, pavement-less streets and urban roads abound. If we were truly rigorous in applying the prevalence of the public good, cities in developing countries would ban private car use during peak hours. Only a minority would be affected. Most people's travel would take less time and there would be less air pollution; less road building and maintenance would free up public funds for better provisions for the needs of lower-income majorities

Most public policy discussions and decisions, such as those relating to macro-economics, are very short-lived. Even the most transcendental political events often do not affect people's lives as much as they are thought to. At the risk of appearing sacrilegious, it is for example irrelevant for the way people live today whether most countries' revolutions or wars of independence occurred 100 years earlier or later than they actually did. Instead, the way cities are built determines to a large degree citizens' quality of life for hundreds of years into the future.

Enrique Peñalosa, Mayor of Bogotá 1998-2001, is an urban strategist who advises cities. He is a Senior International Advisor to the Institute for Transportation and Development Policy.



# THE MOBILITY DNA OF CITIES

In a new methodology of urban modelling, **Fabio Casiroli** identifies how to develop sustainable transport options for complex urban systems.

The connection between transport and social exclusion is at the heart of the policy debate on the future of cities. Yet, while reducing energy and carbon emissions through more sustainable transport are understood and are being implemented in different urban regions of the world, the connections between urban form, transport infrastructure and social well-being require further analysis. Understanding mobility in cities relies heavily on deterministic, engineering-based models. They tend to rely on a rather rigid, synchronous and static view of cities in which movement patterns are assumed to be the same for all consumers. Instead urban mobility can be approached as a 'pliable' science, one that allows the multiple scales and time zones to be understood through a set of simple modelling tools – which are in effect time-based accessibility maps – that do not require expensive and time-consuming techniques.

The experience of the modern city changes according to the hour of the day and depending on the mode of transport to access the city's primary urban provisions – jobs, shops, leisure and other essential social and community uses. Time, as opposed to distance, is perhaps a more appropriate variable to assess urban functionality. We need to first agree on an average quantum of time that is acceptable to most urban commuters. Research suggests that 45 minutes in each direction, or a total of 1.5 hours per day, is a reasonable time frame for most people to gain access to a range of primary urban functions from their point of departure. While the selection of any such figure may be challenged as controversial, it sets a benchmark against which to evaluate the amount of time spent on commuting by urban dwellers.

To better understand the relationship between urban form and mobility patterns travel times for different modes of transport (public transport and private cars) were

tracked in twelve global megacities – including São Paulo, Los Angeles, London and Tokyo – to identify how long it takes to get to work, to go out in the evening, to go shopping, to attend a sports event and to go to university. The results show strikingly different results for different modes of travel in relation to the time of day and the activity they pursue.

The diagrams below indicate accessibility maps for the 'leisure city', illustrating journeys from a selected point of departure in the evening to the main area in each city where theatres, cinemas and other facilities are located. The maps on the top show how far one can get within 45 minutes (in green) or 90 minutes (in yellow) by car, while the ones at the bottom indicates how far one can get using public transport.

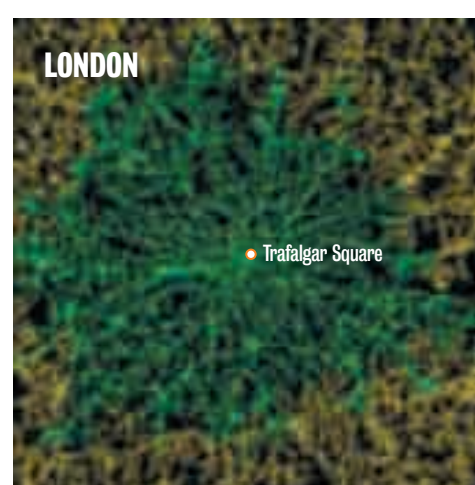
What stands out is the real strength of cities like London and Tokyo, which have extensive and integrated transport networks that are fully operational even outside traditional working hours. In these cities the accessibility maps roughly cover the same area for both cars and public transport users. A large percentage of the population can reach the city's leisure districts within 45 minutes regardless of whether they use the car or a combination of bus, rail and metro. Bogotá shows a similarly integrated pattern following the implementation of the TransMilenio bus rapid transit system, which carries 25 per cent of all commuters daily, and has seen travel times cut by 30 per cent, carbon emissions by 40 per cent and road accidents by 90 per cent. At the opposite extreme are Los Angeles and São Paulo where a much smaller area is accessible by public transport compared to the car. In Los Angeles the amount of people living less than 45 minutes by car from Rodeo Drive is 27 times larger than the amount of people that could get there in 45 minutes by public transport (2.7 million versus 100,000).

The conclusions that can be drawn from these studies confirm that a road- and rail-based public transport system that extends across the surface of large urban areas is critical to providing access to jobs, leisure, shopping and any other primary functions of the city for the majority of its citizens. In Los Angeles, for example, less than 20 per cent of the population of the metropolitan area use public transport to get to work – a clear case of social exclusion – while in Tokyo – still the biggest metropolitan region in the world with 35 million inhabitants – 78 per cent of the population use public transport as part of their daily commute. Many of the most deprived areas of Johannesburg have hardly any public transport system to speak of, and thus access to jobs becomes extremely difficult for those who need it most – a pattern that is evident in many South American cities where commuting times can exceed three hours a day.

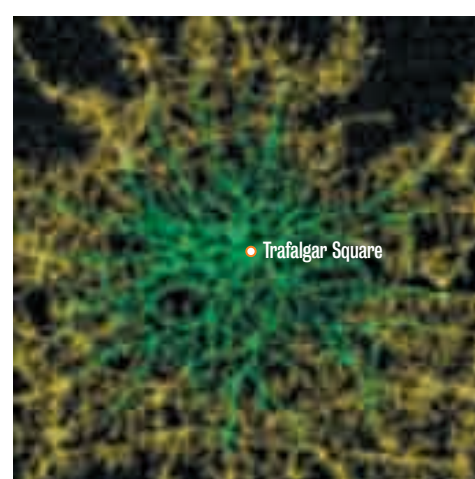
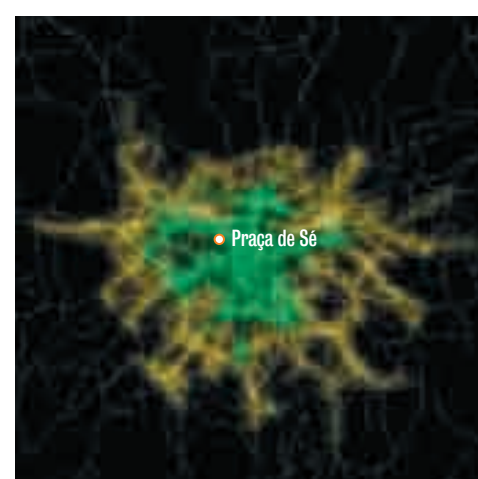
Ultimately, the results suggest that existing public transport networks should be used more intensively, taking into account the requirements of different user groups at different times of the day. For example, while London has an extensive and established bus, rail and metro system, its efficiency suffers from the fact that the entire rail-based system closes down at midnight, forcing many people to use cars to gain access to evening entertainment. But while these studies point to the need for policymakers to take time-based transport planning into account, growing metropolitan regions like São Paulo, Buenos Aires, Lima and Rio de Janeiro need to invest in an integrated cocktail of measures that include improvements in regional connectivity, the implementation of bus rapid transport technology, reserved lanes for public transport and cycle networks, and the introduction of traffic management policies such as an alternating number plate system and congestion charging. Only by approaching transport in a holistic way can urban policymakers begin to offer their citizens sustainable solutions.

*Fabio Casiroli is a visiting professor at DPA Milan Polytechnic. He is the founder and chairman of Systematica, an urban and transport planning consultancy, and the author of 'Khrónopolis, Accessible City, Feasible City'.*

## TRAVEL BY CAR



## TRAVEL BY PUBLIC TRANSPORT





# CITIES AND CLIMATE CHANGE

A provocative reassessment of cities' contribution to global greenhouse gases by **David Satterwaite** underscores the importance for local governments to foster environmental and social innovation.

Cities are often blamed for contributing disproportionately to global climate change. For instance, many sources including United Nations agencies and the Clinton Climate Initiative, state that cities account for 75 to 80 per cent of all greenhouse gases from human activities. But the actual figure seems to be around 40 per cent. Of the 60 per cent of emissions generated outside of cities, a large part comes from agriculture and deforestation, with much of the rest coming from heavy industry, fossil-fuelled power stations and wealthy high-consumption people who live in rural areas or urban centres too small to be classified as cities.

In fact, many cities combine a good quality of life with relatively low levels of greenhouse gas emissions per person. There is no inherent conflict between an increasingly urbanised world and reduced global greenhouse gas emissions. Focusing on cities as 'the problem' often means that too much attention is paid to climate change mitigation (the reduction of greenhouse gas emissions), especially in low-income nations, and not enough on adaptation (minimising climate change's damaging impacts). Certainly, the planning, management and governance of cities should have a central role in reducing greenhouse gas emissions worldwide. But this should also have a central role in protecting populations from floods, storms, heat waves and other impacts that climate change will bring to many cities and this is an area that receives far too little attention.

The main source of greenhouse gas emissions in cities is energy use – in industrial production, transport and residential, commercial and government buildings (heating or cooling, lighting and appliances). Greenhouse gas emission inventories for cities show more than a tenfold difference in average per capita emissions between cities, with São Paulo having 1.5 tonnes of CO<sub>2</sub> equivalent per

person compared to 19.7 for Washington DC. The figure for Mexico City is 2.6 tonnes per person. If figures were available for more cities in low-income nations, the differences in per capita emissions between cities could well be more than hundred-fold. In most cities in low-income nations, greenhouse gas emissions per person cannot be high, simply because there is too little use of oil, coal and natural gas and little else to generate the other important greenhouse gases. There is little industry, very low levels of private car use, and limited ownership and use of electrical equipment in homes and businesses.

Transport is an important contributor to greenhouse gas emissions in almost all cities, although its relative contribution varies a lot – for instance from around 11 per cent in Shanghai and Beijing in 1998 (in these cities industry is the largest generator of greenhouse gas emissions) to around 20 per cent for London, New York and Washington DC to 30-35 per cent for Rio de Janeiro, Barcelona and Toronto.

Perhaps it is not cities in general that are the main source of greenhouse gas emissions, but only cities in high-income nations. However, an increasing number of studies of particular cities in Europe and North America show that they have much lower levels of greenhouse gas

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Seeing cities as 'the problem' draws attention away from the fact that the driver of most greenhouse gas emissions is the consumption patterns of middle- and upper-income groups in wealthier nations.

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emissions compared to their national average – for instance New York and London have much lower emissions per person than the average for the USA or the UK. São Paulo and Rio de Janeiro also have much lower emissions per person than the average for Brazil.

Of course, it is not cities (or small urban centres or rural areas) that are responsible for greenhouse gas emissions, but particular activities. An inventory of these activities can allocate these between cities, other urban centres and rural areas but this is not a simple exercise. For instance, the places with large coal-fired power stations would be very high greenhouse gas emitters, although most of the electricity they generate may be used elsewhere. This is why greenhouse gas emission inventories generally assign cities the emissions generated in providing the electricity consumed within their boundaries. This explains why some cities have surprisingly low per capita emissions, because the electricity they import does not come from fossil-fuelled power stations. For South American cities supplied with electricity mostly through hydropower, this would reduce their greenhouse gas emissions per person.

There are other difficulties. For instance, do the emissions from the petrol used by car-driving commuters get attributed to the city where they work, or to the suburb or rural area where they live? Which locations get assigned the carbon emissions from air travel? Total carbon emissions from any city with an international airport are much influenced by whether or not the city is assigned the fuel loaded onto the aircraft – even if most of the fuel is used in the air, outside the city. Total carbon emissions for cities such as São Paulo, Rio de Janeiro or New York are much influenced by whether or not these cities are assigned the fuel loaded onto aircraft at their airports.

A more fundamental question is whether greenhouse gas emissions used in producing goods or services are allocated to production or consumption. If emissions are assigned to the final consumer's home, most emissions from agriculture, deforestation and industry could be assigned to cities where the industrial goods, wood products and food are consumed.

Although where to assign greenhouse gas emissions might seem pedantic, it actually has enormous significance for how responsibilities for reducing greenhouse gas emissions are assigned between nations and within nations between cities and other settlements. If China's manufacturing cities are assigned all the greenhouse gas emissions that go into the goods exported (including the electricity that helped produce these goods), this would imply a much larger responsibility for these Chinese cities in moderating and eventually reversing such emissions than if these emissions were allocated to the nations or cities where Chinese exports are consumed. As Walker and King note: 'Many of the countries in the western world have dodged their own carbon dioxide emissions by exporting their manufacturing to China. Next time you buy something with "Made in China" stamped on it, ask yourself who was responsible for the emissions that created it.'

Seeing cities as 'the problem' draws attention away from the fact that the driver of most greenhouse gas emissions is the consumption patterns of middle- and upper-income groups in wealthier nations. Using average figures for greenhouse gas emissions per person for cities hide the very large differences in emissions per person between high-income groups and low-income groups. High-income groups in the wealthiest Latin American cities are likely to have greenhouse gas emissions per person far higher than low-income groups. Focusing on cities only as large greenhouse gas emitters ascribes too much importance to energy efficiency within climate change mitigation and adaptation strategies for low-income nations, most of whose cities have very low fossil-fuel use (and thus far less scope for reducing it).

Seeing cities as 'the problem' also misses the extent to which well-planned and governed cities are central to de-linking high living standards from high greenhouse



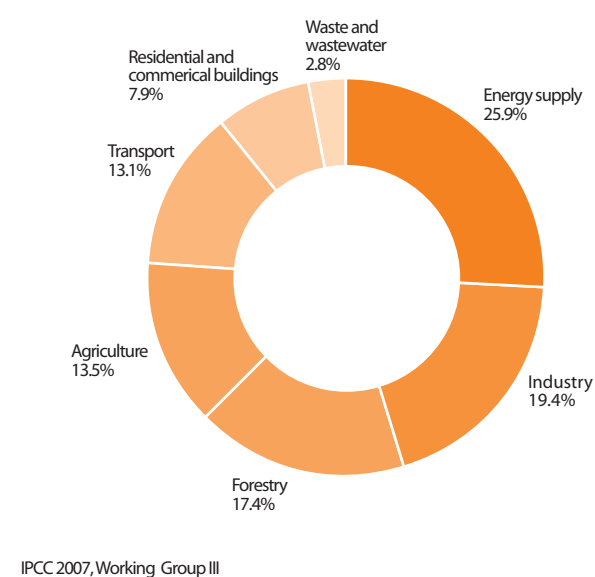
Protection of the Guarapiranga-Billings reservoir in the South of São Paulo is a persistent challenge despite initiatives aimed at containing the development of informal settlements encroaching on its edges.





Over six million cars in the São Paulo Metropolitan Region contribute to choking levels of traffic congestion and air pollution. Of the Urban Age cities, car density – measured by the number of cars per km<sup>2</sup> – is the highest in São Paulo (2,486) and Buenos Aires (6,281) compared to relatively low levels in Bogotá (281).

## GLOBAL GREENHOUSE GAS EMISSIONS



gas emissions. This can be seen in part in the very large differentials between wealthy cities in petrol use per person; most US cities have three to five times the petrol use per person of most European cities, yet, they do not have a better quality of life.

Cities with good public transport systems that have avoided low-density sprawl will generally have much lower levels of greenhouse gas emissions per person than cities that have not. Singapore has one-fifth of the car ownership per person compared to most cities in other high-income nations, yet also a higher income per person. Many of the most desirable (and expensive) residential areas in the world's wealthiest cities have high densities and building

## How a city is planned, managed and governed also has important implications for how it will cope with the impacts of climate change.

forms that can minimise the need for space heating and cooling – much more so than housing in suburban or rural areas. Most European cities have high-density centres where walking and cycling are preferred by much of the population – especially where good provisions are made for pedestrians and cyclists. High quality public transport can keep down private car ownership and use.

Cities also concentrate so much of what contributes to a very high quality of life but which do not imply high material consumption levels (and thus high greenhouse gas emissions) – theatre, music, the visual arts, dance and the enjoyment of historic buildings and districts.

Cities have also long been places of social, economic and political innovation. This is already evident in relation to global warming; in many high-income nations, city politicians have demonstrated a greater commitment to greenhouse gas emissions reduction than national politicians. This is evident in Latin America too, where much of the environmental and social innovation over the last 20 to 25 years has been driven by mayors. Many cities in Latin America, Africa and Asia have low greenhouse gas emissions per person. Yet they house hundreds of millions of people who are at risk from the increased frequency and/or intensity of floods, storms and heat waves and water

supply constraints that climate change is likely to bring. It is generally low-income groups that are most at risk – as they live in informal settlements, often on sites prone to flooding or landslides, lacking the drains and other needed protective infrastructure. Discussions of climate change priorities so often forget this. And these are risks that are not easily addressed, especially by international aid agencies that show little interest in urban areas and have little capacity to support the kinds of locally-driven pro-poor approaches that are needed.

This text is drawn from David Satterthwaite, 'Cities' contribution to global warming: notes on the allocation of greenhouse gas emissions', in *Environment and Urbanization*, Vol. 20, No. 2, pp 539-549. The main sources for the statistics are: David Dodman, 'Blaming cities for climate change? An analysis of urban greenhouse gas emissions inventories', in *Environment and Urbanization*, Vol. 21, No. 1, forthcoming 2009; Patricia Romero Lankao, 'Are we missing the point? Particularities of urbanization, sustainability and carbon emissions in Latin American cities', in *Environment and Urbanization*, Vol. 19, No. 1, 2007, pp. 157-175; Shobhakar Dhakal, *Urban Energy Use and Greenhouse Gas Emissions in Asian Cities: Policies for a Sustainable Future*, Kitakyushu: Institute for Global Environmental Strategies (IGES), 2004; Peter Newman, 'The environmental impact of cities', *Environment and Urbanization*, Vol. 18, No. 2, pp. 275-296. The quote from Walker and King comes from G. Walker G and D King (2008) G. Walker G and D. King, *The Hot Topic: how to tackle global warming and still keep the lights on*, London: Bloomsbury Publishers, pp. 199-200. For a full list of sources, refer to the longer paper from which this is drawn.

*David Satterthwaite is a Senior Fellow at the International Institute for Environment and Development and editor of the international journal, 'Environment and Urbanization'.*



# THE CHALLENGE OF CLIMATE CHANGE IN LATIN AMERICA

In an overview of various mitigation and adaptation policies, **Patricia Romero Lankao** summarises why Latin American cities should care about climate change.

Just as Latin American urban centres have registered levels and paths of development different from those prevailing in high-income nations, so too do their trajectories of emissions differ. Carbon emissions per capita in urban areas such as Austin and the District of Columbia are 6 to 20 times higher than those in São Paulo, Rio de Janeiro and Mexico City. This might lead many to the conclusion that Latin American cities should not care about climate change, especially when they are faced with under-employment, housing backlogs and other more pressing development concerns; when considering the wealthiest nations emit most greenhouse gases it is the high-consumption lifestyles of the wealthy that drive climate change and must, hence, take urgent actions to curb their emissions and avoid catastrophic and irreversible damages. However, there are two sets of reasons here why urban centres in the region must pay attention to this burgeoning global phenomenon: first, our cities are especially vulnerable to the impacts of climate change, and are faced with the health impacts of atmospheric pollution; second, cities can also play a pivotal role in our efforts both to cope with or adapt to heat waves, floods and other climate hazards, and to reduce or mitigate the emissions of greenhouse gasses and other atmospheric pollutants.

The incidence of weather-related disasters in cities has increased more than twofold between 1970 and 2005. These included not only increasingly destructive hurricanes such as Mitch (1998) and Wilma (2005), and two intense episodes of El Niño, which, together with land use changes, resulted in floods, droughts, landslides and other disasters killing people and impacting the population, infrastructure and economic activities of many urban areas.

The disruption of our climate system will add to the risks and stresses that Latin American cities, where 77 per cent of the population is located, are already facing. For example, urban dwellers in Low Elevation Coastal Zones will be exposed to storm flooding and damage, coastal erosion, and increased salinity of aquifers. Urban centres in Northern Chile, the Brazilian North-East and Northern Mexico and other arid and semi-arid regions will face particular problems of water shortages. Many water basins

will get less precipitation, which will reduce the availability of fresh water. This will be especially hard for growing cities and large cities that already face serious problems in their fresh water supplies – e.g. urban centres along the US/Mexican border. As illustrated by the December 1999 flash floods and landslides in Caracas, which killed nearly 30,000, or the floods resulting from hurricane Stan in 2005 (more than 1,500 deaths), higher than average and more extreme rainfall events associated with climate change will be related to flood hazards, increased landslides and mudflows. A range of health-related risks is expected to arise from climate change. Extreme temperatures will coalesce with air pollution and the heat island effect to create heat and respiratory distress. Water-and vector-borne diseases will result from changes in temperature, precipitation, and/or humidity. Less direct risks are also expected, such as negatively affected livelihoods, food supplies or access to water and other natural resources.

Adaptive capacity, i.e. the ability of cities, their population and economic activities to reduce climate stresses or cope with their consequences, is as key a determinant of climate impacts as is exposure. Latin American cities have been struggling with – or even lacking – many of the determinants of adaptive capacity. During the 1990s, 48 per cent of urban workers were employed in the informal sector, thus lacking access to adequate and stable income sources. In the context of the state reform of the last 25 years, public provision of transport, healthcare, and water and sanitation services was practically abandoned by the state, or ‘decentralised’ to the private sector and local authorities. All this has negatively affected the key determinants of adaptive capacity such as stable and sufficient incomes, access to water, electricity, food, healthcare, education and other services and infrastructures.

Many cities have no all-weather roads. The proportion of urban dwellers without piped water supplies ranges between 1.2 per cent in Chile and 42 per cent in El Salvador, while the percentage without drains ranges between 13 per cent in Chile and 77 per cent in Paraguay. About 37 per cent of the housing stock in the region is inappropriate to offer protection against disaster and diseases. Many homes are situated on illegally occupied or subdivided land, which

inhibits any investment in more resilient buildings. Large sections of the low-income population live on risk-prone areas and dangerous sites – e.g. floodplains – because these are the only sites for them to occupy that are within reach of income-earning opportunities. Thus, it is difficult to talk about adapting infrastructure and buildings that are not there. It is more adequate to refer to adaptation deficits and even to the lack of adaptive capacity.

Latin America has a long history of adapting to the impacts of stresses related to climate variability, including extreme weather events. Some are autonomous adaptations that occur without any specific planning. In Costa Rica and Ecuador for instance, communities have improved their housing design with elevated or reinforced concrete strips as foundations, and bamboo walls that are not touching the ground to better cope with floods and droughts. Low-income households in for instance El Salvador invest an average nine per cent of their incomes in risk-reduction actions – e.g. diversifying their livelihoods, getting assets that could easily be sold if a disaster occurred. The individualistic nature of households’ investments, the lack of representative community organisations through which to design and implement settlement-wide measures, and the lack of support from government agencies limits their effect.

There are good examples of city governments, such as in Manizales in Colombia and Ilo in Peru, that are taking steps together with NGOs, communities and other local actors to promote development, and, in doing so they reduce vulnerability. Governments and involved stakeholders implemented actions to avoid rapidly-growing low-income populations settling on dangerous sites, but also to improve the living standards of the poor and to protect and regenerate fragile ecological areas. They illustrate how pro-development and pro-poor policies can enhance adaptive capacity.

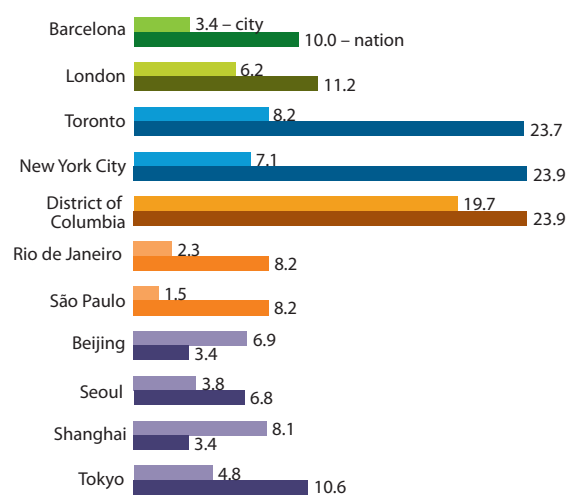
The problem is that most of the policy-driven adaptation practices are disaster responses rather than policies that actively reduce risks and address the factors that make poorer groups vulnerable. The poor quality of infrastructure and the lack of maintenance are key determinants of dams failing, public hospitals and schools and bridges and motorways collapsing as a result of weather-related disasters. Only 150,000 houses out of 16 million (i.e. less than 1 per cent) had disaster insurance coverage in Mexico in 1998. The rate of insurance coverage for the Venezuela floods of 1999 only accounted for 1.4 per cent of total losses. As highlighted by events such as Hurricane Stan that hit Mexico and Guatemala in 2005, individuals bear most of the cost and manage it through the solidarity of family and other networks, if at all. The lack of transparency in public works procurement frequently leads to corruption and



Air pollution levels in São Paulo are twice as high as those of New York City and London even though Paulistanos have relatively low carbon emissions per capita compared globally.

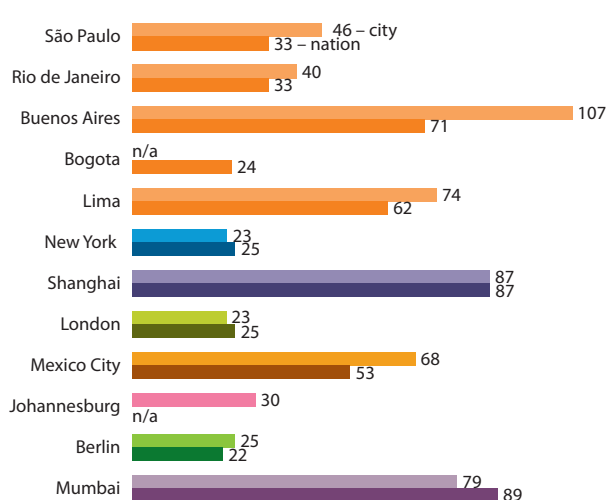


## CARBON EMISSIONS PER CAPITA



David Dodman, *Environment and Urbanization*, Vol. 21, No 1, forthcoming.

## AIR POLLUTION (PM10)



poor quality infrastructure and buildings. Many urban governments also have antagonistic relationships with low-income groups. Decentralisation should have helped address these issues. However, in many cases decentralisation of responsibilities to urban authorities has not been accompanied by increased revenues or revenue-raising capacity. In most cases, the reform of the state during the 1990s weakened many of the mechanisms that support adaptive capacity as the state withdrew itself from public transport, health care and public works.

Although Latin American cities are not big emitters, they need to pay attention to actions aimed at reducing their emissions. First, wealthy cities such as Tokyo and Barcelona have pretty low levels of emissions per capita. Latin American cities need to address some of the factors that are jeopardising cities' capacity to promote sustainable patterns of urbanisation, namely: urban sprawl, associated increased commuting distance and increasing use of low-capacity modes of transport.

Buenos Aires, Santiago and Mexico City for instance, experienced during the last two decades a region-based or polycentric urban expansion of first and second-order urban localities sprawling along major motorways and functionally linked to the main city. This pathway of urbanisation is associated to relevant consequences for both GHG and other atmospheric emissions. As illustrated by Mexico City, passengers' commuting distance and travel times increased from 3.5 km/h and 16.8 km/h by bus in 1987 to 5.6 km and 16.7 km/h in 2000. The same may be the case with freight transport. More sprawled patterns of urban growth are related to variations in car use, petrol consumption, and by this, to more emissions.

Second, there are very large differentials within urban centres. Equity and affluence in other words are other key dimensions of the carbon footprints by Latin American cities. The transport sector of Mexico City, which accounts for the highest share (34.7 per cent) of CO<sub>2</sub> equivalent emissions, can also illustrate the weight of equity. Private

## FROM WASTE TO PUBLIC SPACE

**Stela Goldenstein** describes how solid waste management in São Paulo is reducing the city's carbon emissions and allowing for investments in public space.

City governments are institutions with great potential for reducing carbon emissions, and recent innovations in treating solid waste in São Paulo provides an instructive example. The city has reduced methane emissions through intervention in the disposal of urban solid waste, mainly domestic rubbish. Unlike the irregular and extremely large outdoor *lixões*, domestic waste in São Paulo is collected in landfills in environmentally protected areas which avoid human contamination or damage to the soil and ground water tables. The city operates two such solid waste landfills: Bandeirantes in the north-western part of the city, and São João in the South-East. Each receives around 7,000 tons of domestic solid waste daily, in addition to the sludge generated through sewage from the state water company.

Slow decomposition of organic matter present in the solid waste produces a biogas, rich in methane, which permeates the layers of material covering the landfills and is released into the atmosphere, thus contributing to the greenhouse effect. Here, a system for collecting, filtering, pressuring, and burning the gas in thermal electric plants prevents it from being released into the atmosphere. In addition, 80 per cent of the collected biogas is used to generate electrical power at electric plants located on site. By the end of 2008, seven per cent of households in São Paulo will be supplied by energy thus generated. The result is a twofold environmental gain: in addition to reducing the amount of methane released into the atmosphere, the need for new sources of energy is reduced.

The Kyoto Protocol, which requires industrialised countries to meet targets for reduced emissions of greenhouse gases either within their own territory or through investment in developing countries, made this project possible. The United Nations Clean Development Mechanism, which granted São Paulo the carbon credits to sell to companies and institutions in countries seeking emission control targets, has in effect helped to fund

environmental controls already in place in São Paulo.

Today, the project's biogas control certification is equivalent to controls of 3,106,211 tons of carbon, a sum close to the total carbon credits generated by all the other certified projects in Brazil combined. With the highest landfill control certification in the world (1,150,144 tons), the Bandeirantes landfill generates the highest benefit percentage for the State of São Paulo: half the credits are sold at public international auctions to ensure transparency and the highest price for the city. Recently, purchase of São Paulo's Certificates of Emission Reduction (CER) generated almost € 28 million for the city.

These proceeds are then invested in urban and environmental improvements to the areas surrounding the landfills – areas where their impact is directly experienced. The neighbourhoods of Perus and Pirituba in the North-West, and São Mateus and Sapopemba in the South-East, are receiving parks, public squares and other measures to control erosion and to improve access to quality space for the low-rent population living there. Public hearings organised by the municipal government allow for the direct participation of residents in the vetting of how and where to invest financial resources obtained from the sale of the CER.

Additional credits and future auctions are expected to produce further social and physical improvements to the urban landscape, proving that the landfills are assets to be maintained, valued and utilised throughout their life span. This project is thus proving to be a safer and more economical solution than incineration plants. Even so, São Paulo will need to work with other *prefeituras* in the metropolitan area to implement and share new landfills at even more distant sites.

*Stela Goldenstein is the Deputy Chief of Staff for the São Paulo Municipality, and was formerly the Environment Secretary for the State and City of São Paulo.*

cars only contribute 16 per cent of the city's daily journeys segments. Still, they account for 40.8 per cent of CO<sub>2</sub> equivalent emissions, while public transport accounts for 82 per cent of those journey segments, yet emits 25.9 per cent of CO<sub>2</sub> equivalent emissions. Therefore, a key determinant of greenhouse gas and other atmospheric emissions is the consumption patterns of middle- and high-income sectors together with the production systems that benefit from that consumption.

Third, policy making in Mexico City and other Latin American cities involved in the International Council for Local Environmental Initiatives (ICLEI) campaign and other climate initiatives illustrates the role that urban authorities can play in reducing emissions. They show that policies addressing other problems, such as air pollution and energy, can often be adapted at low or no cost to reduce greenhouse gas emissions and simultaneously improve the health of the population. The burning of fossil fuels is linked to climate change, energy security and air pollution. Thus reductions in the amount of fuel combusted will result in lower greenhouse gas emissions, lower energy costs and lower health and environmental impacts from reduced emissions of air pollutants and their precursors. However, attention needs to be given not only to the synergies, but also to the conflicts between these three policy domains. For instance, standards to improve the fuel efficiency of

vehicles can reduce both local pollution and CO<sub>2</sub> emissions per vehicle-km. Yet, they can result in increased emissions if vehicles' travel distances increase, or drivers switch to vehicles with larger engines.

To summarise, there are many reasons why Latin American cities need to address their many linkages with climate change: they concentrate industries, transport, households and many of the emitters of greenhouse gases and other atmospheric pollutants. They are affected by hurricanes, storms, water shortages and other hazards that climate change is expected to aggravate. Furthermore, without climate change they already face adaptation deficits. Therefore, actions need to be taken to address those and, by doing so, to enhance the adaptive capacity of urban populations, economic activities and infrastructures. Latin American cities are sources of initiatives, policies and actions aimed at reducing or mitigating emissions and coping with or adapting to climate change. However, those measures are still tiny, ineffective and not targeting climate change.

*Patricia Romero Lankao is the Deputy Director of the Institute for the Study of Science and the Environment at the National Centre for Atmospheric Research in the United States.*



# SOCIAL ENGAGEMENT IN LATIN AMERICAN CITIES

**Gareth Jones** sketches the defining features of contemporary social life for Latin America's urban poor.

Georg Simmel would be both fascinated and alarmed. The streets of Tepito are full of worshippers, upwards of 2,000 people moving excitedly in anticipation of seeing and possibly touching La Grande, a lifesize statue of the Santa Muerte or saint of death. Looking to all intents like the Grim Reaper, La Santa represents a 'crisis religion', with devotees identified as the victims of the neo-liberal economy: she is popular among drug addicts and dealers, former prisoners and gang members. Mingling in the crowds of Tepito are heavily tattooed men, in every appearance hardcore gang members, except that they are bringing their babies to La Grande, delicately placing a cigarette at the baby's lips to cast smoke over the shrine.

But La Santa's supporters go beyond these stereotypes. A friend's uncle, a millionaire businessman, has replaced the conventional Virgin of Guadalupe altar in his house with one to La Santa. At the Sonora market in La Merced, the stallholders selling the statues – red for love, gold for wealth, black for protection, and the powders for the devotions – claim a broad clientele. In these times of economic uncertainty, of a state no longer willing to be associated with terms such as 'welfare', with families split by the 20 million Mexicans living in the US, everyone needs some form of social attachment.

Elsewhere, the scenes are a little different but essentially the same. In a Brazilian favela located on a rubbish dump a *mae-de-santo* (Mother of Saints) receives visitors to divine their life-paths through the interpretation of cowrie shells. The old woman has a steady stream of clients, keen to understand their futures but also grateful that believing in something provides the necessary motivations to be 'healthy'. In a favela racked with drug addiction, alcoholism, tuberculosis, dengue or 'nerves', this concern with health extends beyond the spiritual.

In São Paulo, religion is also central to a reanimation of social life. Neo-Pentecostalism is the fastest growing religion in Brazil, with 24 million faithful (four times as many as in the US). The March for Jesus organised by the Renascer em Cristo church recently brought together over one million people for a daylong festival of faith. Many of those in attendance are drawn by the messages of hard work, family, moral integrity – disseminated by the Record Network of television and radio channels run by the Universal Church of the Kingdom of God. These messages speak well to people whose 'faith' in other religions has been shaken by links to political corruption, abuse and indifference.

Religion offers salvation in many forms. Among Latin America's numerous gangs, the 80,000 members of the Mara in San Salvador, Guatemala City and Tegucigalpa, or the *parche* in Bogotá and *malandros* in Caracas, conversion to Protestantism is the only way to leave your *jombos*, and avoid the 'exit beatings' dished out to people requesting to become a *calmado* (quiet one). Even then the decision is not taken lightly. In many cities gangs are the principal form of social engagement among young people. In Villa El Salvador, Lima, 70 per cent of inhabitants are under 25 years old but fewer than 15 per cent have access to some form of higher or technical education. The gang is the focal point of social relations. Gang members congregate on vacant plots or corners, swapping stories, drinking, dealing drugs, discussing the latest styles of music or dress that might identify them as *skatos*, crew or punk. Their relations with community leaders, the police and rival gangs define the feeling of the *barrio*. Their use of tagging and graffiti may define the *barrio's* territorial boundaries, and more likely by drawing from scripts through US and Japanese spray styles of cartoons and popular imagery the *barrio* gains an aesthetic.

Deemed 'anti social' by those who fear leaving home or departing from fixed routes that make conviviality difficult, to its members the gang is hyper social. But rumour and gossip do travel. In dense squatter settlements with houses constructed from rudimentary materials there are few secrets. Local bosses or gangs know of the domestic violence, the adultery, drug taking or alcoholism, they learn of the debtors and neighbours with disputes over noise, thefts or property lines. Although complicit in these problems, the boss or gang is also the route to conflict resolution. In Rocinha, the archetypical favela holding onto a Rio de Janeiro hillside, the local drug gangs mediate disputes, sometimes working with NGOs. A programme known as 'Balcao do Direitos' that organises favelados to apply for their registration papers involved the Rio Law School and the agreement of the major gangs. A drug gang's decision is final and non-compliance is not recommended. Though not always fair, people have less reason to believe that a gang's verdict will be any less just than a judge's, and their decision will be arrived at more quickly and cheaply. In Rio it costs less to have someone killed than to arrange an illegal hook up to the electricity supply. Summary justice can be ruthless, but gangs also impose norms to prevent favelados resorting to individual violence.

Public confidence in bosses and gangs is often higher than in the police or politicians, while the corruption of bosses is condoned. As the saying goes, 'ele rouba mas faz' (he steals but he gets things done). Bosses and gang leaders offer reciprocity, the organisation of work programmes for drainage and water supply, or the construction of a kindergarten requires collective action, known variously as *faena*, *minga* or *rondas*. In Buenos Aires the *manzaneras* and *punteros* create dense local networks that often rely on fictive kinships between *compadrazgo* (godparents) to bond people to their community and the party. Patron-clientelism is a dirty word among political scientists and international agency 'experts', but on the streets it looks a lot like personalised mediation and problem-solving.

Social and economic deprivation begets certain forms of social engagement. In Lima, the crisis of the 1980s motivated community groups to organise soup kitchens. By 1986 there were over 800, and by the late 1990s almost 10,000 providing half a million meals each day, as well as serving as meeting points to share childcare, medication and exchange clothes. With the support of the Catholic Church the committees drew the attention of the municipality which used the kitchens to distribute free milk to children. One million children now receive milk through a committee structure involving almost 100,000 people. Recent threats to cut the *Vaso de Leche* budget have brought widespread protests, especially from women.

The 2001 crisis in Argentina prompted the formation of *clubes de trueque* (barter clubs) and *empresas recuperadas* (worker-occupied enterprises), and of new union groups. The Union of Seamstress Workers was formed to protest at labour abuses in Buenos Aires' nearly 400 clandestine textile shops, and to remove the 100,000 undocumented immigrants from Bolivia and Paraguay. Perhaps the best known mutual solidarity and direct action has been the *Piqueteros*: organised groups of unemployed people, some with support from trade unions that blocked roads (*piquets*) demanding a fee for passage and the state to buy their acquiescence through granting access to the social safety fund or approve their local development projects. In 2003 there were over 5,000 *piquets* with maybe 360,000 members in Greater Buenos Aires.

Elsewhere, in São Paulo for example, the Movimento Sem Techo has used land occupations to extend poor peoples' access to land and housing. In 2003 the MTST mobilised 4,000 families to occupy land owned by Volkswagen. In Lima, around the fringes of Villa El Salvador, itself formed by a series of land invasions dating from the late-1960s and 1970s, and now a settlement with



Although Villa El Salvador, located in the South of the Metropolitan Region of Lima, is heralded internationally for establishing itself as a sophisticated self-managed urban community since the early 1970s, almost 20 per cent of the residents still do not have sewage services.





Dante Busquets

In Rocinha, a favela in Rio de Janeiro with a population estimated between 100,000 and 1,000,000, there is an active tradition of providing for one's own urbanity according to informal and organic interventions.

over 400,000 inhabitants, 'cooperative groups' are using agrarian law to gain plots on the desert and sand dunes. At present there's just a series of reed matt houses, but the community knows that the agrarian law affords them some protection from eviction.

Over time, the new area of Villa El Salvador will become a consolidated vibrant settlement. Established areas are full of billboards and vans with loudspeakers announcing consumer items and credit terms. There are small yards selling wood and concrete block, and stores selling kerosene, sewing workshops and plenty of mechanics. The settlement is host to 12,000 small- and medium-sized enterprises. Impromptu cinemas show the latest films with rigged up screens and shaky DVD quality. Despite all this enterprise, amidst unemployment – 30 per cent of the population is permanently unemployed and 54 per cent have incomes insufficient to cover basic needs – and the police absent or bribed, crime is high. The residents of sub-districts of Villa El Salvador such as Pachacámac have organised *rondas vecinales* (vigilante groups) using paid security guards or neighbour rota. In Lima over 700 reported cases of 'vigilante justice' in 2004 were in squatter settlements.

Families may also save in small groups, known as *cadenas de ahorro*, for funerals, costs of educating children or house construction. Until the 1990s most savings clubs relied on circulating funds within the community. But with growing numbers of international migrants the clubs now receive and circulate remittances. In Bogotá around 5 per cent of households receive income from abroad. In Quito and

Guayaquil the figures are probably higher as estimates put one million Ecuadorians living in Spain, the United Kingdom and the US sending US\$ 1.4 billion back home. Settlements show signs of Western Union and Moneygram, and notices for Delgado Travel prominently displayed.

A few savings clubs have joined with micro-finance organisations, some affiliated with larger banks or with NGOs. In Lima the largest is MiBanco, which specialises in small loans to micro-entrepreneurs; it acquired about 125,000 clients per annum in recent years. In Buenos Aires, Progresar gives small loans to members with limited formal savings histories, undercutting the major banks' and moneylenders' interest rates. The loans are usually devoted to the establishment of small shops or kiosks where inventory is limited, profits low but risks are minimal.

Contemporary social life is often associated with Samba, Tango or Huey Huey. But on the urban landscape the football stadium looms large. Driving through Baranquilla's industrial and squatter areas, en route to the airport, the view is punctuated by an enormous concrete stadium. Walking through Leblon in Rio de Janeiro in the aftermath of Flamengo beating Corinthians or near La Bombonera following a Boca Juniors victory over River Plate gives some sense of the buzz. The better off spill into bars wearing their authentic shirts, while others wearing replicas waive flags in the street. Car park attendants and vendors paint their faces to display team loyalty, or to drum up a little extra business from the crowd. The rituals and chanting of songs give football a religious feel, just as well, as the Estádio São Januário in Rio has a church inside.

Emotion can get out of hand. The *tribus* and *barra brava* (supporter clubs) draw the attention of riot police and mounted patrols. Fights erupt inside and outside stadiums, often leaving the injured nursing knife wounds and sometimes a few dead. But organisation is here too. The *barra* are linked to the clubs, some clubs are owned by their supporters. Clubs anchor urban identities and connect neighbourhoods with social histories. Identifying with one team or another can mark people as local or an outsider, might indicate their political affiliation or class position – the Racing Club stadium in the working class area of Avalleneda in Buenos Aires is called the Estadio Presidente Peron – and even their gender.

Social engagements are fomented through public policies and urban design. Schemes for participatory budgets and governance may now involve upwards of 2,500 city and district authorities in Latin America. In Bogotá the municipality instituted the Concejos de Planeacion Local, and the feedback circuit of 'Bogotá, Como Vamos'. In Lima the city's urban development plan for Villa El Salvador was put out for citizen consultation followed by an exercise to discuss anti-poverty measures. Despite an announced budget of only US\$ 2 per capita, nearly one quarter of inhabitants turned out. These programmes have gained many supporters for the effects on transparency, efficiency and welfare. Even in cities such as Buenos Aires which only briefly instituted a Presupuesto Participativo between 2002 and 2005, these programmes generate spheres in which people voice opinions in public and attempt to persuade doubters. Discussions resonate long after the meetings, in conversations with neighbours, in the queues for the Via Expresa in Lima or the TransMilenio in Bogotá.

Participation can also scale up to link city hall with the political networks and social agents that run daily life in the *barrios*. In Medellín, the non-partisan Compromiso Ciudadano movement built on the mobilisation that elected Mayor Sergio Fajardo to open dialogue with armed groups and push forward a process of disarmament. In Rio de Janeiro, Residents' Associations – independent of every political party in the 1960s – had by 2005 become dominated by drug dealers or death squads. Some favelas are no-go areas to the state in formal guise – when Minister of Cities Marcio Fortes visited Complexo de Alemão his train was shot at. But NGOs such as Sou de Paz and Viva Rio, with Catholic and evangelical churches, have worked with young people and gangs to reduce violence, and trade in guns. Their example and pressure promoted Brazil's National Disarmament Statute in 2003.

Finally, back to Mexico City. Here, as in other cities, social movements performed vital roles in the transition to democracy, combining ideologies with a social awareness that was seemingly ignored by politicians. Rallies and demonstrations brought hundreds of thousands onto the streets but also fomented smaller engagements in the *colonias*, tenements and public housing estates. Social engagement informed political engagement. Today the 'politics of protest' has given way to the 'politics of proposal', to links with government and reinvention as NGOs. However, save in the aftermath of elections, demonstrations now rarely muster more than a few thousand participants, the largest most recent march drew perhaps 80,000 people angry at a spate of kidnapping's. We must not romanticise social engagement as natural to Latin America or a cure-all for its ills. As Superbarrio, an icon of popular resistance in the 1980s and now a restaurant owner put it: 'In the 1970s I served the Revolution, in the 1980s I served the people, but now I serve tables.'

Gareth Jones is a Senior Lecturer at the London School of Economics, an Associate Fellow at the Institute for the Study of the Americas at University College London, and co-editor of the *Journal of Latin American Studies*.







# TOWARDS AN URBAN FUTURE

Since 2007 more than half of humanity has been living in the globe's urbanised areas. Every hour since, as people migrate at increasingly high speeds to cities, we are fast moving beyond that mark. But the distribution of this growth across the surface of the earth is unequal.

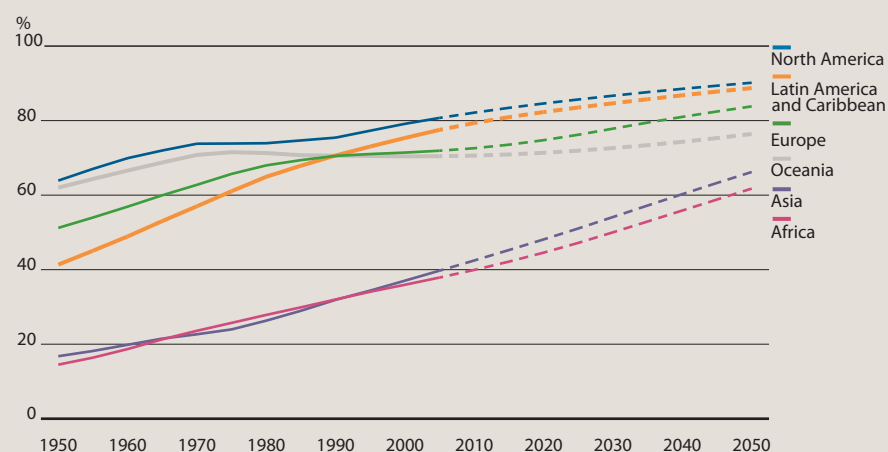
Today, metropolitan regions accommodate over one billion people, reflecting their roles as centres in the global flows of capital, people and culture. The number of cities with over one million inhabitants has grown dramatically over the last 50 years, reaching close to 450 in 2008. While many of these larger urban clusters were historically based in the developed countries, today 15 out of the 20 largest city regions of the world – with populations of between 10 and 20 million – can be found in the less economically advanced countries, many of them in the global South. The number of cities with over one million people in Asia, Africa and Latin America combined grew from 39 to 308 between 1950 and 2005. In the same period the numbers grew from 37 to only 96 in Europe and North America.

The cities of South America have a long history within the social and physical context of high urbanisation. South America is one of the most urbanised places on earth, with 83 per cent of its national populations living in cities. By 2050 this will be closer to 90 per cent, close to the twentieth-century urban heartland of North America, and ushering in a new generation of megacities with significant social, economic and environmental consequences.

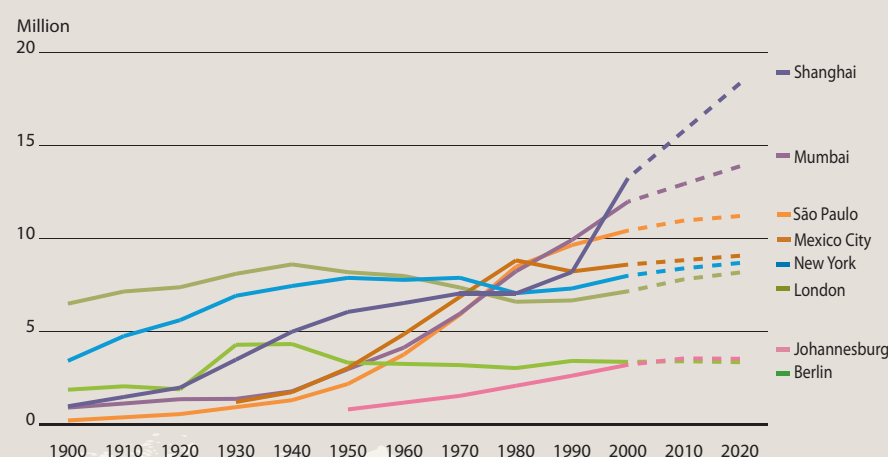
The movement to cities sparks push-and-pull dynamics of new and emerging economies, and embodies the intersection of the physical and material nature of the city with changing social behaviours and beliefs. Answering the question of our 'Urban Age' requires us to take stock of where cities are, who lives in them, how they are run and what obstacles they face. Tackling the problems of our urban future demands us to move beyond the present to manage increasingly scarce resources, develop sustainable ways of living, and take the intersection of growing inequality and the city seriously.

The information contained in this 'data section' summarises the findings of research undertaken by Urban Age since 2005. It includes an overview of new research carried out on five South American cities – São Paulo, Rio de Janeiro, Buenos Aires, Lima and Bogotá – and places them in a comparative context with other world cities including New York, Shanghai, London, Johannesburg, Mexico City, Berlin and Mumbai. By investigating the differing patterns of urban density, transport and governance, together with a wide range of social and economic indicators, the information provides a unique insight into the DNA of cities today.

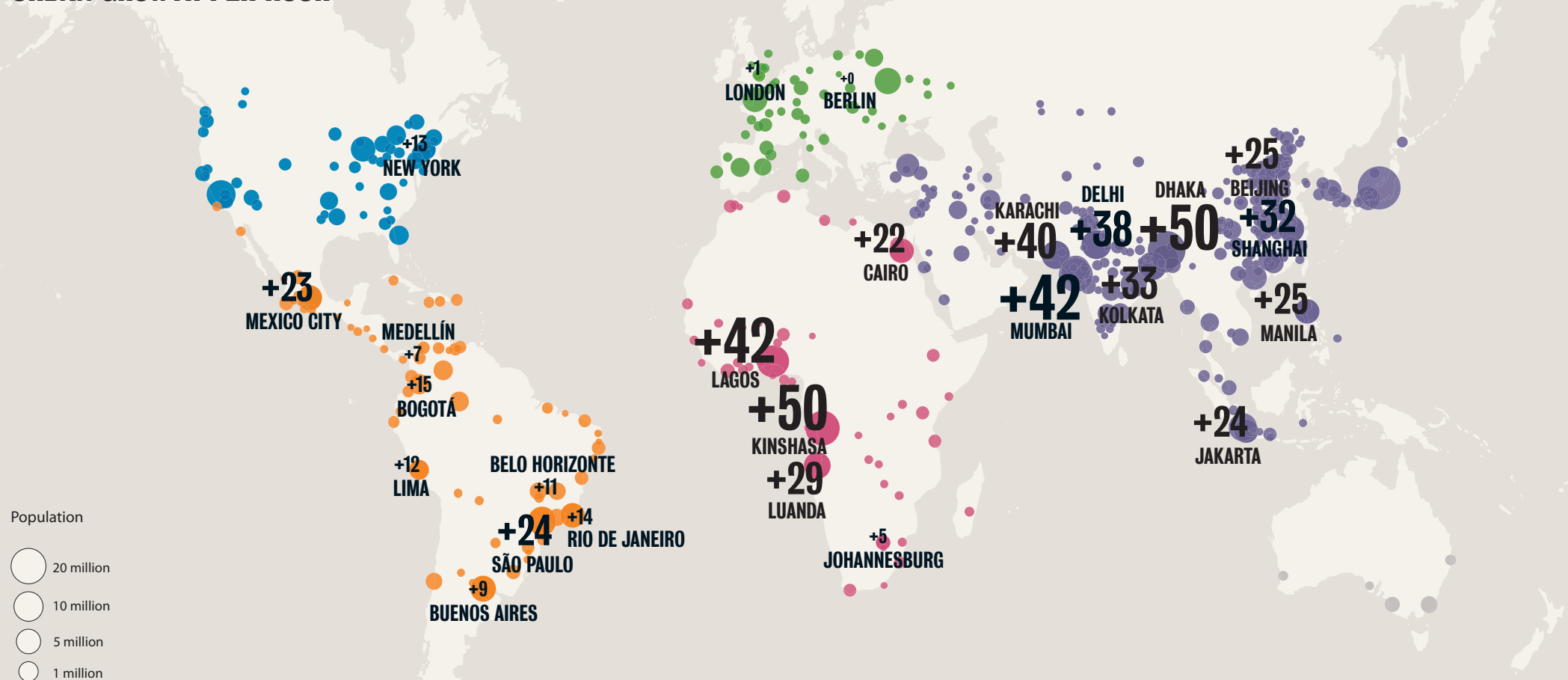
## URBAN POPULATION BY WORLD REGION



## POPULATION GROWTH IN THE URBAN AGE CITIES



## URBAN GROWTH PER HOUR



This world map shows the population growth per hour projected through 2015 in some of the fastest growing cities with more than one million people.



# SOUTH AMERICAN CITIES

A hundred years ago, Buenos Aires was the only South American city with a population larger than one million. Today, there are 36. São Paulo, Rio de Janeiro, Lima, Buenos Aires and Bogotá represent the five largest metropolitan regions. These cities are typical of urbanisation in South America, having exhibited their fastest and largest population growth in the mid- to late-twentieth century. From 1950 to 1980, São Paulo saw its population quadruple: from two million to more than eight million people. Lima saw similar growth rates, Bogotá grew by a factor of seven, Rio de Janeiro grew more slowly, while the population of Buenos Aires remained broadly static. Today the combined metropolitan population of these five cities is just over 60 million, a fifth of South America's total urban population.

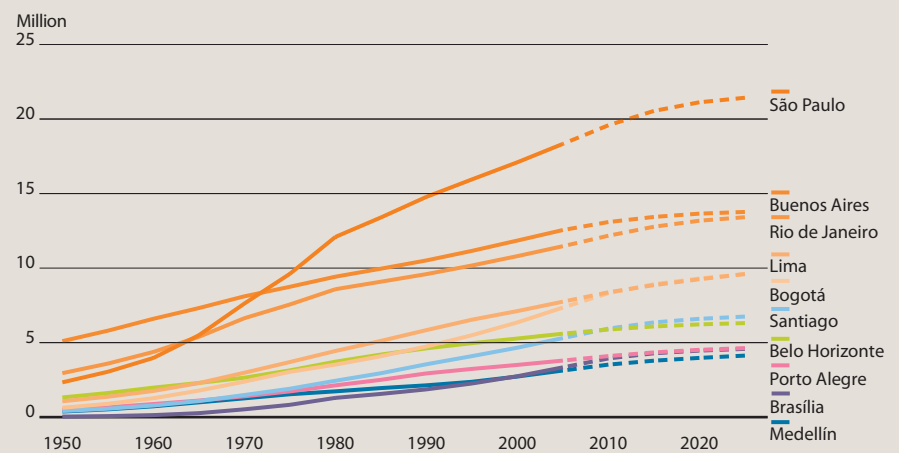
Since the 1980s, growth has slowed in São Paulo, though with close to 11 million in the city and over 19 million in the Metropolitan Region, it remains the largest in South America. Rio de Janeiro's growth rate has also slowed, and Bogotá's and Lima's stabilised earlier.

While each of the cities has a history stretching back to colonial times or earlier, their growth came after the withdrawal of Spain and Portugal's colonial powers from the continent. Driven first by agriculture and trade, and then by rapid industrialisation, these cities now face a third revolution within a century as they adapt to become centres of the new service economy. In many cases, with slowing growth, their crucial task is to consolidate and build on their growth as the global economy enters a period of unprecedented change.

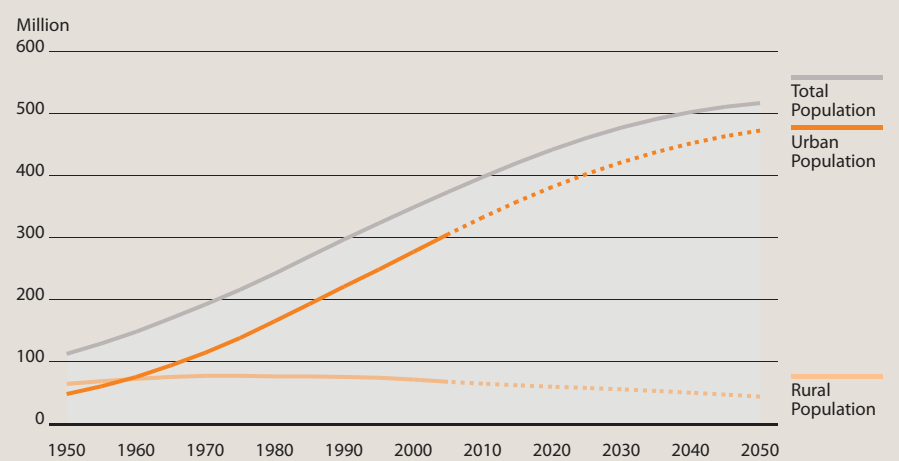
Given that 37 per cent of the population in Brazil live in favelas at the beginning of the twenty-first century, compared to 33 per cent in Argentina, 22 per cent in Colombia and an astounding 68 per cent in Peru, against an average of almost 36 per cent across South America, the challenge for decent housing, provision of urban services and economic opportunities requires urgent action.

Inequality, its implications and potential policy responses are major themes for the Urban Age. Against this backdrop, a comparative spatial analysis of inequality using educational attainment as a proxy for social status and wealth is presented on the following pages. Education levels are good indicators of social potential since they indicate varying levels of qualification and job opportunities. Maps indicating where pockets of highly or poorly educated people live in each city correspond to data which varies from city to city. In the case of Brazil, the education levels correspond to the head of household, whereas in Buenos Aires, Bogotá and Lima, the mappings correspond to the education levels of the total population. Nonetheless, in each of the cities, a pattern of segregation between the centre and the periphery results from a range of factors including unequal distribution of public infrastructure and the expansion of informal settlements. This spatial distribution creates both exclusive areas with a high quality of life as well as stigmatised areas intensified by inadequate services, accessibility and economic opportunities.

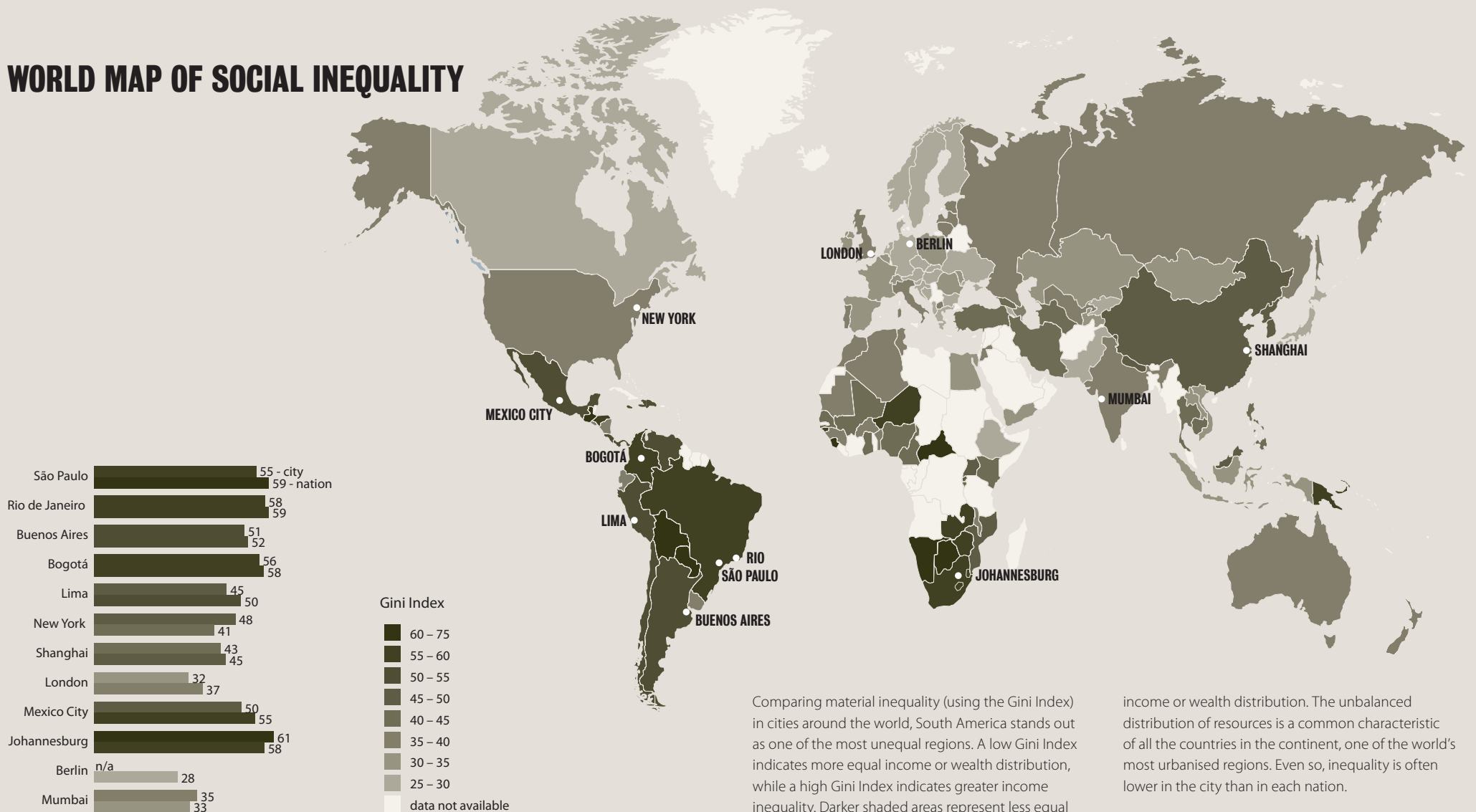
## SOUTH AMERICA'S 10 LARGEST METROPOLITAN REGIONS



## POPULATION GROWTH IN SOUTH AMERICA



## WORLD MAP OF SOCIAL INEQUALITY



Comparing material inequality (using the Gini Index) in cities around the world, South America stands out as one of the most unequal regions. A low Gini Index indicates more equal income or wealth distribution, while a high Gini Index indicates greater income inequality. Darker shaded areas represent less equal

income or wealth distribution. The unbalanced distribution of resources is a common characteristic of all the countries in the continent, one of the world's most urbanised regions. Even so, inequality is often lower in the city than in each nation.



# SÃO PAULO



Administrative city boundary  
Metropolitan region boundary

### SÃO PAULO URBAN AGGLOMERATION

1950	2000	2020
2,334,038	17,099,204	21,124,314

### SÃO PAULO

1950	2000	2020
2,198,096	10,434,252	11,210,909

Nelson Kon

Of the 15 per cent of São Paulo's population living in favelas, close to 60,000 people reside in Paraisópolis, the largest favela located in wealthy Morumbi.

São Paulo is the capital of the State of São Paulo, the most populous Brazilian state. It is also South America's richest and largest city, with a population of over 19 million in its Metropolitan Region. It is located on a plateau, at an average elevation of 800 metres, 70 kilometres from the sea and Santos, South America's largest port. Rolling terrain prevails within the urbanised areas of São Paulo, except in the North of the city where it rises. Natural reservoirs define the extreme southern area of the metropolitan region, which provide nearly 30 per cent of the city's drinking water.

Since its foundation in the sixteenth century, São Paulo has experienced three major transformations. Established as a Jesuit mission, its first period of growth was fuelled by its role as a major coffee exporter in the nineteenth century. This opportunity arose from São Paulo's strategic location: alongside two major rivers, between the coast and a vast, fertile plateau. The huge labour demand of the coffee plantations attracted European immigrants and a great number of Italians, Portuguese, Spanish

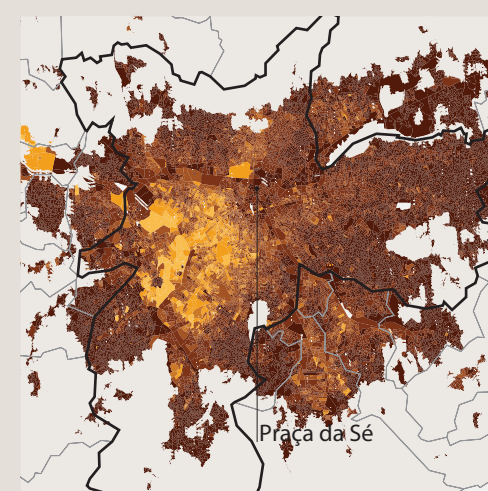
and Germans settled there.

When coffee prices plummeted at the beginning of the twentieth century, São Paulo's local entrepreneurs switched investment into industrial development, shifting the economic emphasis from agriculture to industry. Once again, a great number of immigrants were attracted by the opportunities offered by the city, both from afar (Japan, Syria and Lebanon) and from regions closer by (north-eastern Brazil). The third transformation occurred at the end of the twentieth century as competition for industrial activity became more intense between Brazilian cities. This heralded a shift towards the service sector, and São Paulo is now the main business hub in Latin America, hosting many local and international banking offices, law firms, multinational companies and consumer services. The economy of the Metropolitan Region generates over 19 per cent of the national GDP, concentrated in established financial centres such as Avenida Paulista.

The importance of immigration in the city's evolution means that São Paulo is

an extremely multicultural city. Indeed, over 100 ethnicities coexist in São Paulo today, with the main communities being Italian, Portuguese, African, Arab, German, Japanese and Lebanese. This pattern of migration reflects the administrative city's growth: from 32,000 residents in 1880, 240,000 in 1900, 1.3 million in 1940, 3.8 million in 1960, 8.5 million in 1980 and almost 11 million today.

Despite all of these successes, urban development has raced ahead of urban planning and a limited public transport infrastructure. Heavy car use continues to congest the city's streets while air and water pollution, extensive poverty, high crime rates and gang violence all pose debilitating challenges in what remains an extremely unequal and spatially segregated city. The poor are concentrated in the periphery, with extensive favelas existing alongside protected reservoirs. In terms of human development, the periphery exhibits levels closer to North Africa while the centre boasts levels similar to Scandinavian countries.



Advanced High Relatively high Relatively low Low Poorly educated Administrative city boundary

### Education levels

The distribution of units in which the head of household lacks primary education in São Paulo presents a clearly defined pattern of segregation. In the periphery over 50 per cent of families have a poorly educated head of household, while in the central areas this figure drops to 5 per cent. Nonetheless, sustained efforts to provide basic education across the city have seen a decrease in illiteracy rate in the metropolitan region from 7.2 per cent in 2001 to 5.5 per cent in 2007.

	AREA (KM <sup>2</sup> )	POPULATION (2005)	DENSITY (PEOPLE/KM <sup>2</sup> )	GDP (BN US\$ CURRENT)	GDP/CAPITA (US\$ CURRENT)	% OF NATIONAL GDP	ADMINISTRATIVE UNITS
<b>BRAZIL</b>	8,514,876	183,888,000	22	882	4,795	100%	27 unidades federativas
<b>STATE OF SÃO PAULO</b>	248,209	39,838,000	161	299	7,494	34%	645 prefeituras
<b>SÃO PAULO METROPOLITAN REGION</b>	7,944	19,226,426	2,420	171	8,896	19%	39 prefeituras
<b>SÃO PAULO</b>	1,525	10,886,518	7,139	108	9,927	12%	31 subprefeituras



# RIO DE JANEIRO



Beyond the city centre, the panoramic view from the Christ the Redeemer Statue takes in Sugarloaf Mountain, the beaches of Copacabana and Ipanema, as well as several of the city's favelas.

Rio de Janeiro is the second largest city in Brazil, with a population of six million and a Metropolitan Region of 11.6 million people. It occupies most of the south-western portion of the Guanabara Bay, a flat terrain interspersed by hills and surrounded by mountains. The city developed along the coast of the bay and the Atlantic, and then expanded inland.

While São Paulo's history has been shaped most profoundly by economic factors, it is politics that has affected Rio de Janeiro. The city's early history was shaped by colonialism. Founded in the sixteenth century by the Portuguese to claim back the bay from French settlers, it quickly became a strategic location for the Atlantic transit of ships between Brazil, the African colonies and Europe. This position was confirmed in the eighteenth century when Portugal's colonial administration was moved to Rio de Janeiro, and then again in the early nineteenth century when the Portuguese royal family fled to the city during the Napoleonic wars, establishing Rio de Janeiro as the only

European capital outside Europe.

During twentieth-century industrialisation, Rio de Janeiro's status as a capital city made it an attractive location for investors, and for the headquarters of major state-owned companies. Despite the transfer of the national capital to Brasília in 1960, Rio de Janeiro kept attracting more companies, especially those involved in oil and gas after the nearby discovery of oil in the Campos Basin (which produces most of Brazil's oil). Today, the city ranks second nationally in terms of industrial production, is host to the second most active stock market in Brazil, and is a major service centre. It is also a national telecommunications and entertainment hub as well as the nation's top tourist attraction for both Brazilians and foreigners. It has an extremely vibrant culture, borne from its multi-ethnic make-up. Indeed, almost half of the population is black or mixed-race and their cultural influence is expressed in the Rio de Janeiro Carnival and its Samba.

However, like São Paulo, Rio de Janeiro is plagued by a number of social problems, the most salient of which are inequality and crime. The disparities between rich and poor in Rio de Janeiro are reflected spatially: the poorest favelas are crowded onto the hillsides above the waterfront, where sturdy buildings are difficult to build, accidents from heavy rainfall are frequent, and access to sanitation and electricity networks can be inconsistent.

These favelas exist in close proximity to the city's wealthiest districts, with upper-class neighbourhoods such as Ipanema and Copacabana squeezed in between the beach and the hills. These disparities can be argued to contribute to Rio de Janeiro's high crime rates: murder rates are 17 times higher than in London. Violence is most acute in the favelas, where the poor are preyed upon by gangs and drug traffickers, and where corruption and violence have undermined confidence in law enforcement.



Administrative city boundary  
Metropolitan region boundary

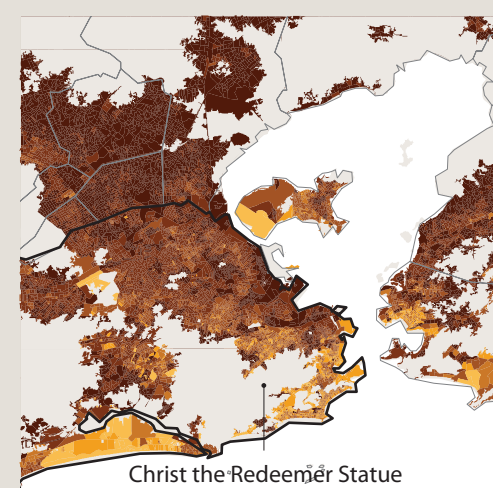
## RIO DE JANEIRO URBAN AGGLOMERATION

1950	2000	2020
2,950,238	10,802,750	13,178,717

## RIO DE JANEIRO

1950	2000	2020
2,377,451	5,857,904	6,234,509

Dante Basquetts



Advanced High Relatively high Relatively low Low Poorly educated Administrative city boundary

## Education levels

Despite sustained efforts to improve access to education, the national literacy rate for the population aged 15 and over in Brazil was 88.6 per cent in 2005, lagging behind other Latin American countries like Argentina, Ecuador and Paraguay. In Rio de Janeiro, the distribution of families in which the head of household has a poor level of education shows a widespread pattern across the entire metropolitan area, with peaks in the more outlying areas. Instead Rio de Janeiro's central districts, Niteroi and the southern coastal neighbourhoods have less than 5 per cent of families with a poorly educated head of household. A recent survey suggests that half of the city's population of 15-17 year-olds does not go to secondary school.

	AREA (KM <sup>2</sup> )	POPULATION (2005)	DENSITY (PEOPLE/KM <sup>2</sup> )	GDP (BN US\$ CURRENT)	GDP/CAPITA (US\$ CURRENT)	% OF NATIONAL GDP	ADMINISTRATIVE UNITS
<b>BRAZIL</b>	8,514,876	183,888,000	22	882	4,795	100%	27 unidades federativas
<b>STATE OF RIO DE JANEIRO</b>	43,696	15,406,478	353	101	6,582	12%	92 prefeituras
<b>RIO DE JANEIRO METROPOLITAN REGION</b>	5,724	11,563,302	2,020	71	6,128	8%	20 prefeituras
<b>RIO DE JANEIRO</b>	1,261	6,093,472	4,832	49	8,018	6%	18 subprefeituras



# BUENOS AIRES



Avenida 9 de Julio spans an entire city-block and ranks among the widest streets in the world. Its tree-lined traffic lanes stretch north-south through the downtown area, home to a resilient middle-class population which has remained stable despite decades of rampant change in Greater Buenos Aires.

Buenos Aires is Argentina's financial, industrial, commercial, and cultural hub. Located on the southern shore of the Río de la Plata on the south-eastern coast of South America, Buenos Aires is the country's capital and largest city with a population of three million in the city. Over 12 million people live in Greater Buenos Aires, South America's second largest conurbation.

Founded in 1536, the early history of Buenos Aires was dominated by trade, though also by tensions with Spanish colonisers who sought to direct trade through Lima and were ejected from the city in 1810. From the second half of the twentieth century until the 1920s, Buenos Aires experienced rapid growth and development of infrastructure, including South America's first underground metro system, made possible by the wealth generated by the fertile pampas around the city, by its strategic riverside position, and by the construction of the railway system that allowed raw materials to flow into its

factories. Buenos Aires became a favoured destination for European immigrants – a multicultural city that ranked alongside the major European capitals.

This golden era ended with the global economic crisis of the late 1920s. As the city's population continued to grow, many workers in the city were forced to relocate to peripheral shanty towns in order to survive. In the next decade, this impoverished population would provide the social base for Juan Peron's populist nationalism. Following Peron's deposition in 1955, the ensuing three decades were marred by military rule, uprisings and state-sponsored violence that left little room for planned urban development.

Following the resumption of democratic rule, a constitutional amendment was passed in 1993 that gave the city autonomy from the federal state and allowed it to elect its own mayor. This authority corresponds with the economic dominance of the city, which contributes close to one-quarter

of the to the national GDP. The city's economy is defined in part by its port, one of the busiest in South America, which is connected to north-east Argentina, Brazil, Uruguay and Paraguay by navigable rivers that serve a vast area of south-eastern South America. Even so, the Mayor's authority over metropolitan-wide issues is greatly limited since the city occupies only five per cent of the area of Greater Buenos Aires.

The disparity between its service-oriented city centre and a Metropolitan Region dominated by agriculture and manufacturing industry is reflected in its physical and social composition. The city's high human development index (HDI) reveals concentrations of better educated middle and upper classes in the small administrative city (203 km<sup>2</sup>) along with businesses and most transport infrastructure, while the poor live in the peripheral areas of the Metropolitan Region.



Administrative city boundary  
Metropolitan region boundary

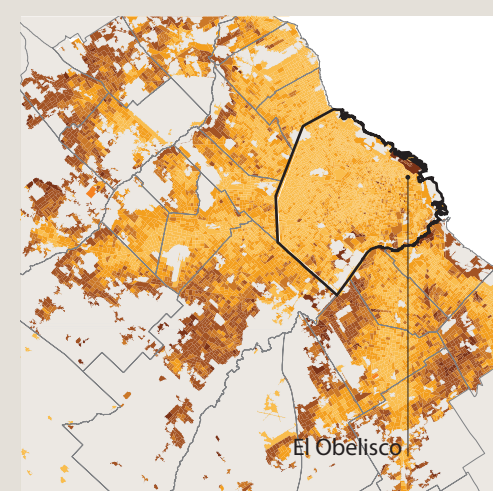
## BUENOS AIRES URBAN AGGLOMERATION

1950	2000	2020
5,097,612	11,847,329	13,652,564

## BUENOS AIRES

1950	2000	2020
2,981,043	2,995,397	3,122,542

Tuca Vieira



Advanced High Relatively high Relatively low Low Poorly educated Administrative city boundary

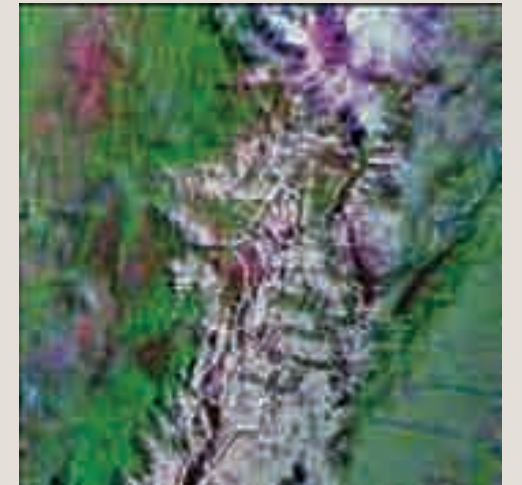
## Education levels

South American cities such as Buenos Aires reveal strong patterns of segregation in educational attainment across the city as a whole. At 97.2 per cent, Argentina has a very high national literacy rate for the population aged 15 and over, but in Buenos Aires there is an unequal distribution of the lower educated population, with a concentration of families with a high proportion of children under the age of 14 in peripheral areas. The *Partidos* in the South, West and North of the city are particularly affected due to land tenure vulnerability and the absence of basic social infrastructure.

	AREA (KM <sup>2</sup> )	POPULATION (2005)	DENSITY (PEOPLE/KM <sup>2</sup> )	GDP (BN US\$ CURRENT)	GDP/CAPITA (US\$ CURRENT)	% OF NATIONAL GDP	ADMINISTRATIVE UNITS
<b>ARGENTINA</b>	2,766,889	38,592,150	14	183	5,840	100%	23 provincias + 1 ciudad autonoma
<b>PROVINCE OF BUENOS AIRES</b>	307,571	14,654,379	48	60	4,085	33%	134 partidos
<b>GREATER BUENOS AIRES</b>	3,839	12,198,207	3,177	n/a	n/a	n/a	24 partidos
<b>BUENOS AIRES</b>	203	3,018,102	14,867	43	14,231	24%	15 comunas



# BOGOTÁ



Administrative city boundary  
Metropolitan region boundary

## BOGOTÁ URBAN AGGLOMERATION

1950	2000	2020
630,315	6,355,892	9,298,779

## BOGOTÁ

1950	2000	2020
630,315	6,302,881	8,380,801

Giovanna Silva

More than 50 per cent of the inhabitants of Bogotá were born somewhere else, attracted in part by the city's international acclaim owing to a city-wide renaissance over the last decade.

Bogotá is the capital city of Colombia and the most populous city in the country with nearly 7 million inhabitants and a Metropolitan Region population of over 8 million. Located between a mountain range and fertile agricultural land, Bogotá is the highest-altitude city in the world after La Paz and Quito. The city is home to Colombia's largest economic centre and main stock market.

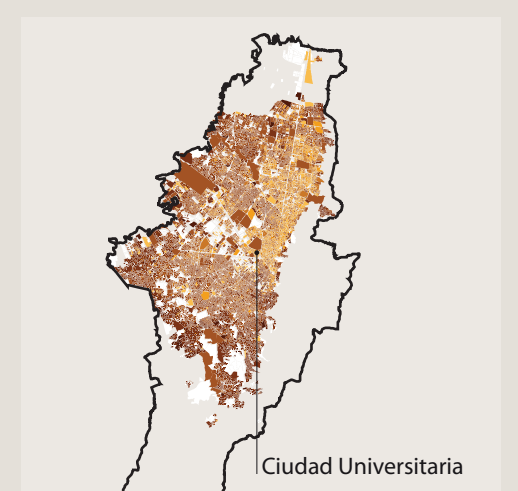
Of the five South American cities included in this study, Bogotá is the only one that was already inhabited when the Spanish colonised it in 1538. Always seen as a regional capital, Bogotá was, until the early-nineteenth century, the capital of the Viceroyalty of Grenada, an area that broadly encompassed modern Panama, Colombia, Ecuador, and Venezuela. In 1819, Bogotá was liberated by Simon Bolivar and made capital of Gran Colombia, a federation including those same states. After Gran Colombia's dissolution in 1831, Bogotá became the capital of the Republic of Colombia.

The rest of the nineteenth century was dominated by civil wars and in 1900 the isolated city's population was only about 100,000. The construction of railways and infrastructure, as well as a hydro-electric dam, and in 1920, South America's first airport, enabled development into the twentieth century alongside a tripling of the population by the 1930s.

Following urban and rural political disturbances in the 1950s, the city's pattern of growth changed. Richer residents moved out of the centre to peripheral areas, forcing the city to modernise them and to extend infrastructure and transport networks. At the same time, rural violence led to a mass influx of people in Colombia's largest cities, and especially to Bogotá. These factors led to a sharp increase in both the spatial extent of the city and its population, which went from a little over 630,000 in 1951 to around 7 million today. In 1955, the municipality was extended to take over neighbouring

municipalities, and the next four decades saw the creation of new municipalities around the city. In 1991, a further merger of the municipalities created a new administrative entity: the Distrito Capital, or Capital District.

While problems of out-migration persist, Bogotá's mayors have in recent years implemented innovative programmes that address shortcomings in transport, green space and education. One of the most noteworthy is the TransMilenio 'bus rapid transit' (BRT) system. Other initiatives include a city-wide programme of bicycle paths, public schools and library construction. Bogotá has also reduced crime and murder rates – dropping from 61 to 24 murders per 100,000 in a little over ten years.



Advanced High Relatively high Relatively low Low Poorly educated Administrative city boundary

## Education levels

At 92.8 per cent, Colombia has a high national literacy rate for the population aged 15 and over, yet Bogotá displays inequality in the distribution of poorly educated children. This pattern is closely related to other social variables across the city's *localidades* (boroughs) – such as Ciudad Bolivar and Rafael Uribe – which reflect the social and economic dynamics of accelerated urbanisation. The *localidades* situated at the southern end of the city have the highest urban growth. The distribution of inequality forms the basis of a city-wide strategy that prioritises fiscal and investments programmes that benefit the most deprived social groups.

	AREA (KM <sup>2</sup> )	POPULATION (2005)	DENSITY (PEOPLE/KM <sup>2</sup> )	GDP (BN US\$ CURRENT)	GDP/CAPITA (US\$ CURRENT)	% OF NATIONAL GDP	ADMINISTRATIVE UNITS
<b>COLOMBIA</b>	1,138,194	42,888,592	38	144	3,365	100%	32 departamentos + 1 distrito capital
<b>DEPARTMENT OF CUNDINAMARCA (EXCL. BOGOTÁ D.C.)</b>	22,435	2,200,790	98	8	3,512	5%	115 municipios
<b>DEPARTMENT OF CUNDINAMARCA (INCL. BOGOTÁ D.C.)</b>	24,210	9,040,906	373	44	4,862	30%	116 municipios
<b>BOGOTÁ METROPOLITAN AREA</b>	3,732	8,074,212	2,164	n/a	n/a	n/a	18 municipios
<b>BOGOTÁ</b>	1,775	6,840,116	3,854	36	5,296	25%	20 localidades



# LIMA



Approximately 370,000 people live in the largely self-organising district of Villa El Salvador on the outskirts of the city. The area began as a shantytown in the empty sand flats to the south of the city almost 40 years ago because of the urgent housing shortage among immigrant families.

Lima is Peru's capital and largest city. It is located on desert land on Peru's Pacific coast, around the valleys of the Chillón, Rímac and Lurín rivers, and forms, together with the major port of Callao, a continuous urban area referred to as the Metropolitan Region of Lima and Callao.

Following the Spanish conquest of the Inca Empire, Lima was established as the capital of the Viceroyalty of Peru, which at the time corresponded roughly with the whole Spanish colonial empire. Its prestige was enhanced by the fact that Callao served as the shipping base for all Incan gold that was sent back to Europe, and Lima also hosted South America's first university and printing press. The city flourished during the seventeenth century as the centre of a trade network that extended as far as Europe and the Philippines, but the city's growth was hampered by a series of major earthquakes between 1582 and 1746, the last of which caused immense damage. Lima nevertheless remained the most important Spanish

city in South America until the early nineteenth century.

After independence, a mid-nineteenth-century economic boom led to renewed growth, and in 1872 the city walls were torn down to enable expansion. However, during the 1879-1883 War of the Pacific, Chilean troops occupied Lima, destroying and burning some parts of it. At the end of the nineteenth century, the city remained relatively small, with a population of around 170,000. But from the 1940s onwards, internal immigration accelerated growth – from 650,000 in 1940, to 1.85 million in 1960, and to 4.6 million in 1980 – which outstripped public services, giving rise to large shanty towns, or *pueblos jóvenes*, some of which have now been retrofitted with infrastructure and are fully incorporated into Lima.

The Metropolitan Region of Lima and Callao today is home to almost 7.8 million people, spread over an area of 2,800 km<sup>2</sup>. The vast majority live within the City of Lima, Peru's industrial and financial centre, which

accommodates more than two thirds of the country's industrial production and most of its service sector. Callao remains one of the main fishing and commerce ports in South America, handling 75 per cent of Peru's foreign trade. Consequently, the Metropolitan Region of Lima and Callao accounts for 47 per cent of Peru's GDP, and most of the foreign companies operating in the country are based there.

Public transport provision is a major challenge for Lima. Since privatisation in the 1980s, an illegal but tolerated system of private mini-buses created erratic and sometimes dangerous travel conditions in the city. In 2005, the municipality was given authority to extend the metro network beyond its one line, while a BRT system is also planned.



Administrative city boundary  
Metropolitan region boundary

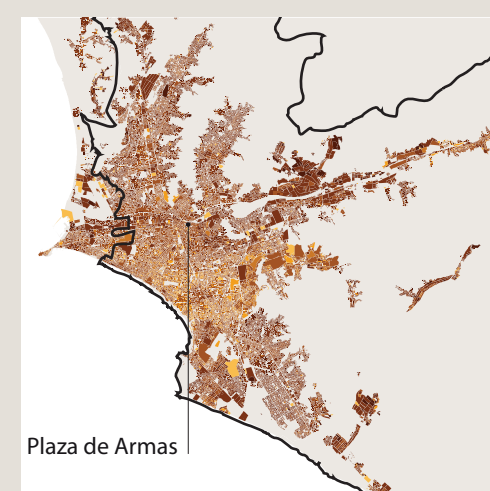
## LIMA URBAN AGGLOMERATION

1950	2000	2020
1,065,888	7,116,441	9,251,023

## LIMA

1950	2000	2020
n/a	6,400,000	n/a

Yannick Jochem



Advanced High Relatively high Relatively low Low Poorly educated Administrative city boundary

## Education levels

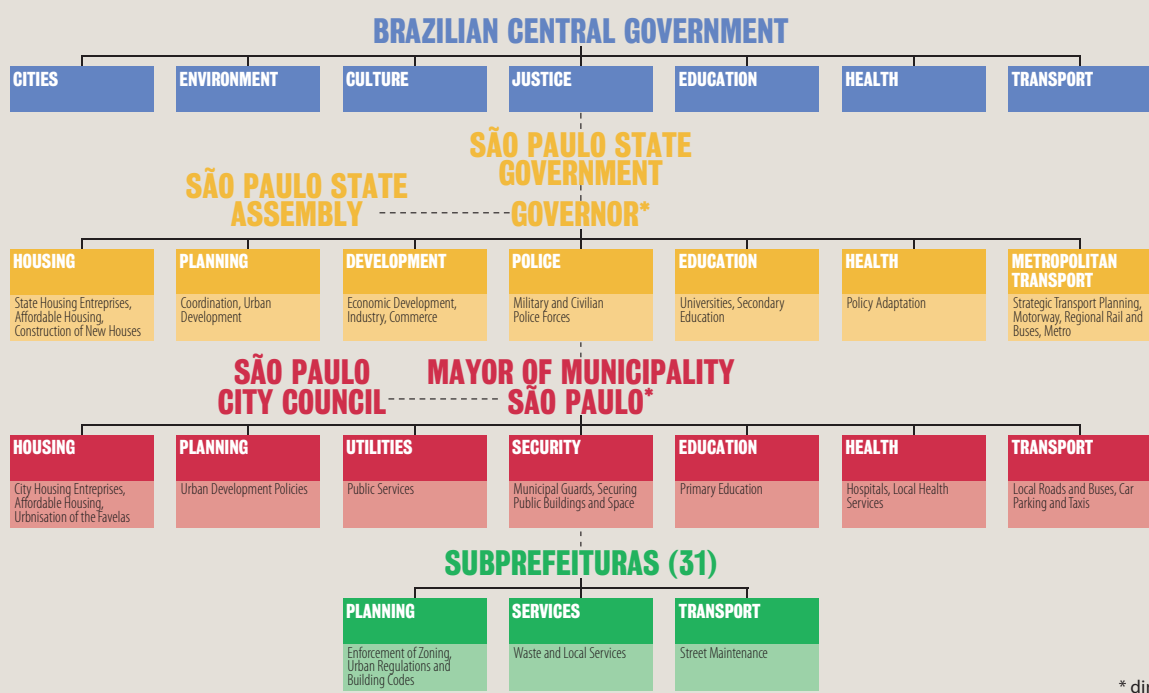
While the national literacy rate in Peru is around 88 per cent, it rises to almost 96 per cent in Lima, reflecting the higher concentration of better facilities and levels of educational attainment across the capital. Nevertheless, within the city there is a clear pattern of inequality with less educated populations concentrated on the fringes. Many districts such as Villa Maria del Triunfo and Villa El Salvador in the South, and Ventanilla and Puente Piedra in the North concentrate the highest number of people without primary education, while in central districts such as San Isidro, San Borja and Miraflores over 60 per cent of the population has higher levels of education.

	AREA (KM <sup>2</sup> )	POPULATION (2005)	DENSITY (PEOPLE/KM <sup>2</sup> )	GDP (BN US\$ CURRENT)	GDP/CAPITA (US\$ CURRENT)	% OF NATIONAL GDP	ADMINISTRATIVE UNITS
<b>PERU</b>	1,285,220	26,152,265	20	79	3,039	100%	25 regiones
<b>REGION OF LIMA PROVINCIAS (EXCL. METROPOLITAN REGION OF LIMA AND CALLAO)</b>	32,129	812,048	25	n/a	n/a	n/a	177 distritos
<b>REGION OF LIMA PROVINCIAS (INCL. METROPOLITAN REGION OF LIMA AND CALLAO)</b>	34,923	8,577,163	246	n/a	n/a	n/a	226 distritos
<b>METROPOLITAN REGION OF LIMA AND CALLAO</b>	2,794	7,765,115	2,779	37	4,829	47%	49 distritos
<b>LIMA</b>	2,665	6,924,547	2,598	n/a	n/a	n/a	43 distritos



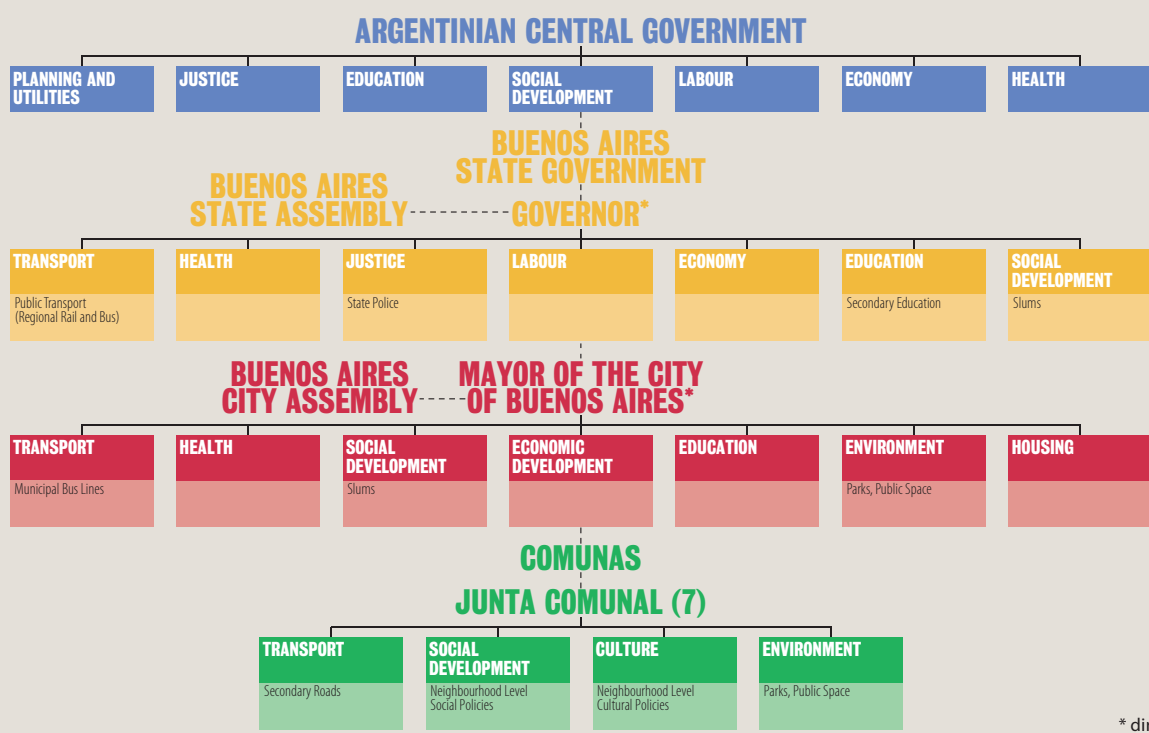
# GOVERNING CITIES

— executive power including the right for regulatory overwrite  
 - - - some limited powers  
 ■ National Level  
 ■ State Level  
 ■ City Level  
 ■ Borough Level



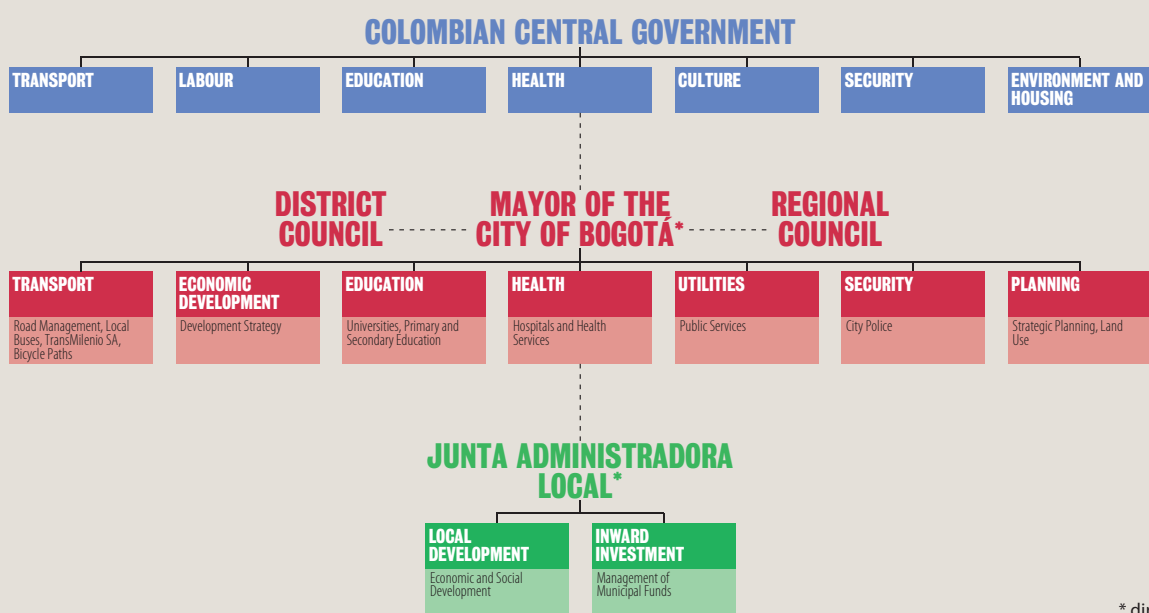
## SÃO PAULO

São Paulo's city government is led by a directly-elected mayor, and São Paulo State is led by a directly-elected governor. The mismatch between São Paulo's municipal boundaries and the extent of the city requires these two levels to work very closely together. In terms of transport, the city government controls part of the urban transport system while the state is responsible for integrated transport planning across the metropolitan region. With respect to housing, both levels have housing enterprises with specific responsibilities. As concerns security, the military and civilian police forces fall under the State's authority, while the city maintains a local police force. In the field of education, responsibilities are divided between the state and the city governments while in health, an institutionalised structure of management exists that distributes responsibilities to federal, state and local governments. A third decentralised level also exists under the municipality: 31 *subprefeituras* are the main point of contact for the population, manage local public services and have some planning and transport responsibilities.



## BUENOS AIRES

In 1994, the City of Buenos Aires adopted a constitution that allows its citizens the right to choose their own government. The city, Argentina's capital, is governed by a directly-elected Mayor and a 60-member City Assembly. City government manages education, health care, housing, parks and social and economic development. But provincial government, led by a directly-elected governor, retains many functions, including policing. While the city can regulate land use, it cannot independently organise public transport (with the exception of municipal bus lines), which is managed by private companies under supervision of the provincial government. Additionally, the Buenos Aires metro and commuter rail network has been privatised since 1994, stripping governments on both levels of any strategic planning with respect to transport. In 2007, the city embarked on a new decentralisation scheme, creating new comunas managed by seven-member elected committees. These have authority over social and cultural policies at neighbourhood level as well as the management of green spaces and secondary roads.

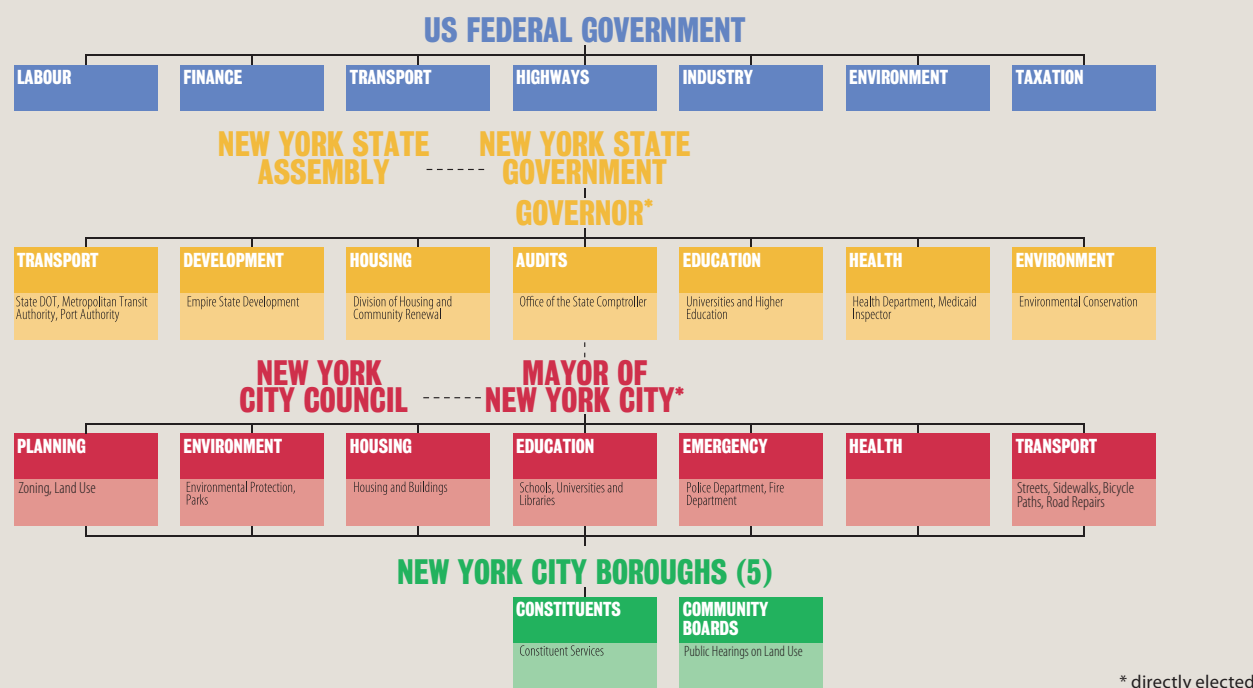


## BOGOTÁ

Bogotá's city government is headed by a directly-elected mayor and a separately-elected council. As Colombia's Capital District, it has the administrative status of a department and thus enjoys full autonomy from Cundinamarca, the greater administrative area in which it is located. The Mayor operates as the executive arm of the city government, with the city council performing a legislative function. City government's remit includes transport, environmental issues, economic development, healthcare, and education. In the field of security, even though the police is a national force, the Mayor is constitutionally the Chief of Police of the city. Beneath city government, Bogotá has 20 partially autonomous Local Administrative Boards – while the local population elects its members, it is the Mayor of Bogotá that chooses the local Mayor. These Local Administrative *juntas* prepare district level plans and programmes for economic and social development and are also responsible for the management of the municipal funds they receive.



These six charts are illustrative indications of how government structures are organised in São Paulo, Buenos Aires, Bogotá, New York, Mumbai and London. They are designed to give a crude impression of how the basic patterns of responsibilities are organised within each of these cities, identifying some of the key functions carried out at central, state and local government level. While they offer a useful comparative overview they are not intended to give an accurate account of the detailed systems of accountability, which can only be explained comprehensively on a case-by-case basis.

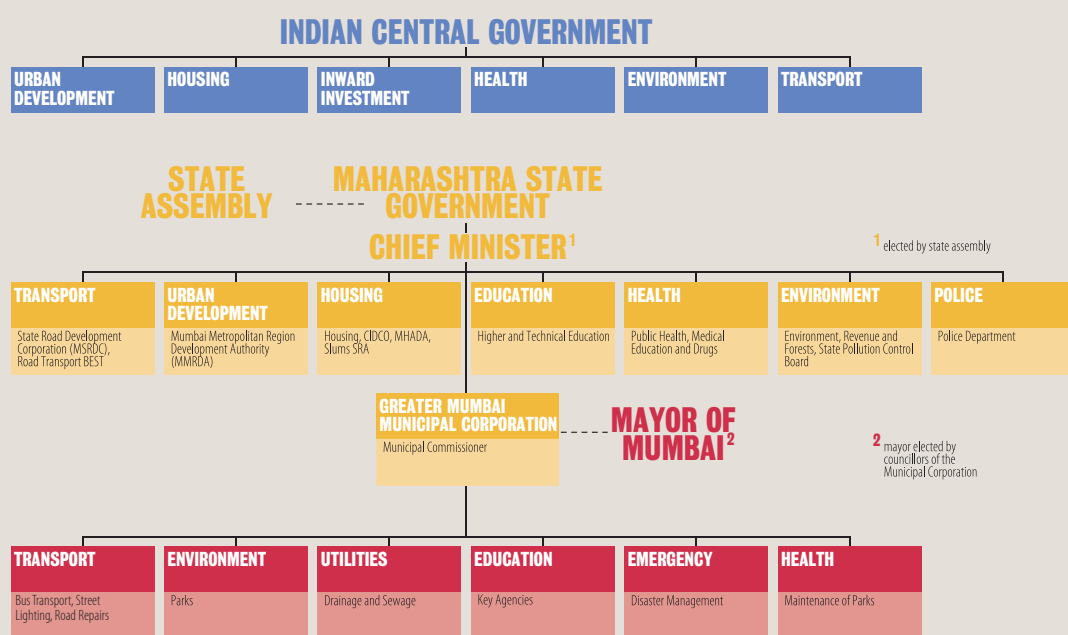


## NEW YORK

New York City's government operates within a legislative framework determined at state level (the Federal State of New York). Federal government in the United States has no direct powers to direct or legislate for the actions of individual cities, though federal agencies operate in all parts of the country. However, the state level of government is important both as a legislator but also because of its powers of budgetary supervision. The state also runs the major transport systems, is co-owner of the city's airports and some elements of economic development. Within its powers, the city is powerful by international standards, with the Mayor of New York one of the most important politicians in the United States. Local legislation is the responsibility of the City Council. New York City government is responsible for public education, public hospitals, social care, the environment, local transport and planning. There are five boroughs, headed by an elected Borough President, which have rights to be consulted, though they provide no services. There are also 59 Community Boards which provide advocacy for neighbourhoods.

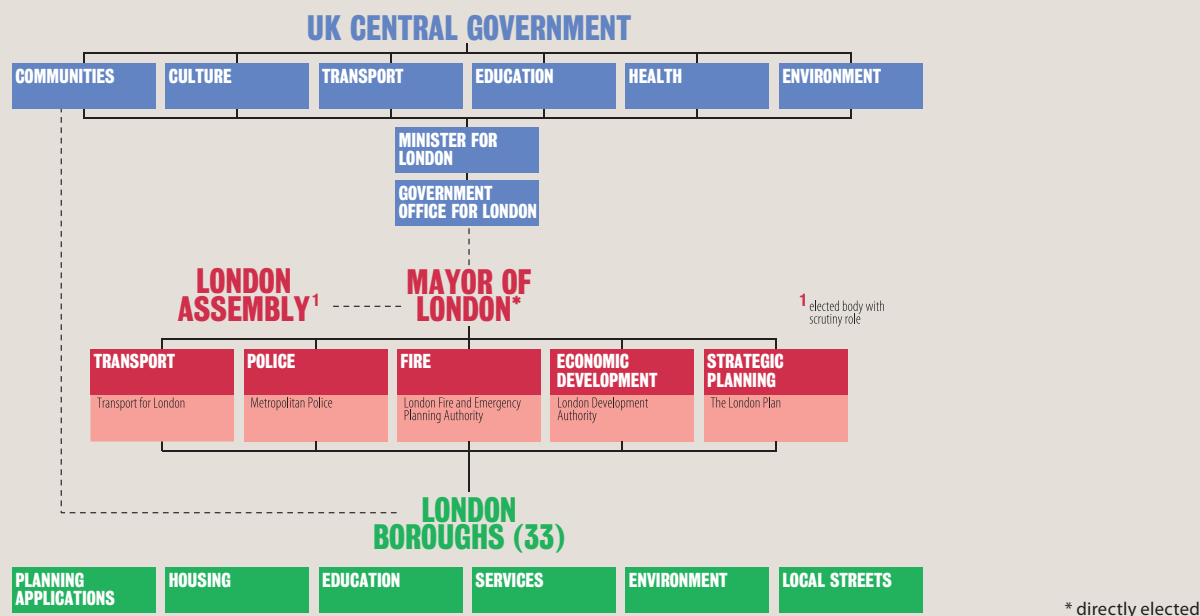
## MUMBAI

Mumbai's government involves interventions at national, the state of Maharashtra and local levels. The national government has a number of powerful departments that provide services and resources for the city. There is a powerful level of state government, headed by a Chief Minister, which operates many services within the city, including roads, housing, education, health care, environmental services and policing. The city government is headed by an elected Mayor with limited power. The real executive power lies in the hands of the Municipal Commissioner and the Secretary for Special Projects, both civil servants appointed directly by the Maharashtra State government. The state government is about to constitute a Metropolitan Planning Committee for the Metropolitan Area as required by the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). There is significant overlap between responsibilities at state and city levels. Overall, the city government is relatively less powerful than the state as required by the JNNURM.



## LONDON

London's government operates within a relatively centralised, unitary state. Several central departments have responsibilities within the city, including health care, the regulation of commuter railways and as final arbiter for major planning decisions. Central government also has a number of regulatory powers over the Mayor and the city's boroughs. The Mayor of London is the elected executive for a number of major city-wide services, notably public transport and spatial planning. The Mayor is overseen by an elected, non-legislative assembly. There are also 32 elected borough councils whose responsibilities include schools, social care, the environment, local transport and local planning. The City of London, the UK capital's financial and business hub, has the powers of a borough but also several additional responsibilities. The government of London has been reformed on several occasions since the late-nineteenth century, most recently in 2000 to allow Londoners to vote for a mayor for the first time in their history.





# CITIES AND REGIONS

Cities are dynamic, while administrative geography is static. As cities have grown, many municipal boundaries look increasingly outdated and unrepresentative of the functional extent of the city.

The Urban Age has a primary focus on the municipal level of organisation, reporting data at this level and targeting municipal government in drawing out implications for public policy. Nonetheless, it is important to see municipalities within their wider metropolitan and regional context. For example, while the São Paulo municipality (covering around 1,500 km<sup>2</sup>) comprises more than ten million people, the wider São Paulo Metropolitan Region (covering around 8,000 km<sup>2</sup>) has a population of over 19 million, and includes many of the peripheral settlements (including decentralised industrial areas and favelas) that form part of São Paulo's functional metabolism. At the other extreme, Shanghai covers more than 6,000 km<sup>2</sup> and includes extensive areas of agricultural land as well as built-up space.

Other Urban Age cities show a varying degree of matching. While London's boundaries broadly match the 'Green Belt' that constrains its growth, the city forms part of the densely-populated south-eastern region, with cities around its periphery forming part of its functional economic geography. New York includes rural areas in Staten Island, but across the Hudson River, Newark and Atlantic City are not only separate municipalities, but part of a separate state (New Jersey). In other cases, like Berlin and Johannesburg, there is a closer correlation between built-up area and municipal boundaries.

These differing administrative arrangements have implications for both analysis and governance. Firstly, they require a degree of caution in interpreting raw data on a city-wide basis; apparent dissimilarities in economic

and social structure, or physical form, can be exaggerated or even brought into being by differing geographies. For this reason, some elements of the Urban Age research are presented for a specified area: our density diagrams on pages 32-33 are presented in relation to 100 x 100 km<sup>2</sup> tiles, and the diagrams on this page represent 315 x 315 km<sup>2</sup>.

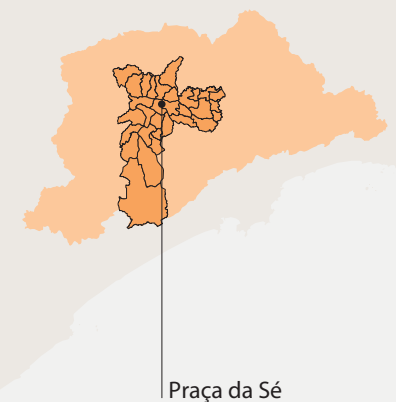
Mismatched boundaries can create the potential for conflict between neighbouring administrations. For example, while São Paulo's municipal boundary extends southwards to take in two major water sources (the Guarapiranga and Billings reservoirs), upstream pollution of the Tiete and Pinheiros rivers remains a challenge for cooperation between São Paulo and neighbouring municipality Guarulhos.

Conflicts can arise over social and economic issues too. In cities like Bogotá, the city's boundaries are seen as undermining social cohesion and the city's tax base, as richer people migrate to suburbs located in different municipalities (attracted by lower tax rates and, in some cases, by planning regulations that permit more sprawling development patterns).

A related problem is the way in which the political representation of urban areas lags behind their relative growth, often compounding an anti-urban bias in national political discourse. For example, while São Paulo State houses more than 20 per cent of Brazil's population, its representation in Brazil's National Assembly is capped at 13.5 per cent, with only four per cent of Senate seats, which are shared equally among Brazil's states. This means that São Paulo State has less than two representatives per million people in the National Assembly, compared to an average of five across Brazil.

**SÃO PAULO METROPOLITAN REGION**  
7,944 km<sup>2</sup>

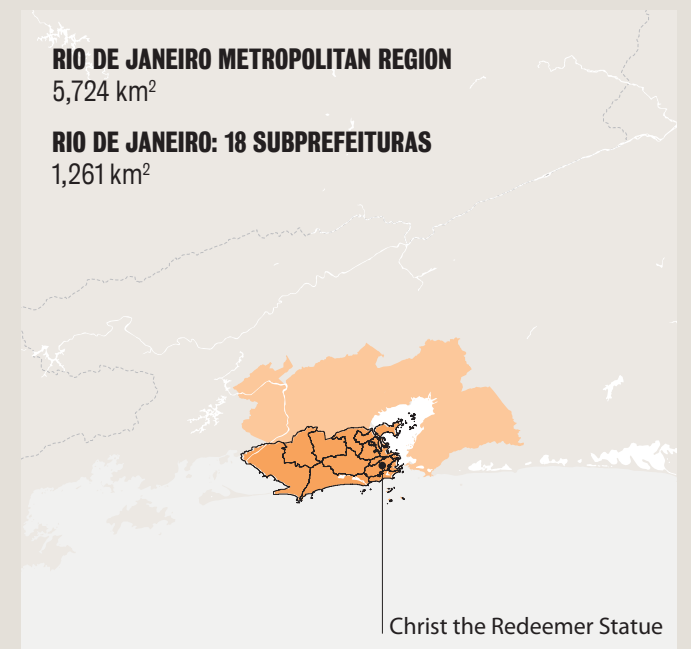
**SÃO PAULO: 31 SUBPREFEITURAS**  
1,525 km<sup>2</sup>



## SÃO PAULO

**RIO DE JANEIRO METROPOLITAN REGION**  
5,724 km<sup>2</sup>

**RIO DE JANEIRO: 18 SUBPREFEITURAS**  
1,261 km<sup>2</sup>



## RIO DE JANEIRO

**GREATER BUENOS AIRES**  
3,839 km<sup>2</sup>

**BUENOS AIRES: 15 COMUNAS**  
203 km<sup>2</sup>

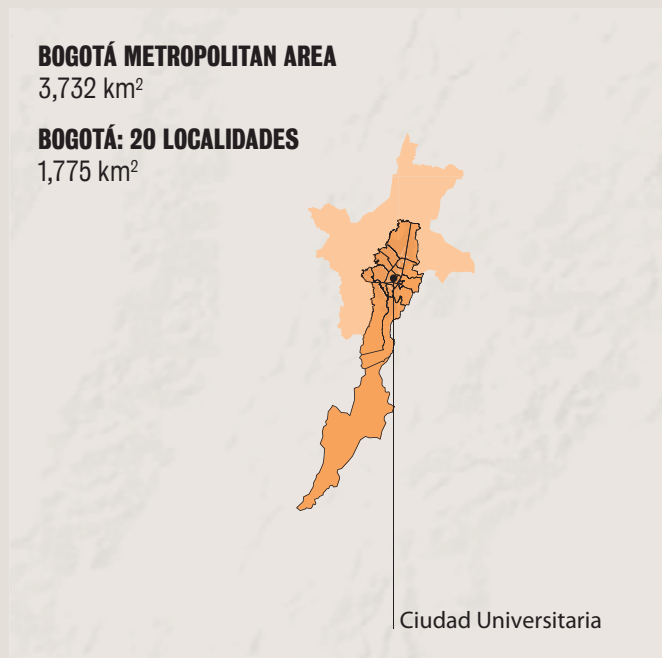


## BUENOS AIRES

## POPULATION GROWTH

URBAN AGGLOMERATION	1950	2008	2025
<b>SÃO PAULO</b>	2,334,038	19,097,819	21,427,559
<b>RIO DE JANEIRO</b>	2,950,238	11,890,040	13,413,254
<b>BUENOS AIRES</b>	5,097,612	12,901,465	13,767,514
<b>BOGOTÁ</b>	630,315	7,969,462	9,600,119
<b>LIMA</b>	1,065,888	8,139,667	9,599,648
<b>NEW YORK</b>	12,338,471	19,181,849	20,628,241
<b>LONDON</b>	8,360,847	8,585,818	8,617,842
<b>SHANGHAI</b>	6,065,511	15,244,010	19,412,266
<b>MEXICO CITY</b>	2,883,228	19,178,471	21,008,776
<b>JOHANNESBURG</b>	899,876	3,506,876	4,040,979
<b>BERLIN</b>	3,351,757	3,412,490	3,435,600
<b>MUMBAI</b>	2,857,359	19,348,649	26,385,026

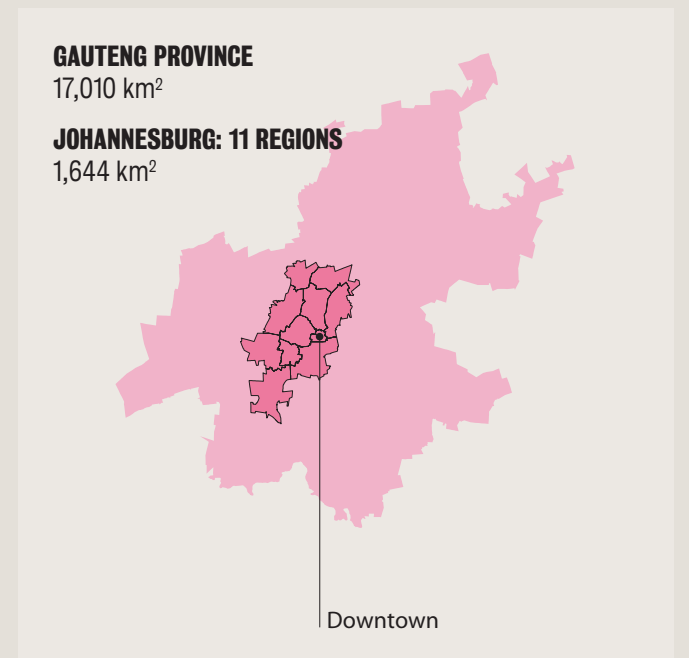




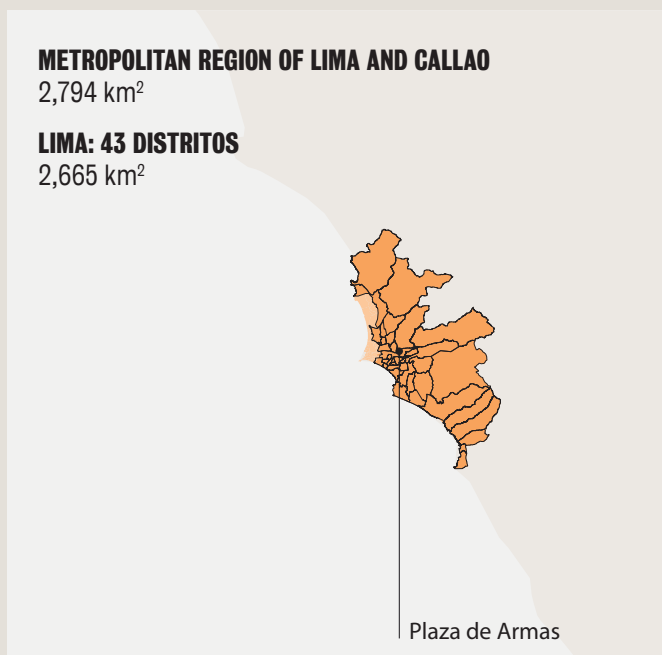
**BOGOTÁ**



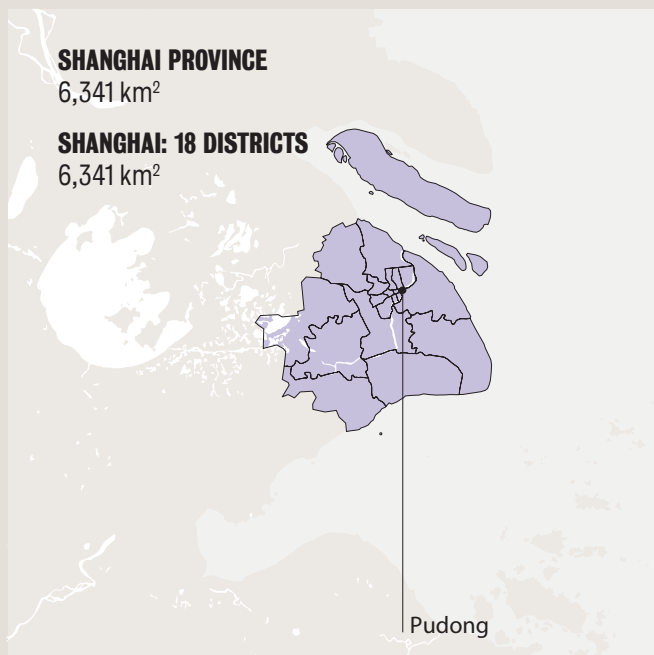
**NEW YORK CITY**



**JOHANNESBURG**



**LIMA**



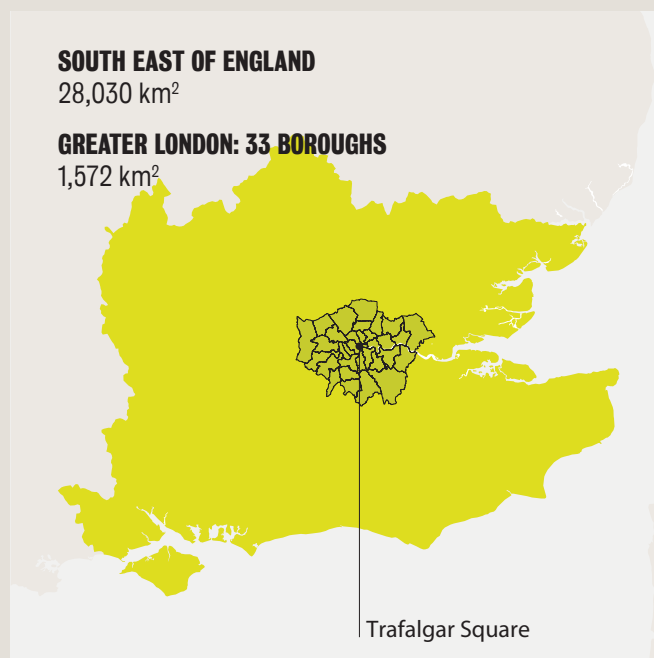
**SHANGHAI**



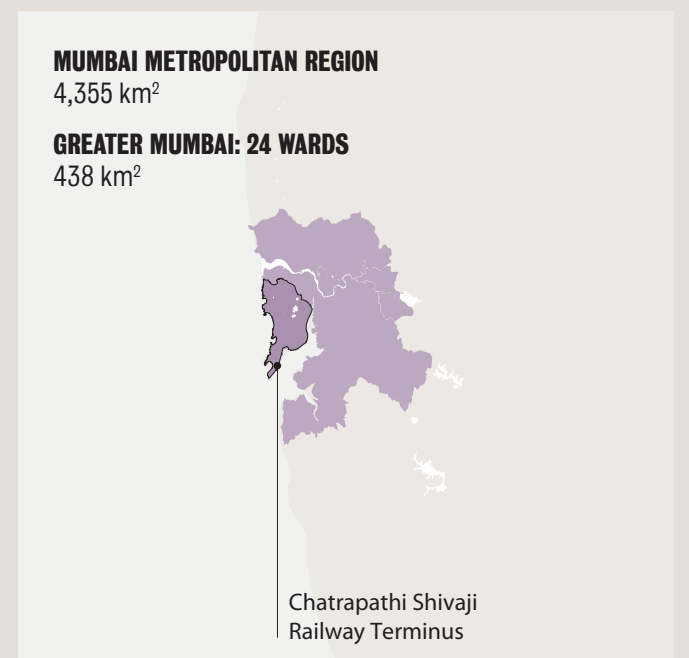
**BERLIN**



**MEXICO CITY**



**LONDON**



**MUMBAI**



# URBAN FOOTPRINT

These previously unpublished maps identify the built-up area (shown in grey) of twelve world cities, drawn to the same scale. They have been drafted using the latest 'heat-sensitive' GIS technology based on recent satellite views rather than on census or survey data. As a result they give both an accurate and contemporary account of the real shape of the human footprint in these metropolitan regions today, offering a new perspective of settlement patterns across a range of global cities.

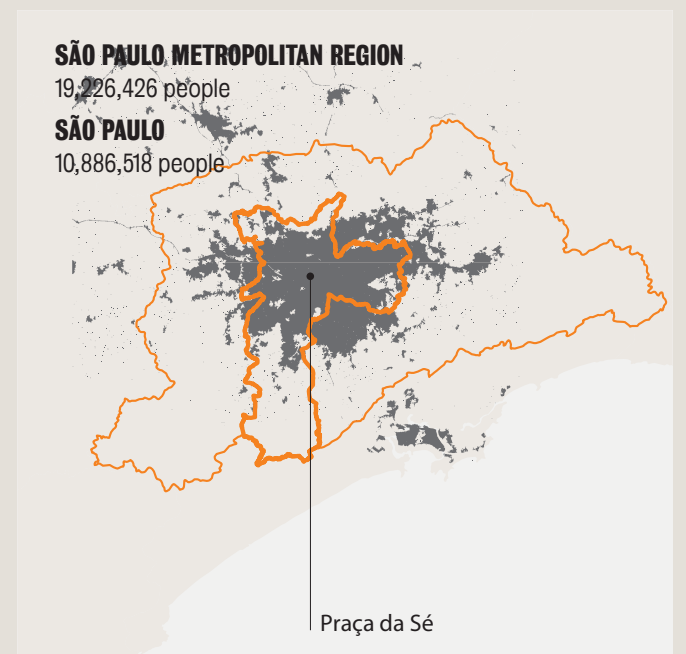
Two phenomena immediately stand out. The first is the clear misalignment in some cities between the administrative boundaries and where people live and work. São Paulo spills out of its municipal boundaries with a level of uncontrolled peripheral development that is similar to Mexico City (which overshoots the boundary of Mexico's Distrito Federale governed by the city's Mayor) and the lower density urban development on the fringes of New York City (outside the five boroughs controlled by New York's Mayor).

Instead, London demonstrates the effectiveness of its 'Green Belt' – revealed by the white circle around its periphery – that has acted as an effective urban containment boundary for the last 50 years, and is now controlled by the Mayor of London and the Greater London Authority. Shanghai's vast administrative boundary encompasses nearly all the continuous built-up area and the large number of farms and agricultural land, as well as the Chong Ming Island in the Yellow River Delta. Reforms in boundary configuration have determined that the bulk of Bogotá's population falls under the administrative authority of the city Mayor, while the larger component of Buenos Aires falls within the Buenos Aires State Government.

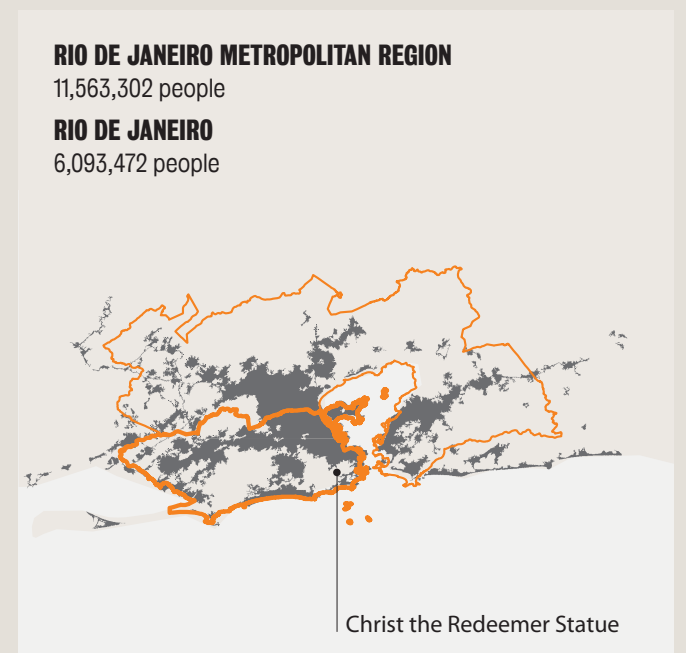
The second significant finding is the extreme variation in 'land-take' of cities in response to their geographic locations and differing population densities (further data on density follows on the next pages). Mumbai, with a population size comparable to São Paulo and Shanghai – is densely packed in a relatively small footprint within its natural contours between the Arabian Sea and the Thane Creek. São Paulo has been able to expand horizontally along its high plateau, encroaching on natural features and water reservoirs to the South. In a similar fashion Mexico City, Buenos Aires, Rio de Janeiro and Lima are constrained by the incidence of natural features including high mountains on one side and the ocean coastline on the other, which have shaped their geometries with 'fingers' of (often informal) settlements along the deep valleys connecting to the more structured waterfront areas. Shanghai reveals a pattern of organic 'satellite towns' along radial routes feeding to the heart of this Asian megacity, with the bulk of development in central areas close to the Huang-Po River. Johannesburg is a unique phenomenon across the sample of Urban Age cities, with its relatively empty inner-city core, while a large proportion of its population is located in the wider Gauteng Province, which is set to become one of the largest metropolitan areas in Africa.

## BUILT-UP AREA

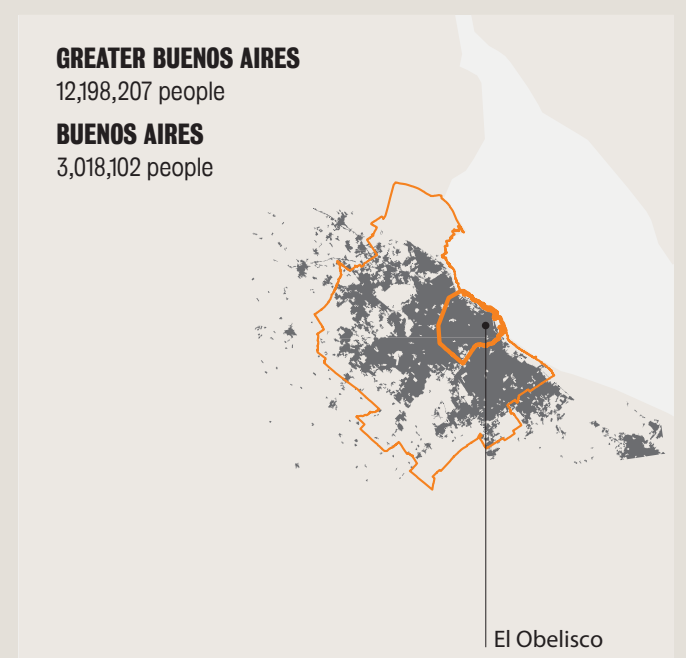
	METROPOLITAN REGION	ADMINISTRATIVE CITY
<b>SÃO PAULO</b>	21%	56%
<b>RIO DE JANEIRO</b>	29%	51%
<b>BUENOS AIRES</b>	47%	89%
<b>BOGOTÁ</b>	data not available	18%
<b>LIMA</b>	26%	25%
<b>NEW YORK</b>	13%	88%
<b>LONDON</b>	7%	53%
<b>SHANGHAI</b>	18%	18%
<b>MEXICO CITY</b>	25%	36%
<b>JOHANNESBURG</b>	5%	18%
<b>BERLIN</b>	11%	38%
<b>MUMBAI</b>	15%	53%



## SÃO PAULO

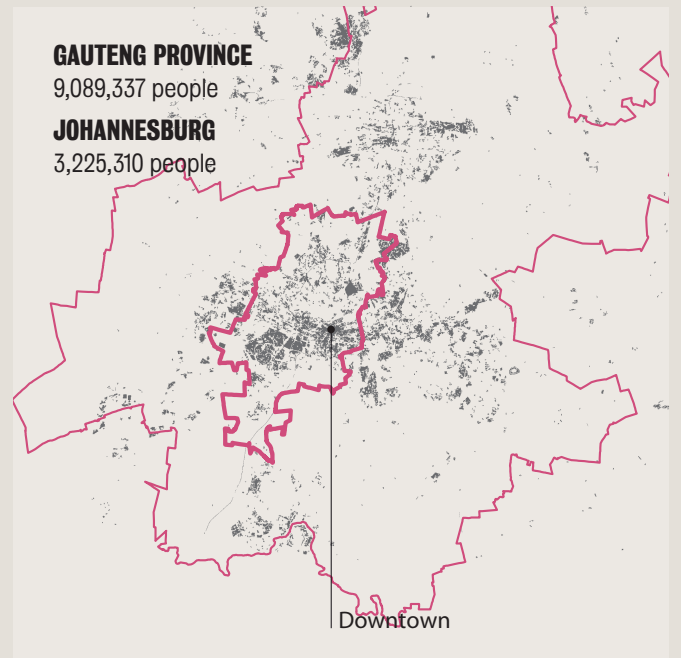
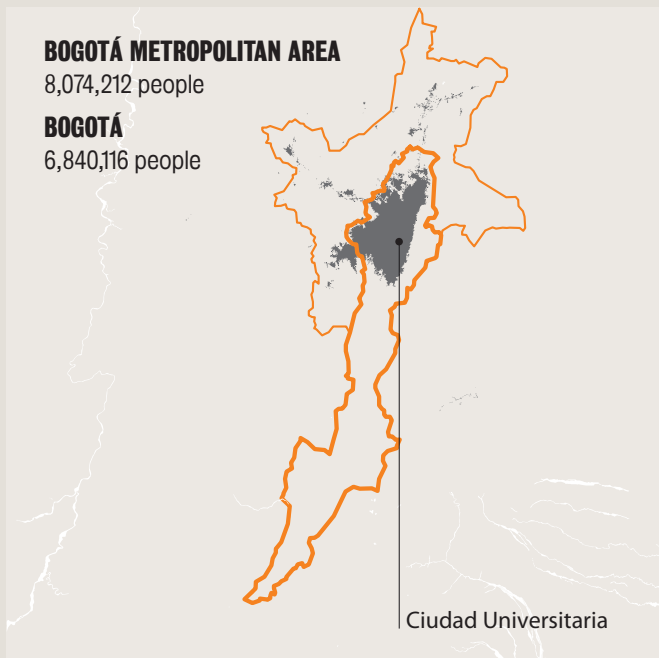
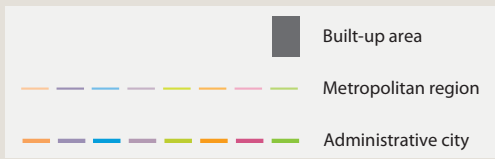


## RIO DE JANEIRO



## BUENOS AIRES

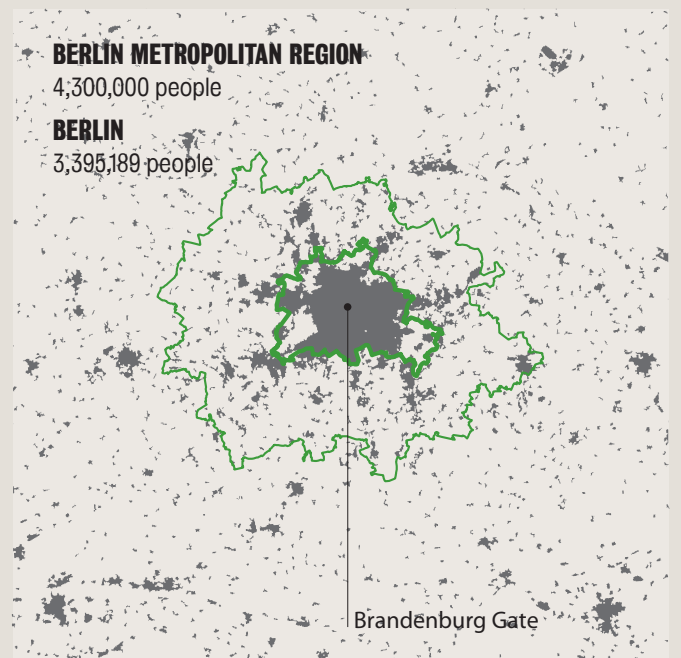
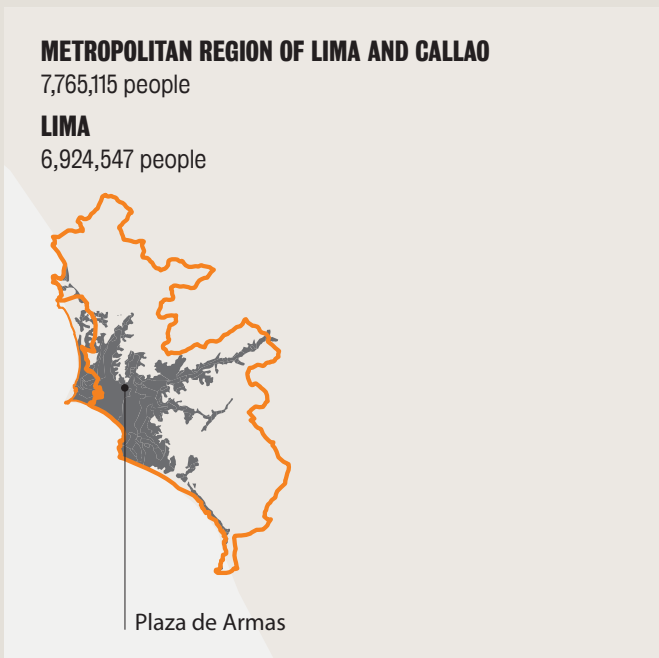




**BOGOTÁ**

**NEW YORK CITY**

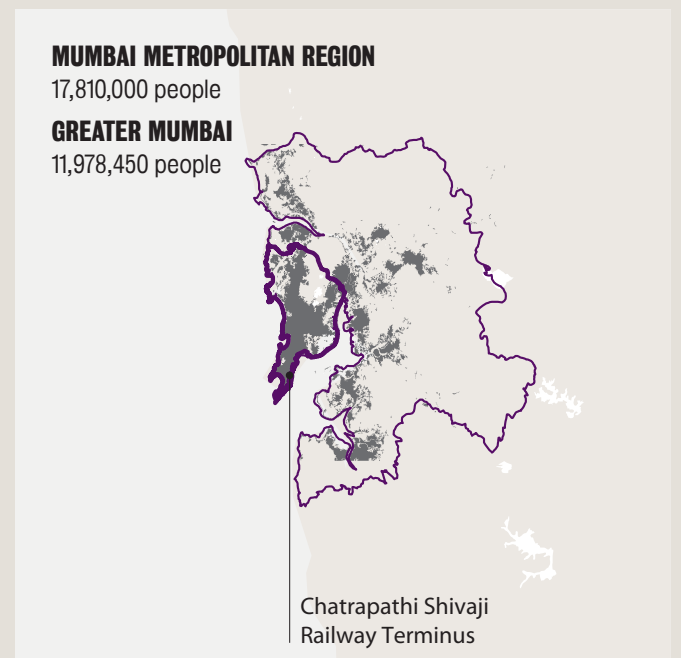
**JOHANNESBURG**



**LIMA**

**SHANGHAI**

**BERLIN**



**MEXICO CITY**

**LONDON**

**MUMBAI**



# DENSITY

Urban density (illustrated here in terms of the number of people living in each km<sup>2</sup> of a 100 x 100 km<sup>2</sup> urban area) is driven by topographical constraints, by the provision of public transport and other infrastructure, but also by inherited traditions of urban planning and development. While high density can be a symptom of overcrowding, it can also enable a better quality of life and limit environmental impact by enabling walking and cycling, enhancing urban vitality and making the provision of public transport and other amenities more viable.

Urban Age cities include a wide range of different density patterns, from the very high densities exhibited in the centres of Mumbai and Shanghai, to the much lower density development patterns of Berlin and London. A third category, exemplified among the Urban Age cities by Johannesburg but also visible in many North American cities, shows limited areas of high density set around a downtown that no longer has a residential population, in the midst of a very low-density sprawl.

In falling between the extremes, most of the Urban Age South American cities exhibit similar patterns to New York. Buenos Aires, Bogotá, Rio de Janeiro and Lima show how the constraints of mountains and water drive densities that rise to a 'spike' like Manhattan's.

São Paulo, on the other hand, is multi-centred (though with a high-density centre) and similar in its overall density pattern to Mexico City. This is striking, given that the two cities are very different in terms of their urban form: São Paulo's skyline is dominated by high-rise apartment blocks, while Mexico City is consistently low-rise (see next section for analysis of these differing forms). Urban form and density are different concepts, however, and the similarity of these two cities' density profiles shows how high-rise building does not necessarily create higher density by comparison with more tightly planned low-rise development, especially when individual towers are surrounded by large areas of motorways or unused space.



**SÃO PAULO PEAK 29,380 pp/km<sup>2</sup>**



**RIO DE JANEIRO PEAK 29,450 pp/km<sup>2</sup>**

## RESIDENTIAL DENSITIES OF CITY AND REGION (PEOPLE/KM<sup>2</sup>)

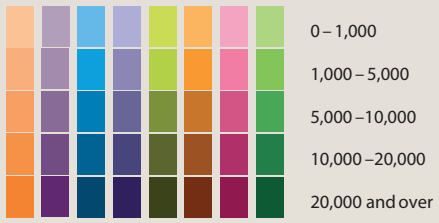
DENSITY	METROPOLITAN REGION	ADMINISTRATIVE CITY	CENTRAL AREA (WITHIN 10 KM OF CENTRE POINT)	PEAK
<b>SÃO PAULO</b>	2,420	7,139	10,299	29,380
<b>RIO DE JANEIRO</b>	2,020	4,832	8,682	29,450
<b>BUENOS AIRES</b>	3,177	14,867	12,682	49,340
<b>BOGOTÁ</b>	2,164	3,854	21,808	59,870
<b>LIMA</b>	2,779	2,598	12,620	31,342
<b>NEW YORK</b>	783	9,551	15,361	53,000
<b>LONDON</b>	679	4,795	7,805	17,200
<b>SHANGHAI</b>	2,862	2,862	24,673	96,200
<b>MEXICO</b>	3,796	5,877	12,541	48,300
<b>JOHANNESBURG</b>	520	1,962	2,270	38,500
<b>BERLIN</b>	801	3,806	7,124	21,700
<b>MUMBAI</b>	4,090	27,348	34,269	101,066



**BUENOS AIRES PEAK 49,340 pp/km<sup>2</sup>**



Population Density (people/km<sup>2</sup>)



**BOGOTÁ** PEAK 59,870 pp/km<sup>2</sup>



**NEW YORK CITY** PEAK 53,000 pp/km<sup>2</sup>



**JOHANNESBURG** PEAK 38,500 pp/km<sup>2</sup>



**LIMA** PEAK 31,342 pp/km<sup>2</sup>



**SHANGHAI** PEAK 96,200 pp/km<sup>2</sup>



**BERLIN** PEAK 21,700 pp/km<sup>2</sup>



**MEXICO CITY** PEAK 48,300 pp/km<sup>2</sup>



**LONDON** PEAK 17,200 pp/km<sup>2</sup>



**MUMBAI** PEAK 101,066 pp/km<sup>2</sup>



# URBAN FORM

The layout of streets, buildings and spaces forms the spatial DNA of urban growth, the patterns through which city life can develop and cities can grow. These spatial arrangements are critical to the liveability of cities, to the quality of life that they can offer their residents, to the density that they can accommodate, and to their flexibility in adapting to change and growth.

The images presented here help to visualise the micro-structure of urban neighbourhoods, how buildings (in black) and open spaces (in white) come together to create an integrated urban whole. The maps presented each cover one km<sup>2</sup>, usually near the centre of the city under analysis.

The South American cities exhibit a variety of spatial structures, reflecting their different historical inheritance and development patterns. The low-rise Palermo district of Buenos Aires exhibits a highly regular urban grid around a clearly defined centre, analogous to centrally planned European (and in particular Spanish) cities, and Lima's Miraflores district exhibits a similar form, while Bogotá's rectangular blocks with central courtyards, around Parque de Virrey, are more like New York's in their proportions.

São Paulo and Rio de Janeiro, on the other hand, have

a less regular urban form, reflecting their topographical characteristics and a colonial heritage that was Portuguese rather than Spanish. In Rio de Janeiro, the high-value apartment blocks on the headland between Ipanema and Copacabana beaches contrast starkly with the favelas that crawl up the slopes of Morro do Cantagalo. In São Paulo's wealthy Jardins District, south-west of Avenida Paulista (seen surrounded by larger buildings in the top-right corner of the diagram), high-rise tower blocks are set apart from the urban grid, making streets almost impossible to discern from other areas of open, usually gated, space.

The other Urban Age cities exhibit a similar diversity of urban layout. The central area of Buleshwar Market in Mumbai is formed by dense urban blocks, arranged efficiently along main streets and side alleyways. New York's East Village shows how a dense continuous street grid has adapted to different economic cycles, as do Mexico City's north-eastern neighbourhoods. In the Hongkou district of Shanghai and in Johannesburg, neighbourhoods are more dispersed, lacking the continuity found in the crescents of London's Notting Hill or in the perimeter blocks of central Berlin.

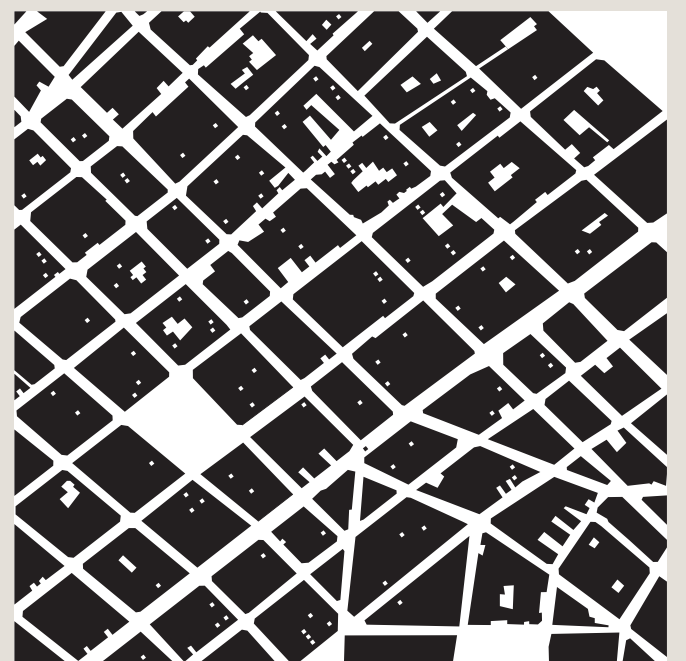
1 km



**SÃO PAULO JARDINS**



**RIO DE JANEIRO COPACABANA**



**BUENOS AIRES PALERMO**



Aerial view of the Jardins District in São Paulo.





**BOGOTÁ** PARQUE DE VIRREY



**NEW YORK** EAST VILLAGE



**JOHANNESBURG** SANDTON



**LIMA** MIRAFLORES



**SHANGHAI** HONGKOU DISTRICT



**BERLIN** PRENZLAUER BERG



**MEXICO CITY** GUSTAVO A. MADERO DELEGACION



**LONDON** NOTTING HILL



**MUMBAI** BULESHWAR MARKET



# MOVING IN THE CITY



Transport infrastructure is a critical driver of urban form, enabling centralisation of economic functions and the accommodation of a growing population along metropolitan rail and bus routes. Where public transport infrastructure is not in place, space-hungry motorways dominate, usually resulting in more sprawling forms of development, and generating congestion as private car use persistently runs ahead of road building.

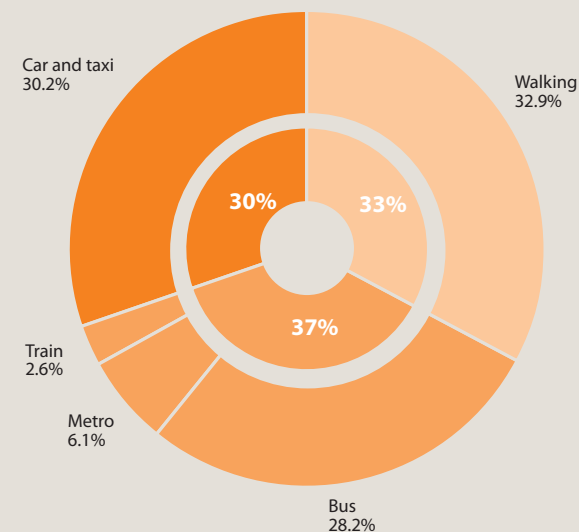
The Urban Age South America cities offer varying levels of transport infrastructure, though none has the extensive metro systems that have been put in place in London, New York and Berlin. As a result, many South American cities are now following Bogotá's example in seeking to implement 'bus rapid transit' systems, which re-allocate road space to dedicated bus corridors, thereby creating a bus system that can operate with a speed and frequency nearing that of metro systems, but without the considerable capital costs and disruption involved.

São Paulo and Rio de Janeiro show a three-way split between walking and cycling, public transport, and private car use, with a stronger bias towards car use in Rio de Janeiro. Buenos Aires has very high public transport use, but it is notable that this appears to have displaced walking and cycling rather than private car use, despite the city's compact urban form. Lima is dominated by various informal methods of road-based public transport (including micro-buses and taxis), reflecting its minimal public transport system, while the dominance of public transport in Bogotá's figures reflects the success of the TransMilenio system.

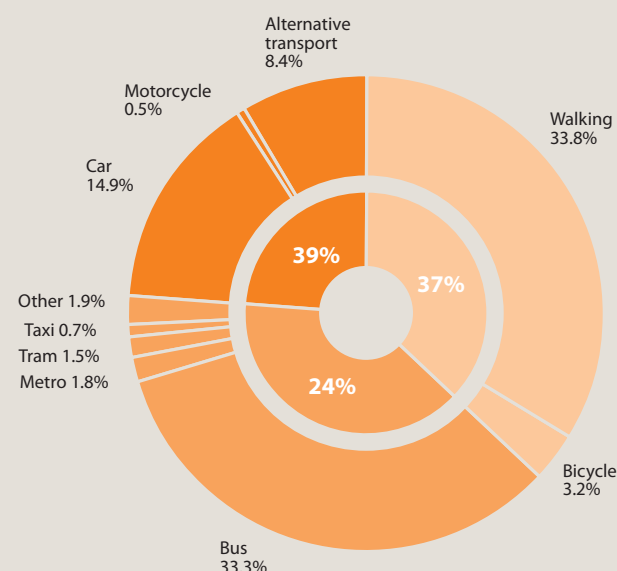
Buenos Aires has the most extensive rail network in South America, developed by a British-owned company in the late-nineteenth century. While this infrastructure has suffered from limited investment in recent decades, combined with pedestrianised central streets and a highly regular block formation, it creates one of South America's most walkable cities.

São Paulo has a small but growing metro system, and is crossed by major railway lines, reflecting the city's history as a centre for trade. While these railway corridors are dominated by freight, city transport planners are examining options for running more passenger services along them. The city is also currently implementing proposals for an orbital motorway network, to remove truck movements from its centre.

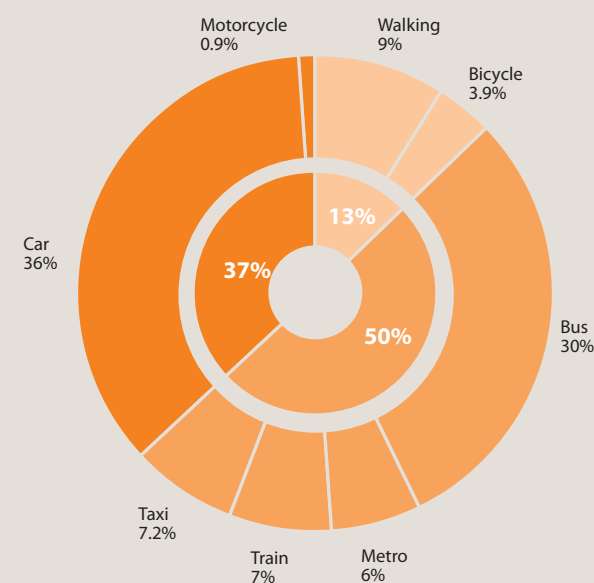
Bogotá and Lima both exhibit extremely low levels of public transport infrastructure. In Lima, even the limited bus networks have been privatised, leading to inconsistent provision of services across the city, though new investment is now underway. Bogotá had an equally poor inheritance, but the introduction of the TransMilenio 'bus rapid transit' system has made a dramatic difference to journey times and to the public realm within the city.



## SÃO PAULO

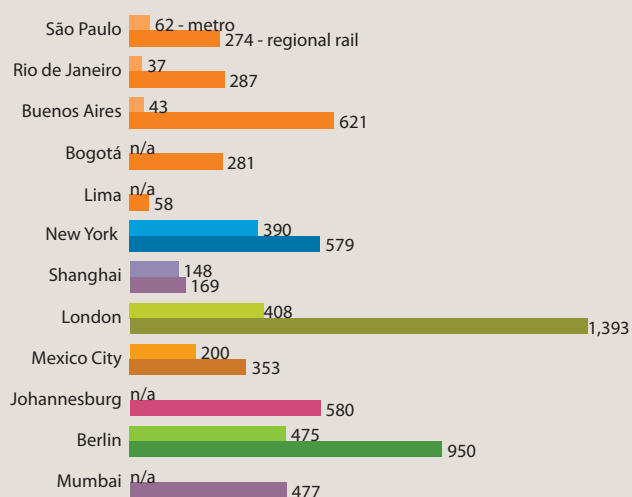


## RIO DE JANEIRO



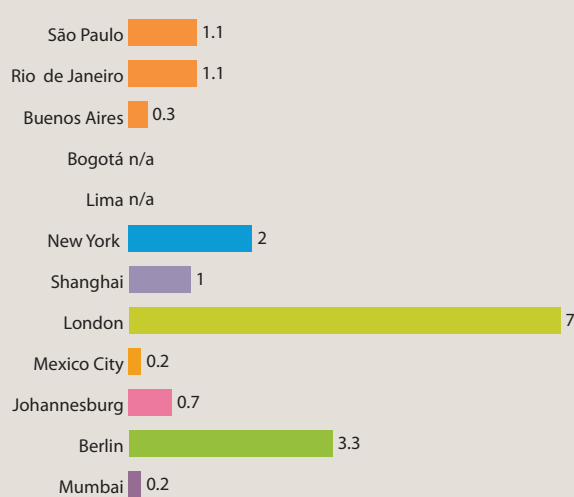
## BUENOS AIRES

## SYSTEM LENGTH (KM)



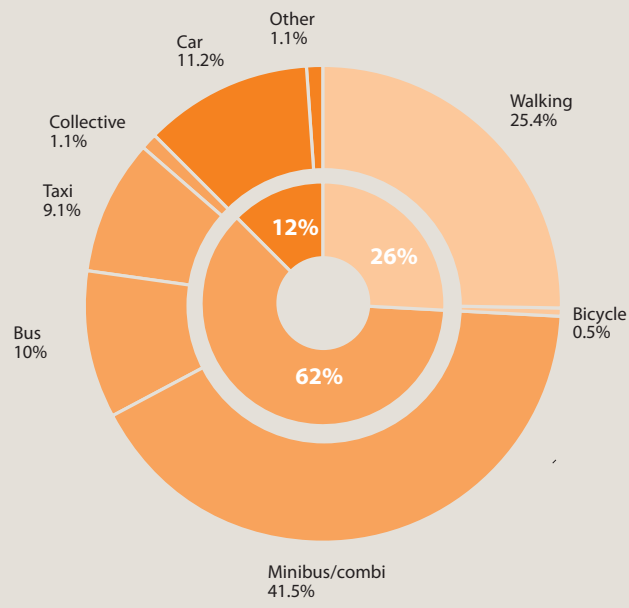
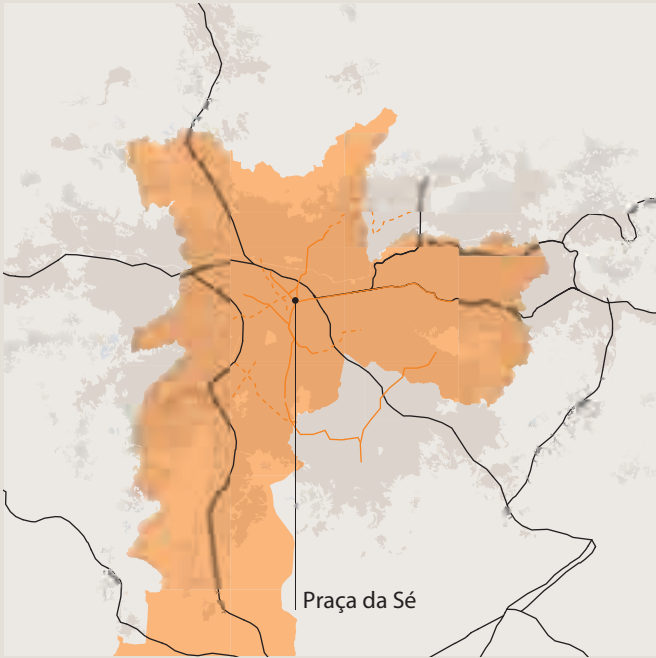
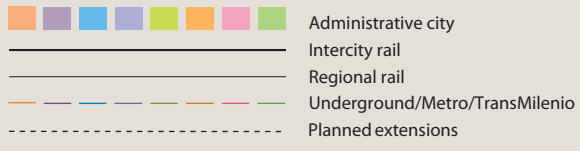
Besides metro systems which are most developed in Berlin, London and New York, regional rail is a significant component of rail transport in the twelve cities. The estimated GIS figures for the length of regional rail networks in each city within 70X70km emphasise the extensive amount of rail infrastructure in London and significant levels in Berlin, Johannesburg, Buenos Aires, New York and Mumbai.

## METRO TICKET PRICE (US\$)

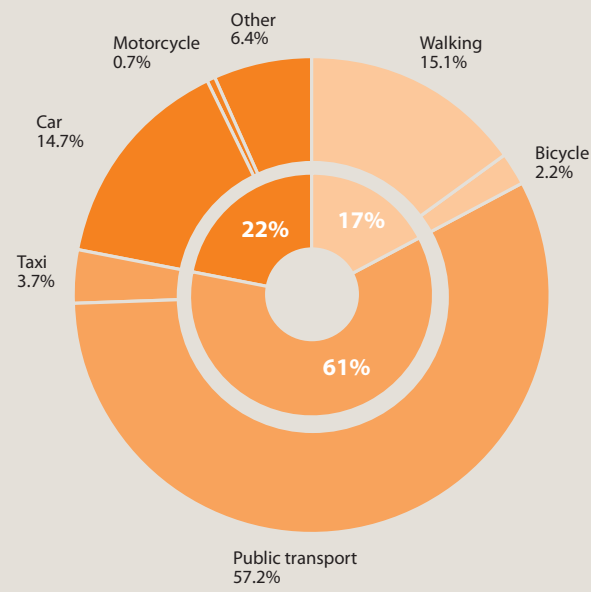
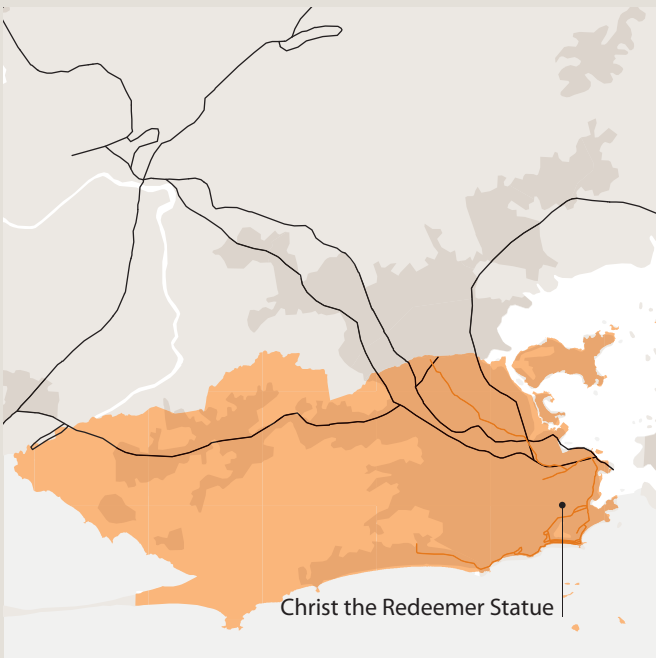


The above figures refer to the prices for similar single metro tickets. In Mumbai, the price is for a general class rail ticket and in Johannesburg for a rail ticket. London has by far the most expensive metro tickets (US\$ 7) amongst the twelve cities. Tickets in Buenos Aires, Mumbai and Mexico City are 10 to 30 times cheaper than in London and reflect the importance of the metro systems as an inclusive mode of transport there. Prices range from US\$ 0.70 to US\$ 1.10 in São Paulo, Rio de Janeiro, Shanghai and Johannesburg, while in New York and Berlin they are respectively US\$ 2.00 and US\$ 3.30.

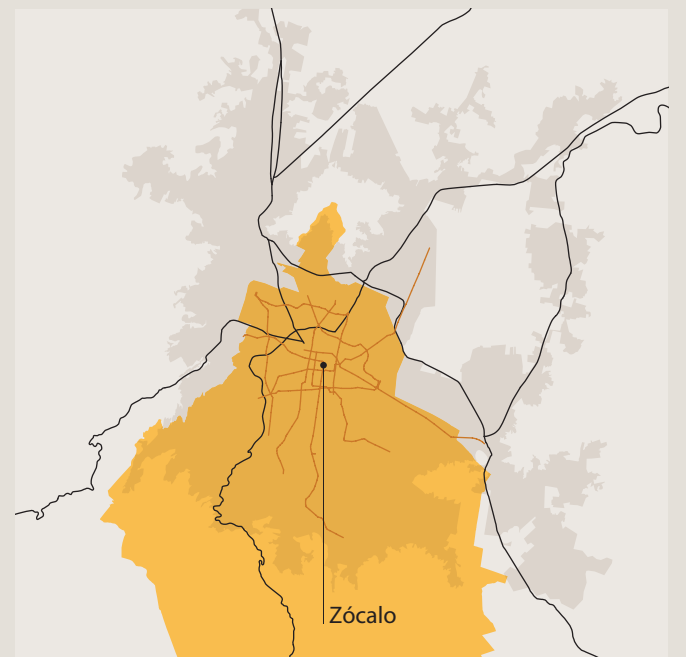
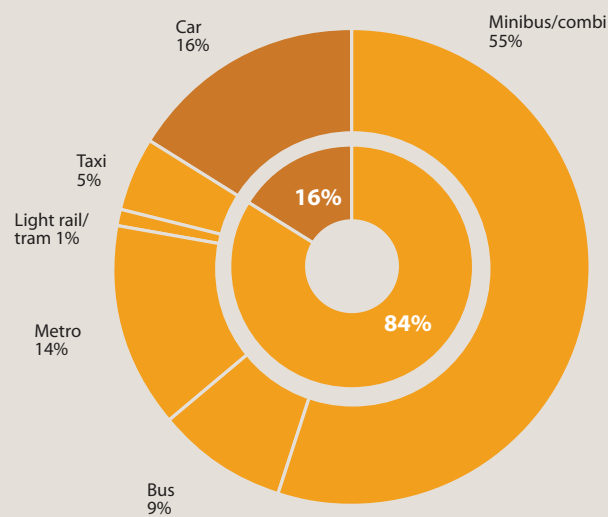
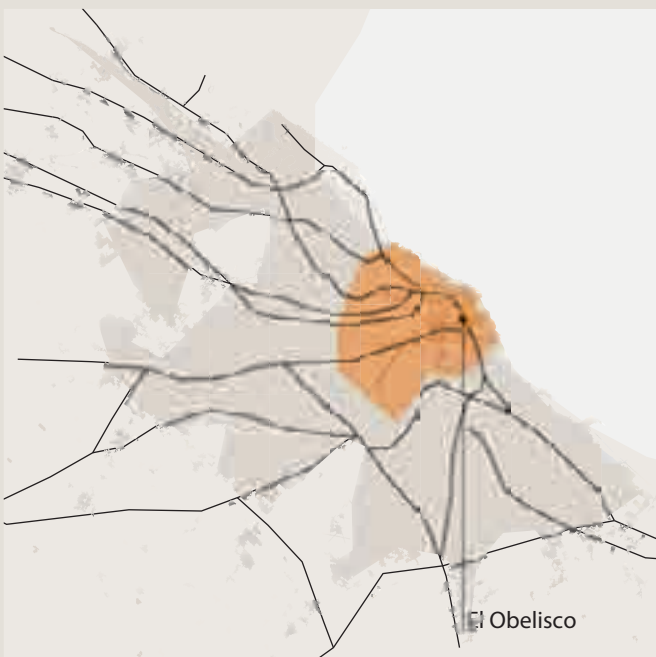




**LIMA**



**BOGOTÁ**



**MEXICO CITY**



# MOVING IN THE CITY

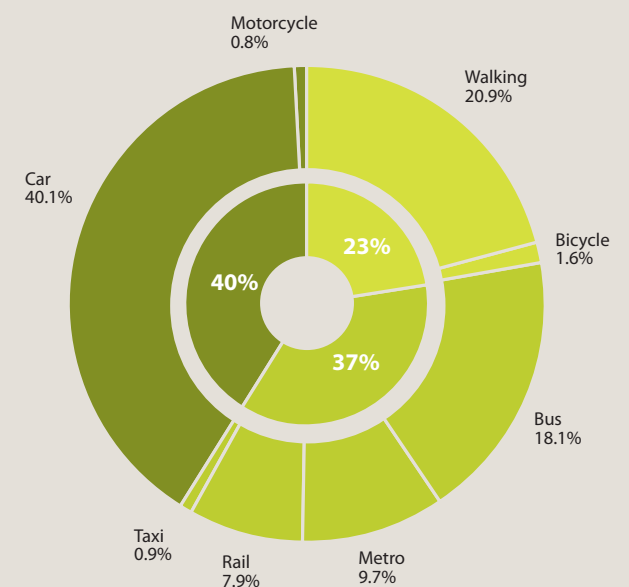


How people travel within cities – the ‘modal split’ – reflects public transport infrastructure, but also economic development, climate and urban form: walking may dominate as a form of transport not only in cities designed to be pedestrian-friendly, but also in cities where many residents do not have access to private motorised transport or do not have the means to pay for public transport. Walking therefore accounts for a massive 56 per cent of journeys in Mumbai and around 30 per cent of journeys in Johannesburg and Shanghai, but also accounts for a relatively high modal share in London and Berlin. Cycling, on the other hand, is limited in cities like Mumbai and Rio de Janeiro, where hilly terrain, a tropical climate or poor road safety make the experience unpleasant.

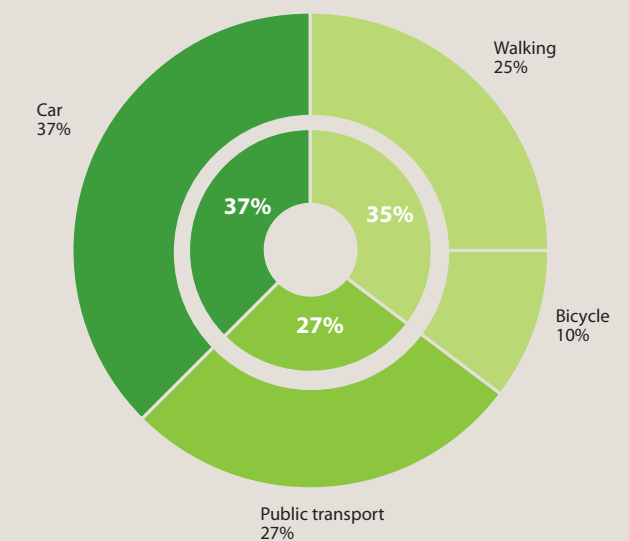
Car ownership has increased rapidly in many South American cities, particularly in the São Paulo Metropolitan Region (which added more than one million cars to its streets in the last five years), but remains highest among all

Urban Age cities in Buenos Aires, reflecting the city’s status (until recently) as the richest city in South America. Buenos Aires also has a very high density of car ownership, though this is not fully reflected in modal split: car ownership does not necessarily imply car use.

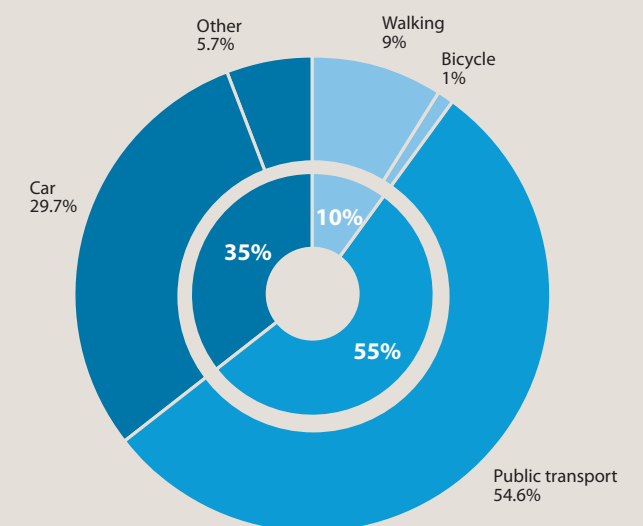
Around 40 per cent of residents in New York’s midtown Manhattan walk to work and over 90 per cent of affluent business workers use public transport to go to London’s financial hub. Shanghai has experienced rapid growth in public transport use, while cycling remains prevalent. While Berlin has high rates of cycling, its relatively uncongested roads also allow high levels of car use (despite the presence of a high-quality public transport system). In some other cities, even where there is a good metro system (like Mexico City’s), informal transport by mini-bus often dominates, reflecting a mismatch between commuting patterns and infrastructure as well as the relatively high cost of public transport.



## LONDON

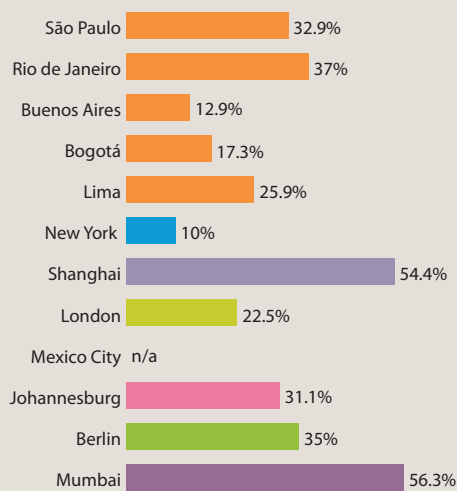


## BERLIN



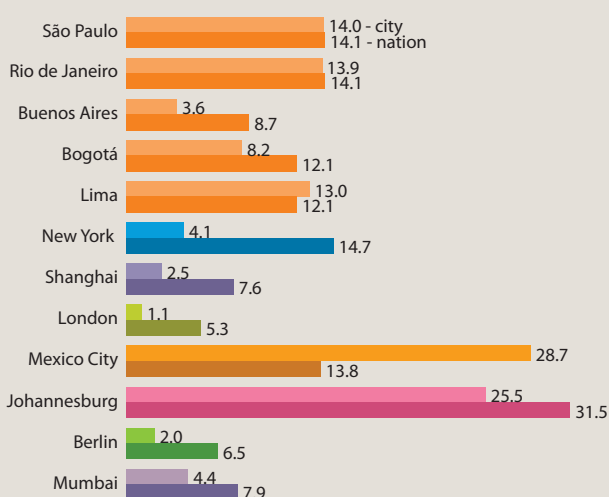
## NEW YORK CITY

## NON-MOTORISED TRANSPORT



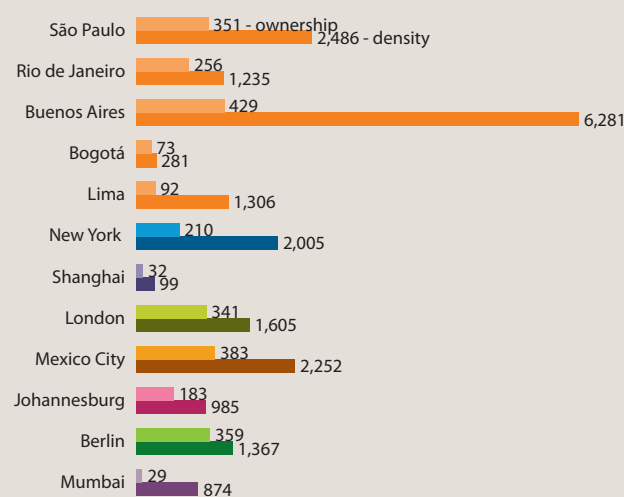
The twelve cities exhibit varying degrees of non-motorised transport use, a crucial factor influencing urban quality of life. While in Shanghai and Mumbai walking and cycling make up more than 55 per cent of all trips, in New York and Buenos Aires it is 10 and 13 per cent respectively.

## ROAD FATALITIES



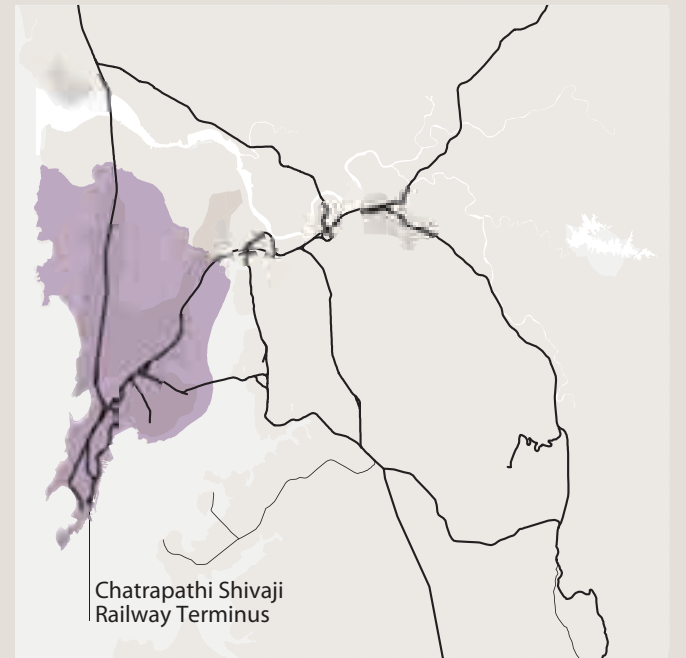
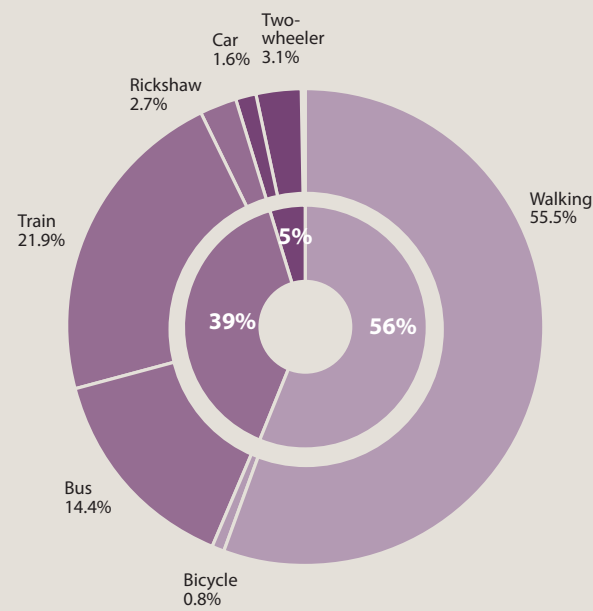
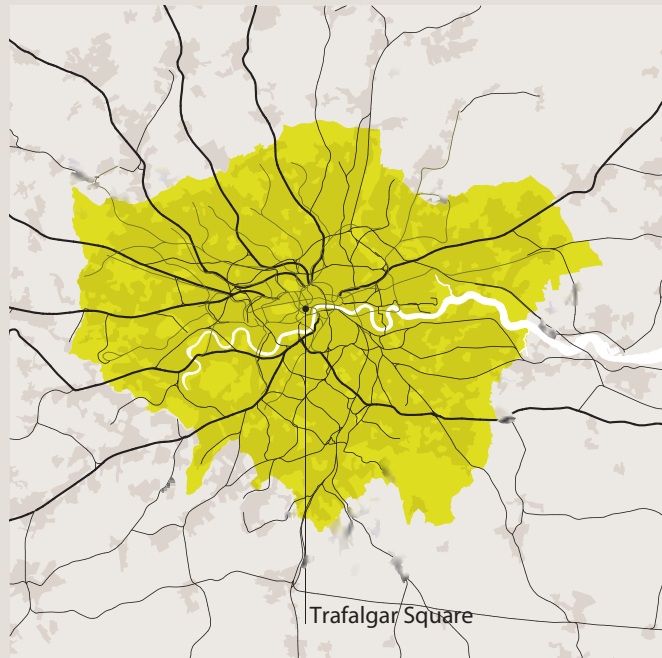
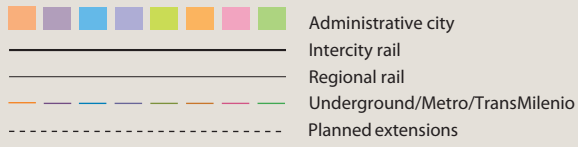
Road deaths per 100,000 residents are extremely high in Mexico City (29) and Johannesburg (26). They are lowest in London, Berlin, Shanghai, Buenos Aires, New York and Mumbai, with figures ranging between 1 and 4.4. São Paulo, Rio de Janeiro, Bogotá and Lima fall somewhere between these two extremes with figures between 8.2 in Bogotá and 14 in São Paulo. With the exception of Lima and Mexico City, road fatalities are lower than the national average in all cities.

## CAR OWNERSHIP AND CAR DENSITY

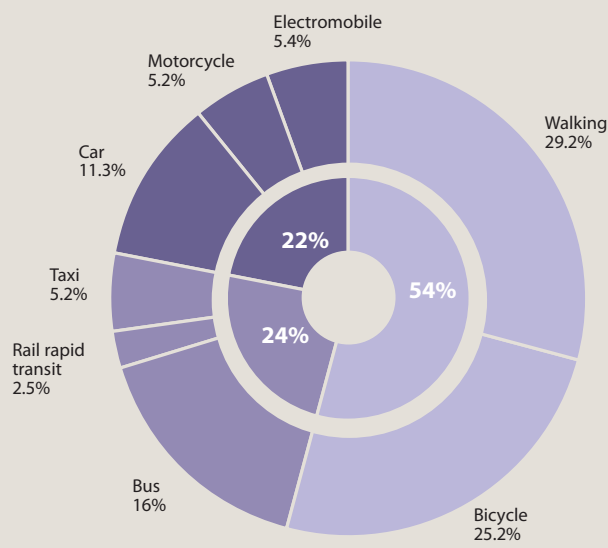
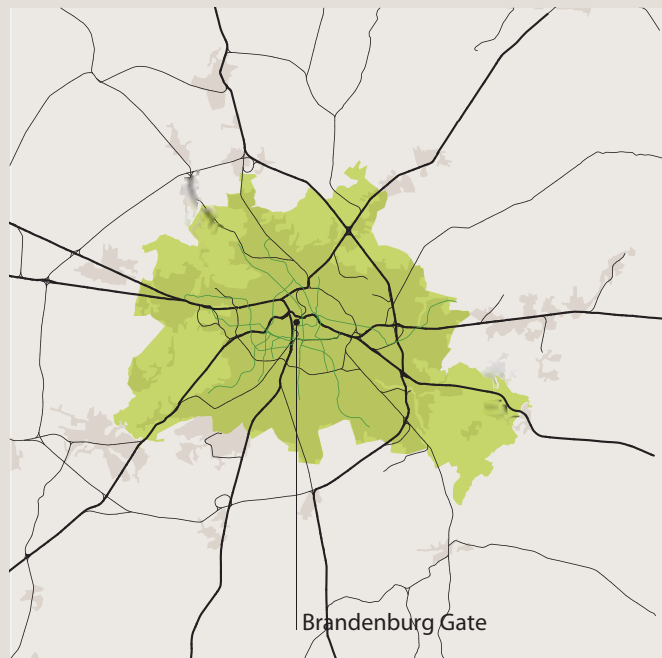


The above chart shows car ownership, expressed as the number of cars per 1,000 residents, and car density, the number of cars per km². The data for Johannesburg refers to the Gauteng Province. Mumbai and Shanghai have the lowest levels of car ownership with respectively 29 and 32 cars per 1,000 residents. This is in stark contrast to 429 in Buenos Aires, 383 in Mexico City and 351 in São Paulo. All South American cities except Bogotá have very high numbers of cars per km². Car density is by far the highest in Buenos Aires, where it is three times higher than in New York.

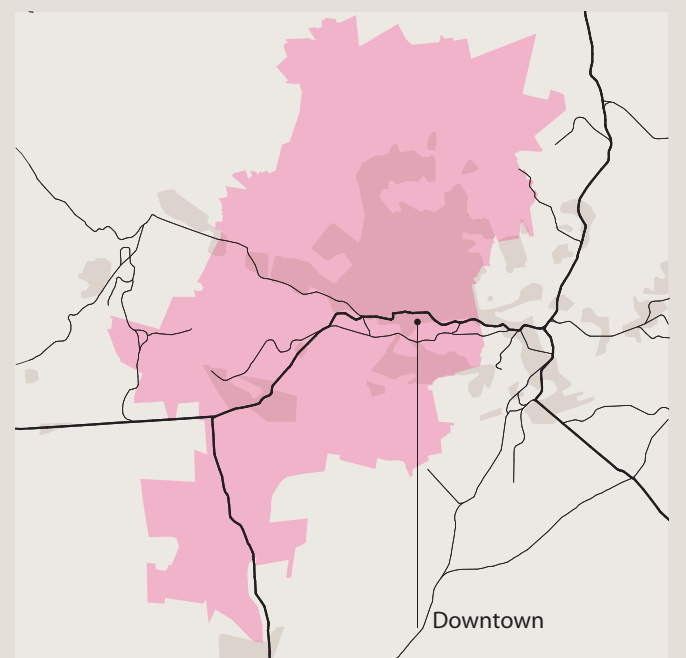
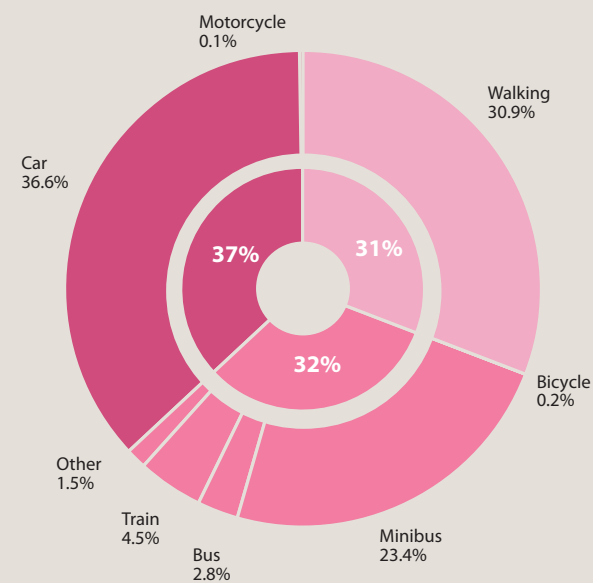
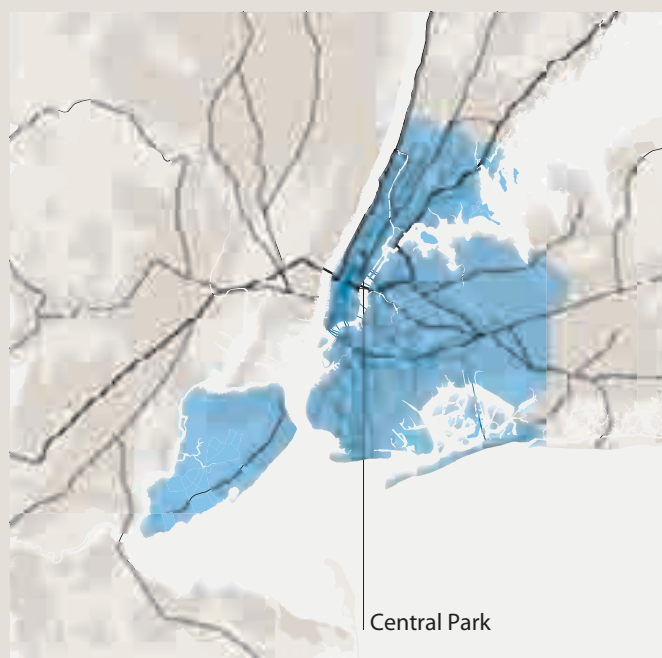




## MUMBAI



## SHANGHAI



## JOHANNESBURG



# THE URBAN WORKFORCE



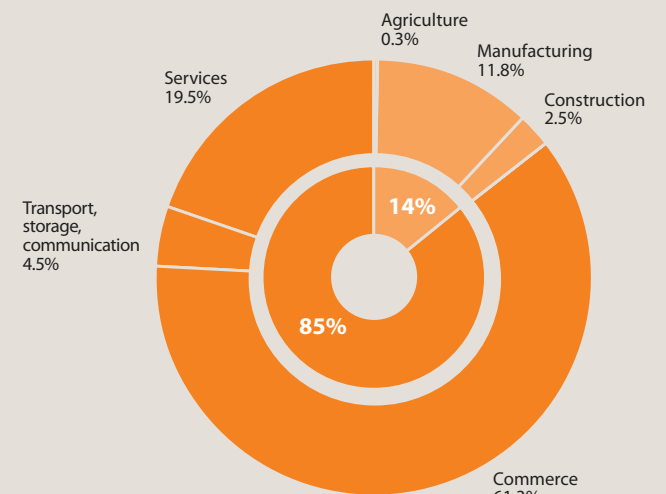
Urbanisation was originally a product of the industrial revolution. Cities are now at the forefront of a new transformation, the shift to a more knowledge-based service economy, though different Urban Age cities are at different stages of this transition. The employment figures presented here show that London and New York are the cities that have moved furthest in this economic transformation, though neither city has an economy exclusively based on financial and business services; retail, leisure, personal and social services continue to be major sources of employment in both cities.

Most other Urban Age cities retain 10 to 20 per cent of their secondary sector employment – dominated by manufacturing, industry, and construction. In some cases, a small agricultural sector also remains. Within the South American cities, Lima and Bogotá remain the most industrialised, while São Paulo and Rio de Janeiro have significant financial services and real-estate sectors. Shanghai retains an extensive manufacturing base, but the relatively high proportion of agricultural employment indicates that this can partly be attributed to the wide territorial definition of the city, which includes rural and outlying areas.

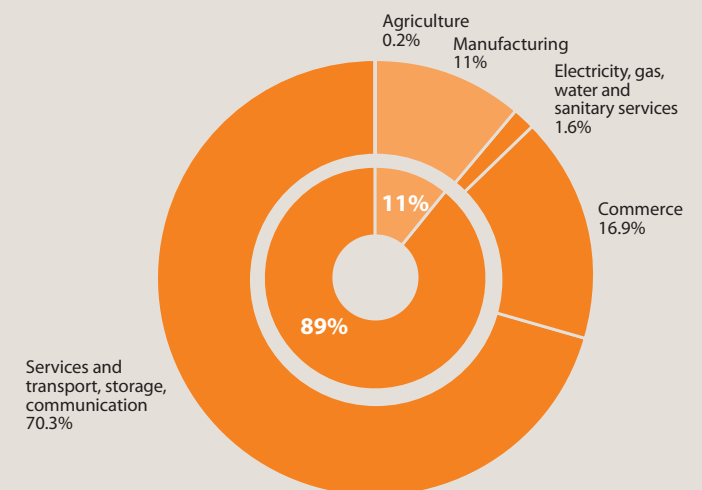
Buenos Aires, São Paulo and Rio de Janeiro have the highest GDP per capita among the Urban Age cities after London, Mexico City, New York and Berlin, although of the other South American cities, Bogotá and Lima contribute more to their national economy, respectively 25 per cent and 50 per cent of their country's wealth.

The shift towards a service-based economy has far-reaching implications for urban government. New office development has created new urban districts (often away from the traditional city centre) in London (Canary Wharf), Buenos Aires (Puerto Madero), Mexico City (Santa Fe) and Johannesburg. In some cases, these new developments have been criticised for their lack of public infrastructure, for engendering social segregation and for draining life from the traditional central business district.

In addition, highly-paid service sector jobs are also knowledge-intensive, placing a premium on high quality education. Without more accessible education, cities may increasingly operate two parallel economies: one populated by a highly mobile, highly educated elite, the other dominated by people whose skills do not allow them to share in the prosperity that the knowledge economy can bring.

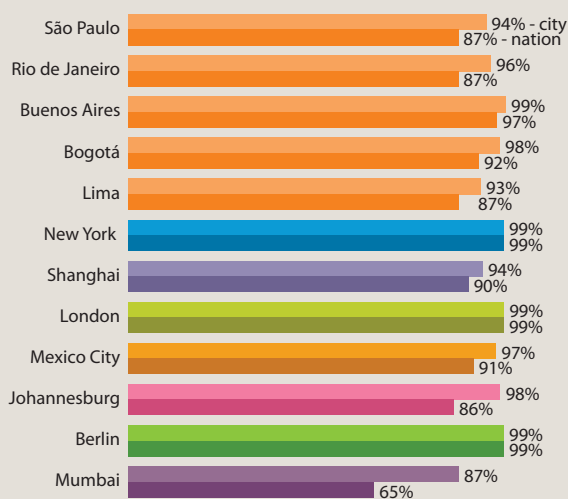


## SÃO PAULO



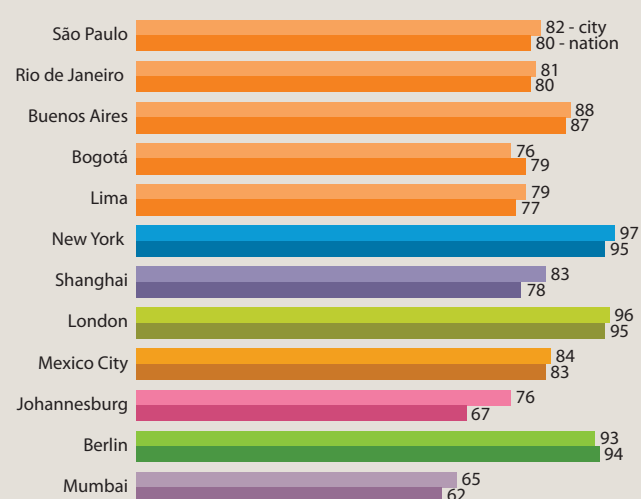
## RIO DE JANEIRO

### LITERACY RATE OF POPULATION

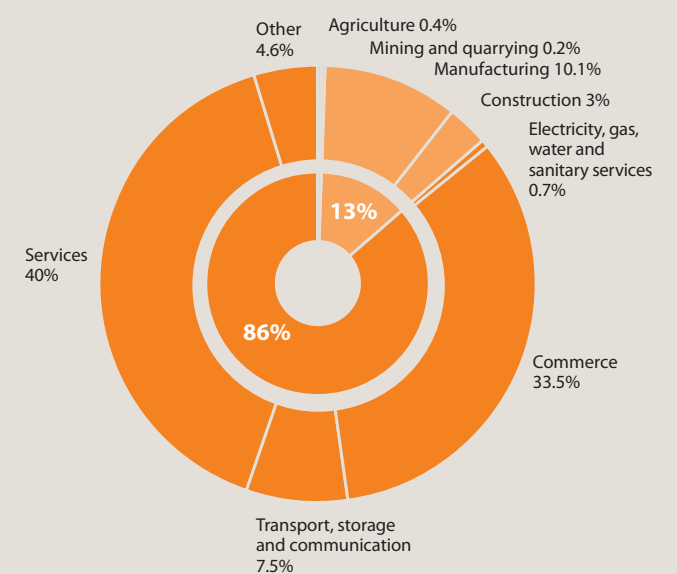


The literacy rate represents the percentage of the population above the age of 14 who can read or write. In the case of Mumbai, this figure refers to those above the age of six years. The data for Johannesburg refers to Gauteng Province. All cities have higher literacy rates than their respective countries and only Mumbai has literacy rates under the 90 per cent mark.

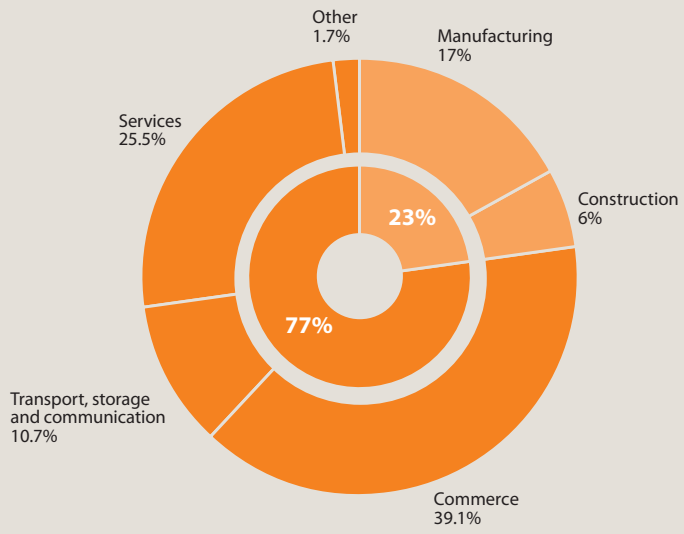
### HUMAN DEVELOPMENT INDEX



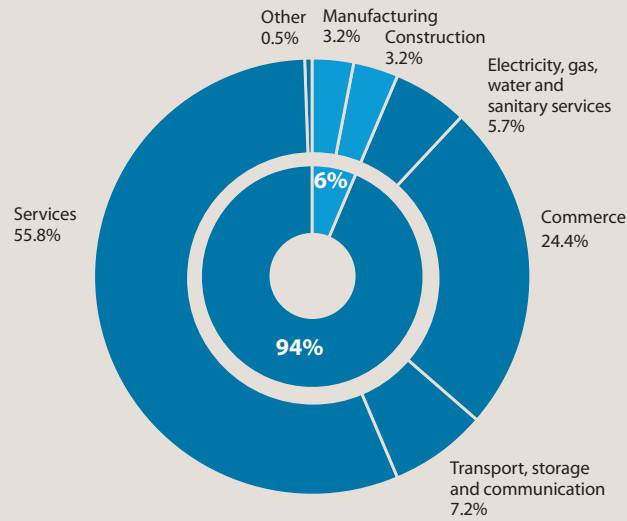
In all cases, with the exception of Bogotá and Berlin, each of the Urban Age cities has a higher score for the Human Development Index (which combines life expectancy, literacy, educational attainment and GDP per capita) than their national hinterlands. New York, London and Berlin have the highest scores, followed by Buenos Aires, Mexico City, Shanghai and São Paulo.



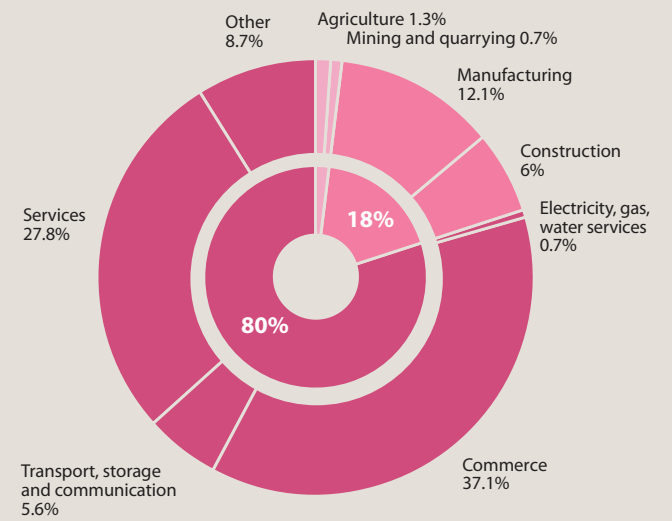
## BUENOS AIRES



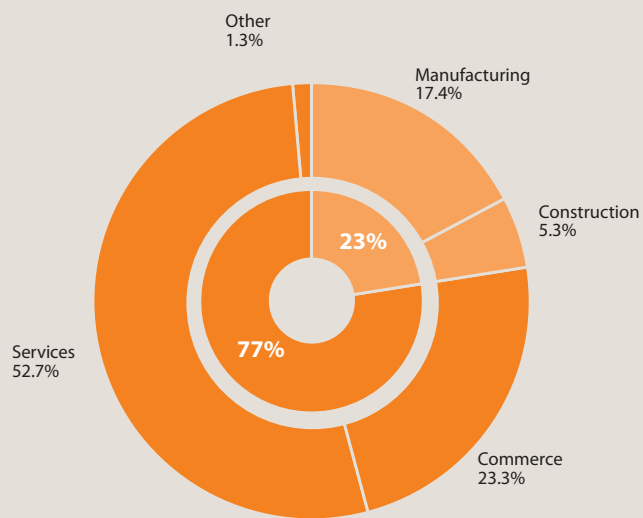
**BOGOTÁ**



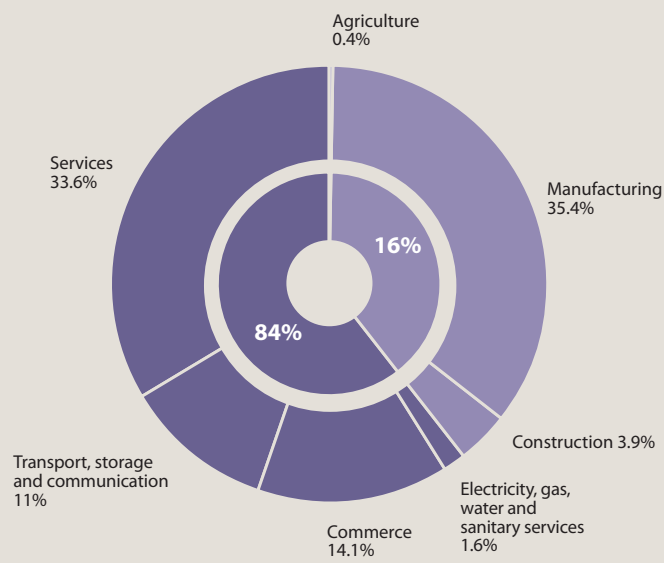
**NEW YORK CITY**



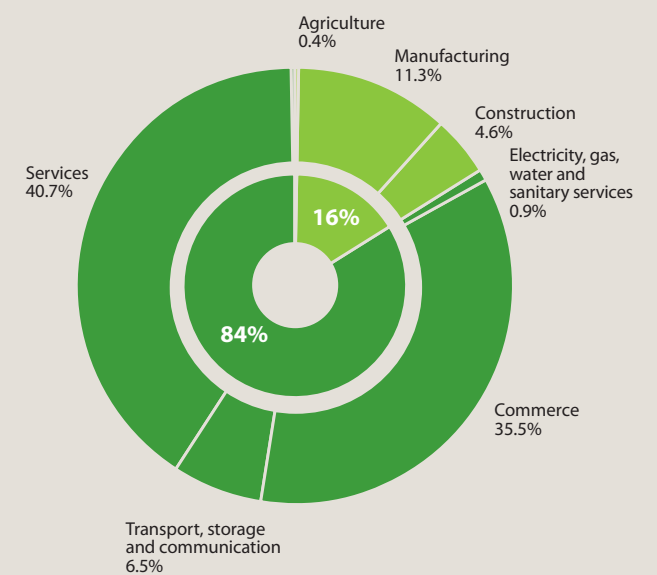
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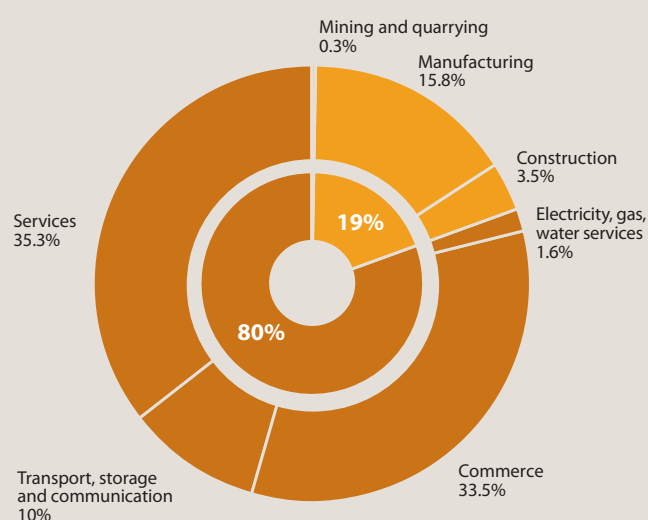
**LIMA**



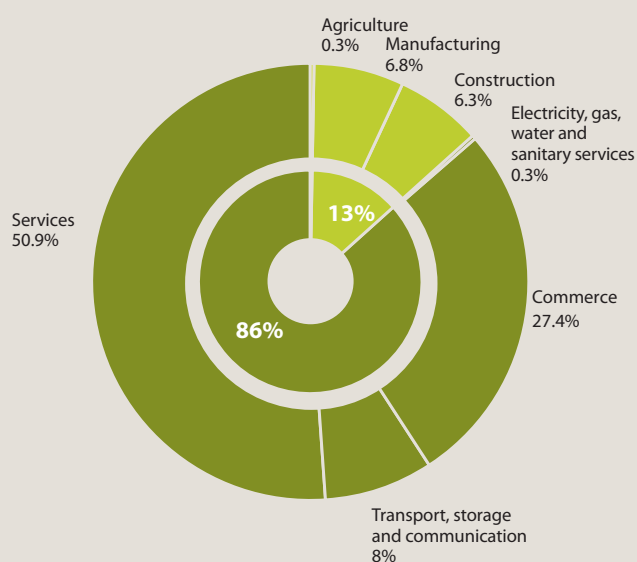
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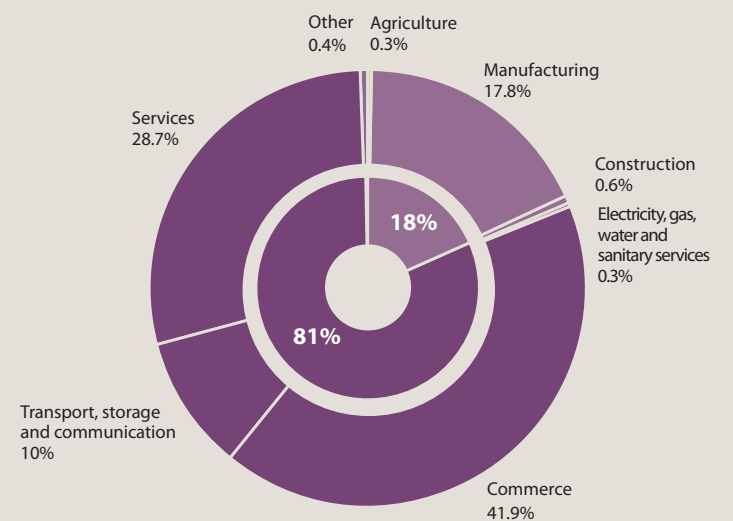
**BERLIN**



**MEXICO CITY**



**LONDON**

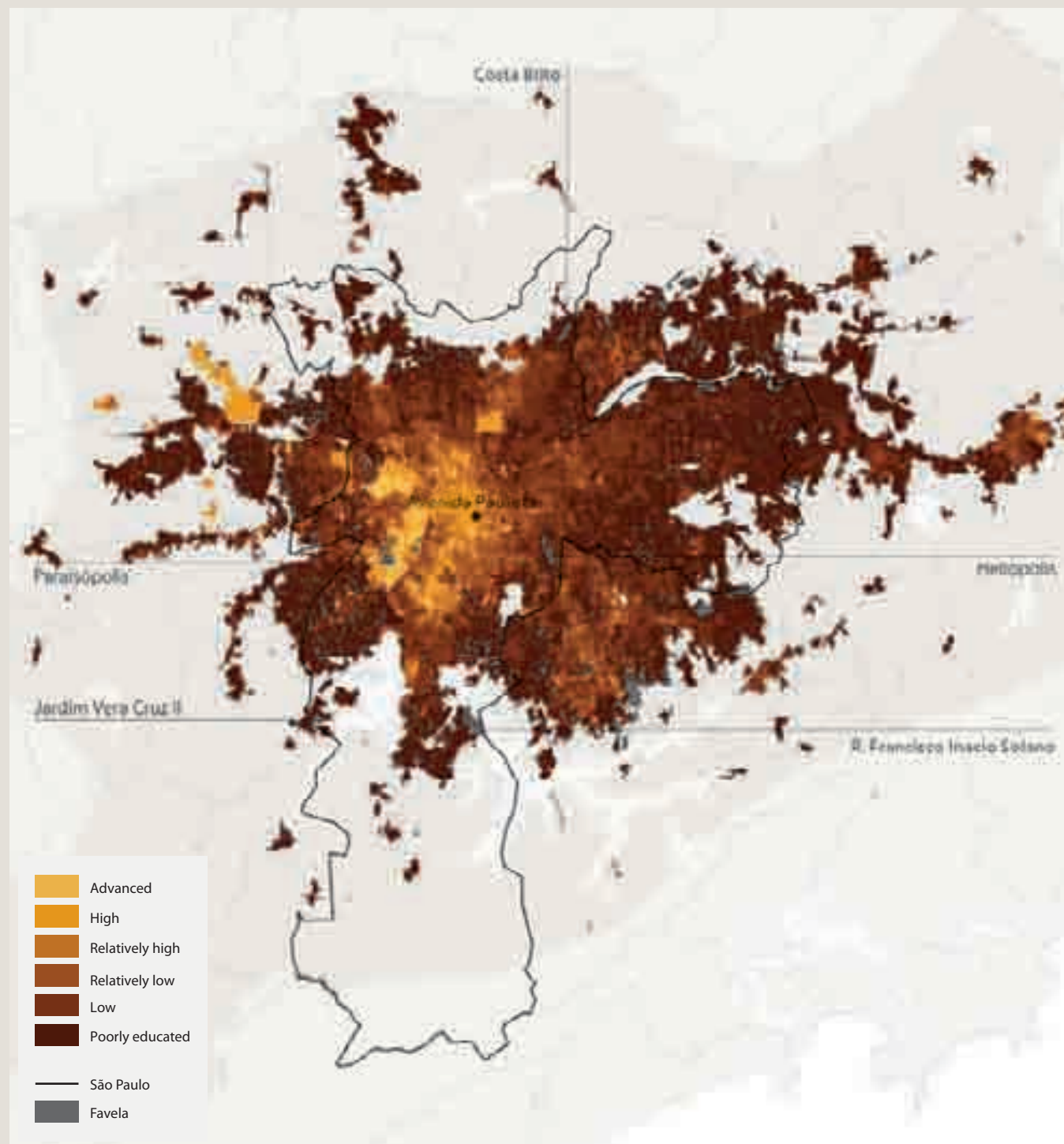


**MUMBAI**



# METROPOLITAN SCALE IN SÃO PAULO

## EDUCATION LEVELS AND INFORMAL SETTLEMENTS WITHIN THE BUILT-UP AREA



São Paulo was designated as a metropolitan region by the Federal Government in the 1970s under its Metropolitan Action Program. The São Paulo Metropolitan Region (SPMR) not only accommodates the largest urban population in the country, it also has the highest residential density at 2,420 people/km<sup>2</sup>. The city is at the centre of a radius of 100 km regional hinterland that encompasses the SPMR's nearly 19 million inhabitants and extends southwards to the Santos Coastal Metropolitan Region (1.7 million inhabitants), northwards to the Campinas Metropolitan Region (2.7 million inhabitants) and includes the city of Sorocaba and cities in the Paraíba Valley.

The extended Metropolitan Region covers less than 6 per cent of the area of the State of São Paulo and has a total population of 24 million inhabitants, which amounts to 59 per cent of the state's population. It generates 63 per cent of the state's GDP and nearly 20 per cent of the national GDP. The SPMR covers an area of 7,944 km<sup>2</sup> and includes 39 municipalities, with the city of São Paulo (1,525 km<sup>2</sup>) at its centre. In the region, 95.7 per cent of the population is urban, with 10.9 million people concentrated in the municipality of São Paulo, and only 8 of the 39 municipalities not integrated in the continuous built-up area.

Between 1990 and 2002, the built up area of the SPMR increased from 1,765 km<sup>2</sup> to 2,208 km<sup>2</sup>, due mainly to the growth of illegal housing, often in environmentally protected areas surrounding the city's peripheral water basins where there has been little or no investment by public and private sectors. The conflict between social and environmental forces is at the centre of informal growth patterns in these vulnerable areas which put natural resources and new residents at risk.

The last decade has witnessed the construction of shopping malls, supermarkets, hypermarkets and fast-food outlets in the city's and the state's outlying areas. At the same time, approximately 900,000 inhabitants in the SPMR live in public housing complexes, called areas of 'social interest'. Since the 1970s, the state and municipal governments have built approximately 210,000 dwellings that fall under this category, but the government's limited capacity to produce housing for low-income families and the limited availability of financing has meant that the deficit between supply and demand has grown. In 2000, it was 529,000 dwellings, while by 2005 the deficit had increased to 738,300, affecting around 86 per cent of the most deprived families in the area.

It is now clear that specific aspects of the city's current organization must be discussed, since the metropolitan scale

## STATE MUNICIPALITIES



## METROPOLITAN REGION



has been thus far considered only in reference to *surface*. Nothing has been added as to the way the new organism is understood, nor has any evaluation been made of the mobility impacts of recent major projects. Among other complex phenomena, the exact functioning of the metropolitan gears must also take into account that the conventional forms of industrial activity have been replaced with new types of labour arrangements. The attributions of metropolitan areas in this new stage of the Brazilian and international economies are expanding, largely due to the presence of organisations that are better able to perform new services and different industrial functions. The result is an important characteristic phenomenon in which services have become more important than industry.

*Regina Meyer is a member of the Faculty of Architecture and Urbanism at the University of São Paulo (FAU/USP) and currently coordinates the Laboratory of Metropolis Urbanism (LUME).*







# URBAN AGE CITY SURVEY

As part of the 2008 research focus, Urban Age commissioned a city survey about quality of life in São Paulo to better understand the public's perception of current urban trends. **Luci Oliveira**, Manager of Public Affairs at Ipsos Brazil, and **Ben Page**, Chairman of the Ipsos MORI Social Research Institute in London, highlight the survey's major findings.

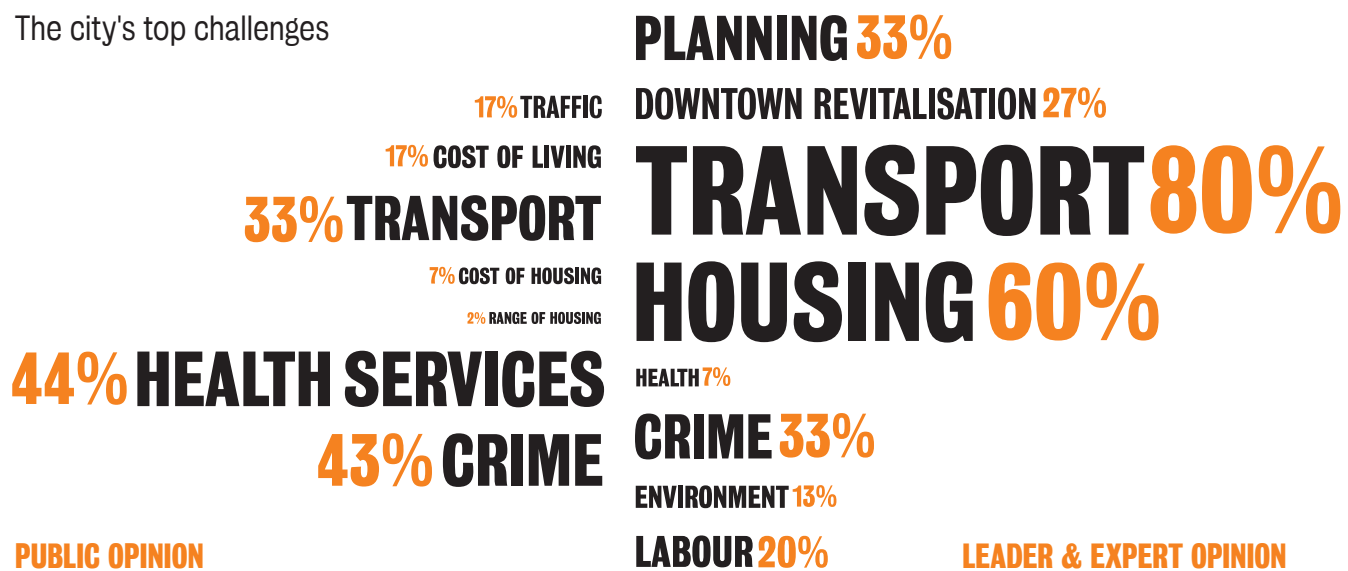
As one of the biggest cities in the world, São Paulo shares many of the beauties and the tragedies of being a major cosmopolitan centre. What is most striking is the level of inequality and diversity inside this one city. As in many other world cities, in São Paulo one will find modern buildings, the most up-to-date fashion, services and goods, the best brands from all over the world, high-tech commercial and entertainment centres, and modern hospitals and health services, as well as fine art exhibitions. At the same time, it faces the same structural problems as many cities but in very severe forms: appalling traffic, poor public transport, high levels of unemployment, very high levels of crime and violence, very poor air quality and in general high levels of pollution.

How do its citizens feel? Comparing the views of Paulistanos and Londoners, living in a very different global city, both single out job opportunities and the range of shops as the best things about it. In London many people also single out the diversity of the city – London is more diverse than anywhere else in Europe. Interestingly this is not an issue in São Paulo: although the city has a diverse series of migrant communities, most of its inhabitants don't seem to take it for granted – only 5 per cent see it as a positive factor worth mentioning. Perhaps that is the difference between a city built on international migration and one that is thousands of years old but has only changed dramatically by migration recently.

It is when we come to problems and priorities for change that people in the two cities are very different. While for Londoners the top three issues are the cost of living, traffic, and crime, Paulistanos are more worried about health services, safety and crime rates, and public transport. The top problems in São Paulo are all related to public services – problems aggravated by the fact that the city has grown too fast without adequate planning. In the 1930s São Paulo became an industrial centre, and population in the 'locomotive of Brazil' exploded. In the 1900s, São Paulo had a population of 240,000 people. By the 1960s it was 3.8 million. In the 1990s, the Metropolitan Region had around 15 million, and now it totals more than 19 million people.

While the migration of people to São Paulo is diminishing and the pace of population growth is slowing down, public services are now under huge pressure. Ratings of these are very negative compared to London (where

The city's top challenges



## PUBLIC OPINION

There are marked differences between the public's perception and that of key stakeholders and experts with regards to the top challenges in São Paulo. The public view (left) was gathered by the Urban Age São Paulo poll conducted by Ipsos Mori in June 2008 of 1,000 residents living within the São Paulo Metropolitan Region. The perception of leaders and experts (right) was extracted from meetings in August 2007 with 44 key individuals working in various urban spheres of government and private practice. Clear differences are the degree to which 'health' and 'crime' are regarded as the top two challenges by the general public compared to 'transport' and 'housing' for urban leaders and experts. The latter view might partially be informed by which services city government is responsible for in contrast to the major overarching societal concerns identified by the general public.

criticising them is a popular hobby, but satisfaction is much higher), and an ageing population will increase pressure on them in both cities, especially in terms of health care. Health services stand out as a huge challenge for São Paulo, with a very low level of satisfaction compared to most European countries.

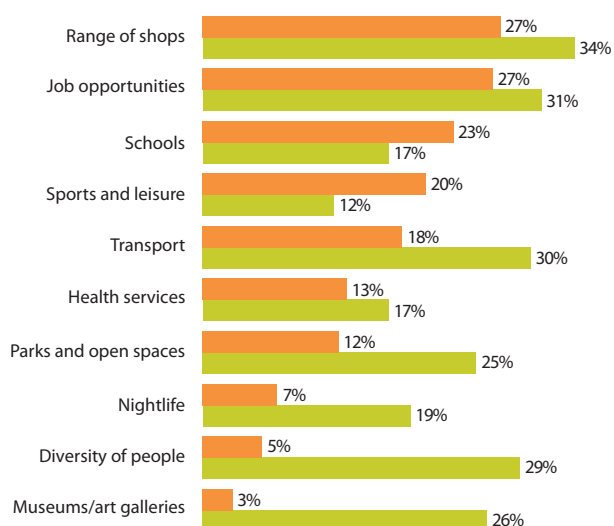
In fact, the only services the majority of Paulistanos are satisfied with are banks and supermarkets. All others have very low satisfaction scores compared to London or many other 'western' cities. Clearly the quality of public services has a huge impact on how satisfied people are with the city as a place to live. The more satisfied they are with public services the more satisfied they are with the city. But when asked how their city can improve, Londoners also cite healthcare, education and transport, although their views are less acute and more varied. In São Paulo the problems are more fundamental and there is far more consensus on what is needed. First people want to see the basic needs

being supplied: the needs for better health and education services are seen as most pressing. These and public housing are absolutely key for the future of 'Sampa', taking precedence over even crime.

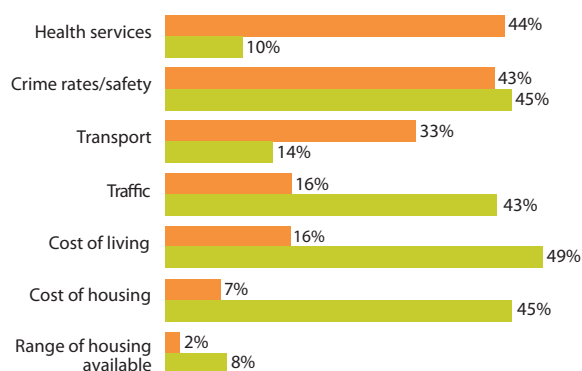
Londoners actually attach more priority to crime levels than São Paulo residents: despite murder and kidnapping rates being much lower, and despite feeling safer in their own local areas than a decade ago, they are appalled by high profile 'signal' crimes such as teenage stabbings that now make the news daily in London.

Interestingly, once we look at the statistical relationship between what people say matters most, and what is revealed in their views via analysis, crime levels and traffic (among the most startling features for foreign visitors to the City), turn out to matter, if anything more than public services for quality of life. São Paulo faces many major challenges that its residents are well aware of.

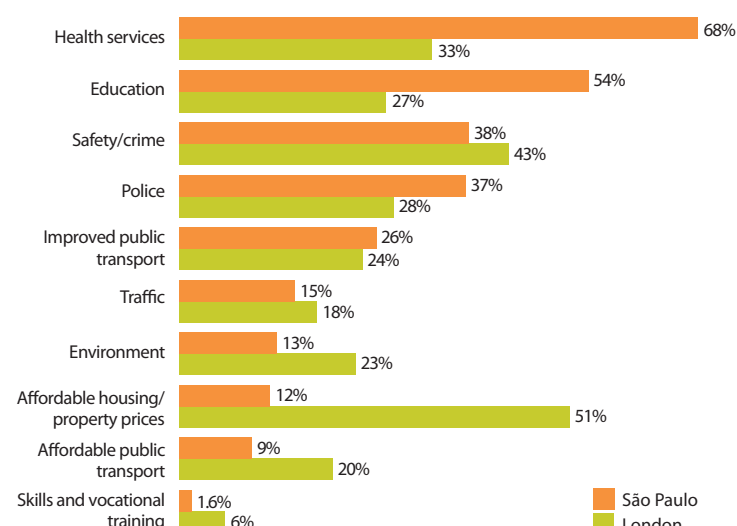
## What do people like most about the city?



## What concerns people most about the city?



## What would improve quality of life in the city?



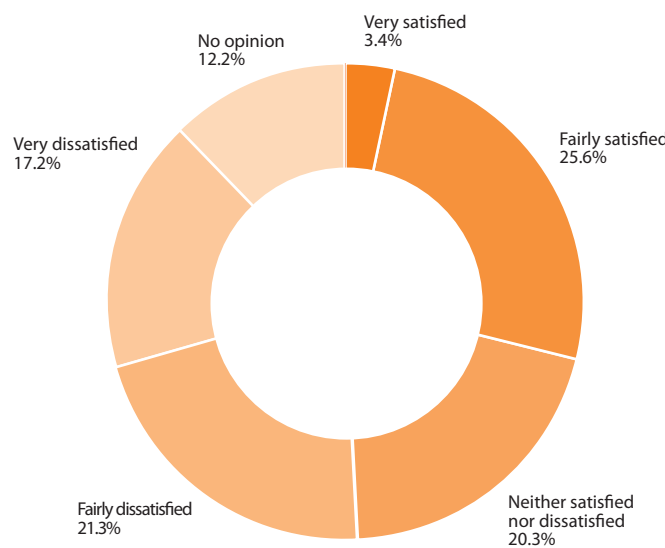


## URBAN GOVERNANCE

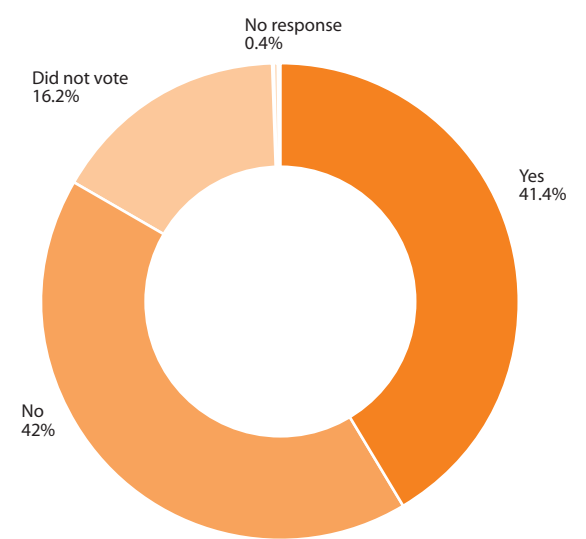
A peculiar characteristic in São Paulo is that civic and political society seem much less effective than elsewhere. Its people are less politicised than in other big cities of the developed world. In Brazil voting is compulsory, but half of people in São Paulo cannot remember who they had voted for in the last elections for governor, while around 42 per cent are not sure who they voted to be mayor. In this context, accountability is weak. Satisfaction with the government in general is low, although as in other countries it is a little higher for local government than for the state government, reflecting criticism of health services and public safety.

But despite low satisfaction with so many public services, residents do not see elections and political engagement as an effective way to improve urban life. This illustrates a cyclical problem where lack of education, and the slow development of a 'middle' class, together with a very polarised society contribute to a lack of political culture and participation. São Paulo has a long way to go before it can be considered a developed city, especially given its social and economical inequalities. It needs to keep growing its economy but in a more sustainable manner. It faces huge challenges on quality of life, and to make progress, the city will need to try to reduce social and economic inequality, despite a political system that seems destined to preserve the status quo.

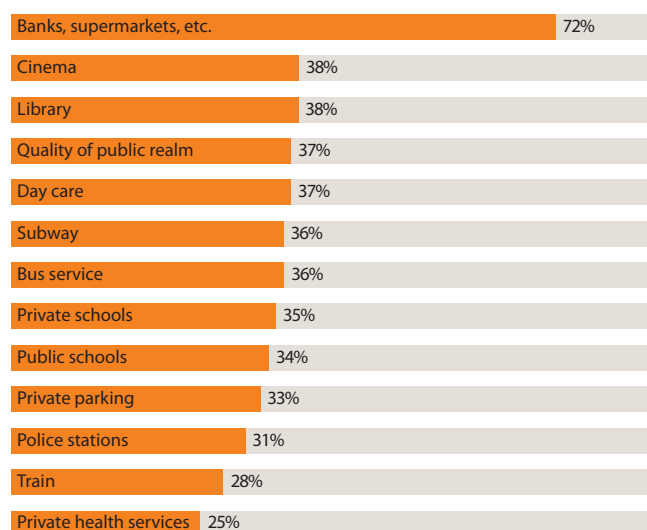
Satisfaction with current city government



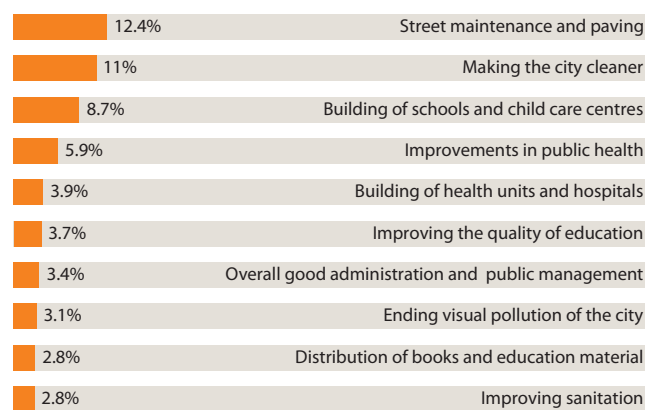
Remembering last vote



How satisfied are residents with services in the city?



Reasons to be satisfied with city government

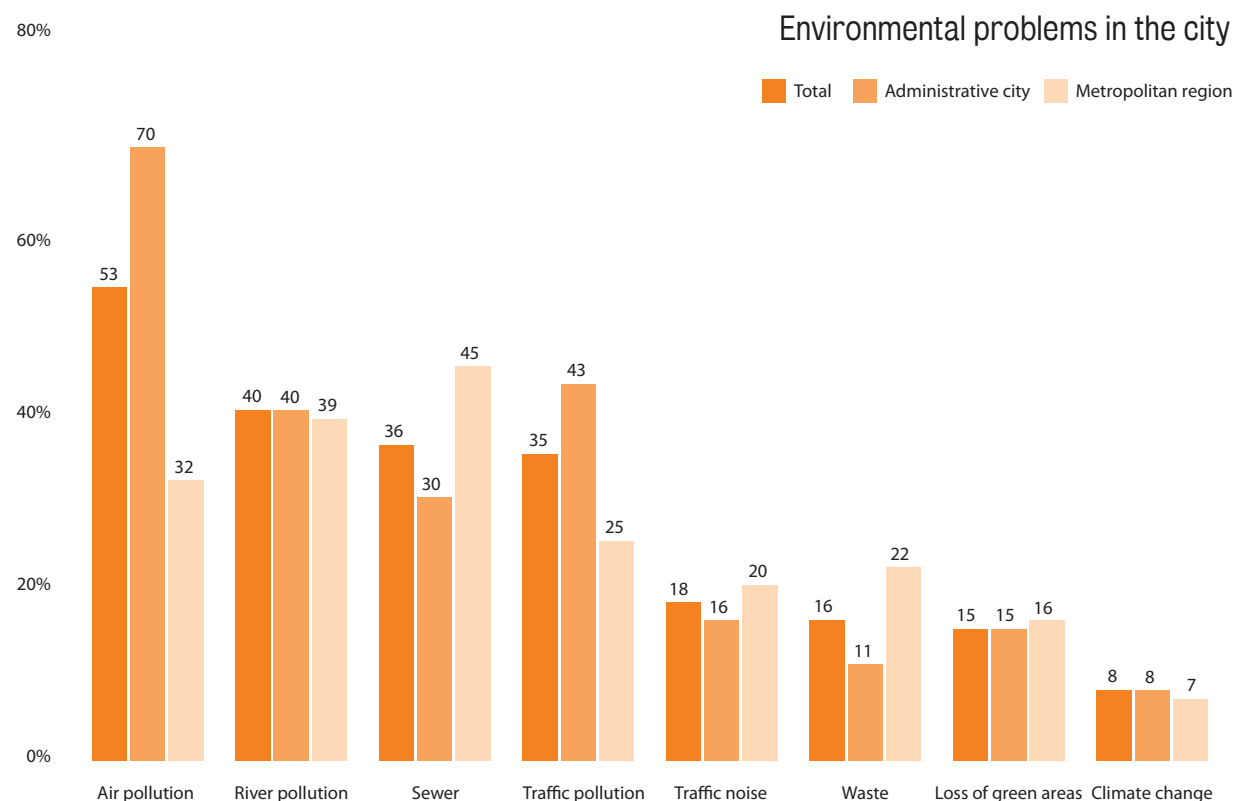


Reasons to be dissatisfied with city government



## ENVIRONMENT

The high volume of traffic and poor fuel quality (in Brazil, diesel has 500 particulates per million, while in Europe and the US, diesel has 10 particulates per million), as well as the sparse amount of green areas in the city make air quality a serious problem for residents in central areas of São Paulo. In outer areas, sewerage systems are seen as more problematic. Interestingly, climate change – a topic which features high among environmental concerns for residents in many European cities – gets little recognition in São Paulo.





## SECURITY

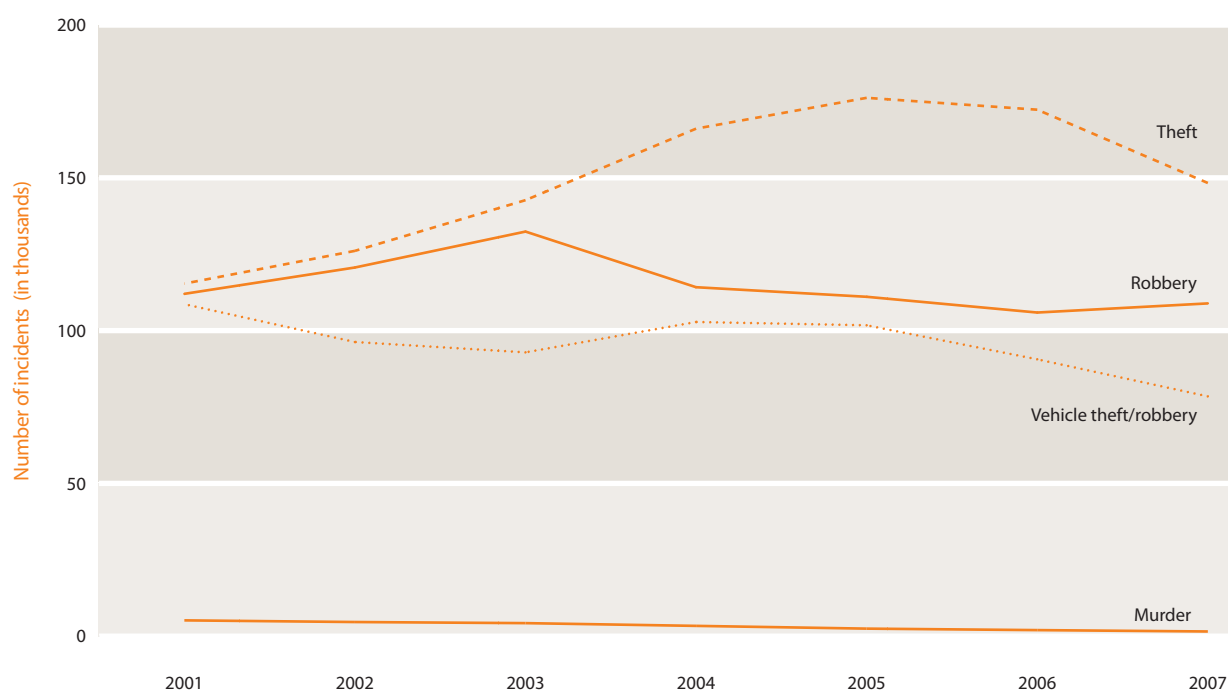
São Paulo is a city of dramatic contrasts. As one walks through the city you will see people of all ages on the streets, begging in the traffic jams, prostitution, and huge favelas alongside middle-class neighbourhoods. The latest and greatest example of São Paulo's contrasts is a compelling architecture symbol of the city, the modernist Ponte Estaiada bridge. Its futuristic design is surrounded by favelas. In São Paulo overall, 11.1 per cent of the population live in favelas.

The same inequalities are vivid when it comes to public investment. Some areas and neighbourhoods have reasonable public services and infrastructure and low crime, for example Jardins, Pinheiros, Itaim, Moema, and Higienópolis. In contrast, neighbourhoods like Campo Limpo, Casa Verde, M'Boi Mirim, Brasília, and Cidade Tiradentes have low public investment and the highest crime levels in the city. According to official statistics, crime rates are in decline across the city as a whole from astronomical levels. Residents are extremely fearful of crime in their own neighbourhoods after dark – twice as concerned as in London (despite Londoners being as or more likely to see crime as a major problem in their city).

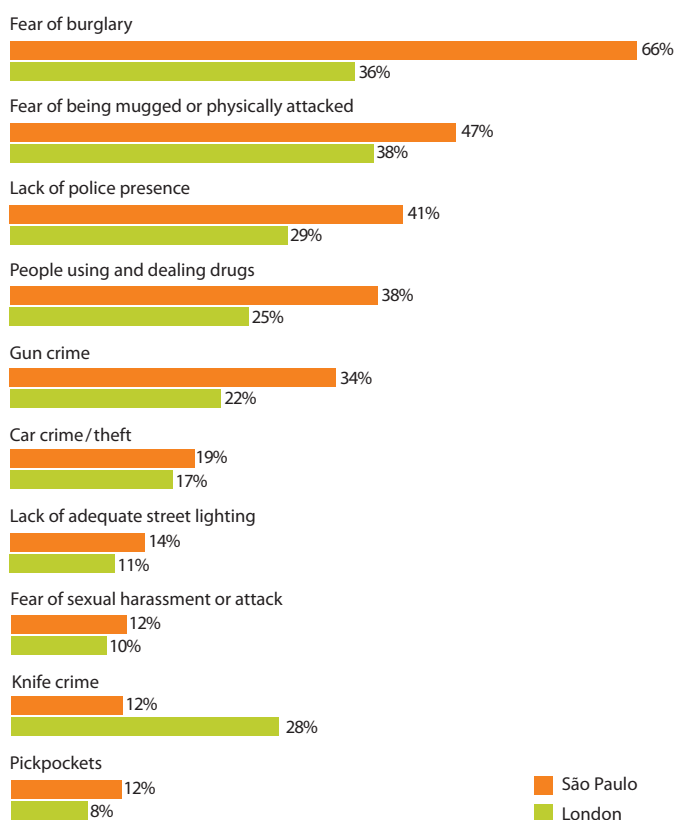
The vast majority are worried about being robbed or attacked. And the absence of adequate policing is seen as a big issue. Overall 57.3 per cent report being robbed or a close family member being robbed. Half (47.5 per cent) say they know someone who has been murdered and 4 per cent have direct experience of kidnapping. As a result there is real demand for more visible policing, with more police posts in the city, for a faster and more severe judicial system, and for tougher punishments for teenagers, giving them the same penalties as adults.

The use of CCTV in public spaces is a reality in São Paulo, and the population wants more of it. Use of private security is also extensive, and most people approve of the idea – the lack of police patrols is the third most important reason for fear of crime, and this fear is even stronger in the Metropolitan Region than in the centre. Other typical problems of the developing world can be found here, such as a significant informal economy, drug dealing, and lack of basic infrastructure in some neighbourhoods, poor urban environments and street furniture, degradation of public spaces and graffiti. A short walk through the city centre presents a mixture of neglected but beautiful architecture together with a massive informal economy and high levels of crime. Even so, education levels and formal employment are improving. The city still needs to answer to some basic needs, especially in terms of public health services.

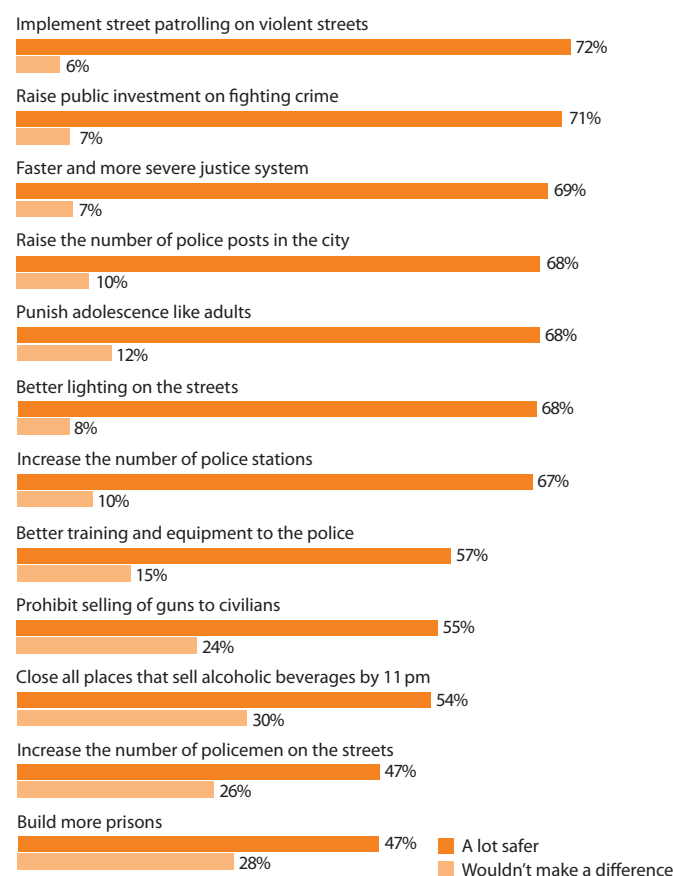
Incidents of Crime (in thousands)



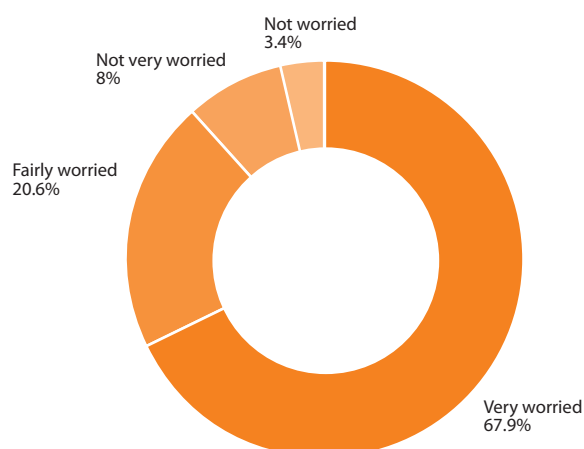
Reasons for feeling unsafe



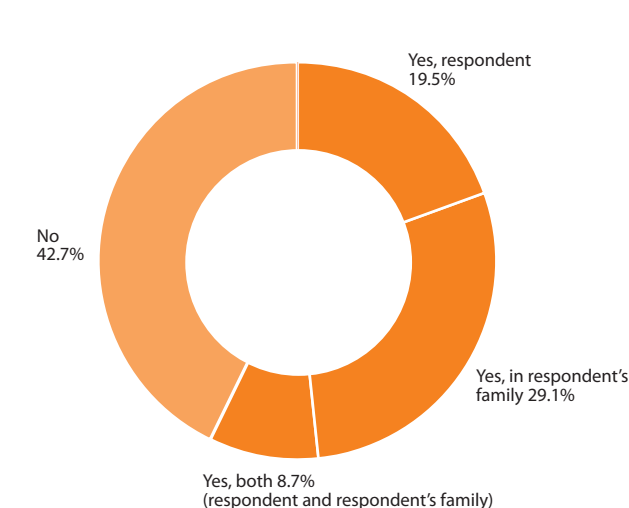
How to improve safety?



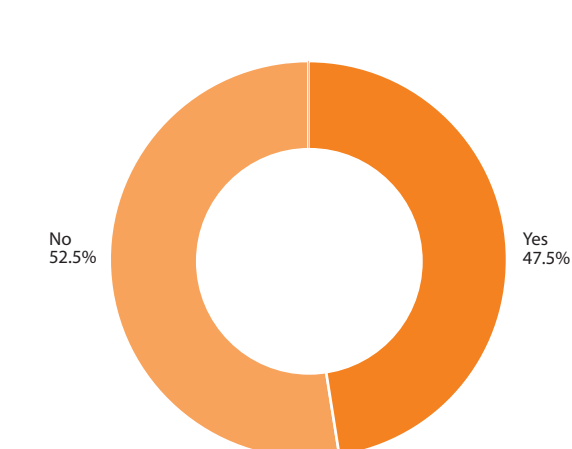
How worried are residents about crime?



Ever been assaulted?



Close relationship with someone who was killed





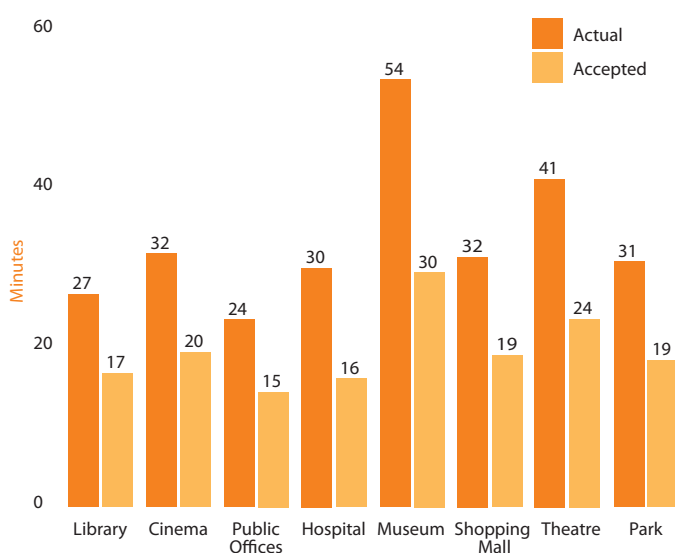
## TRANSPORT

Problems of pollution and traffic are common to cities around the world, but are more dramatic in São Paulo due to the city's role as the economic and financial heart of the country. The richest city in Brazil – and the 19th in the world – faces huge pressures on its infrastructure with economic growth driving some of its most significant problems.

The traffic congestion is due in part to the late development of mass public transport systems; the metro was planned in the 1930s but the first line only started to operate in 1974. Today the metro is still only 62 km long. On the other hand, the city has 18,000 km of streets, and 15,000 urban buses and almost four million cars. Today people spend an average of 42.8 minutes to get to work. But even with terrible traffic, most Paulistanos would not think twice about buying a car if they could afford it. And they would use that car as their main form of transport. Although high concentrations of traffic are disturbing to many visiting Europeans and North Americans it is a phenomenon which the general population can cope with much more easily than inadequate health and education services.

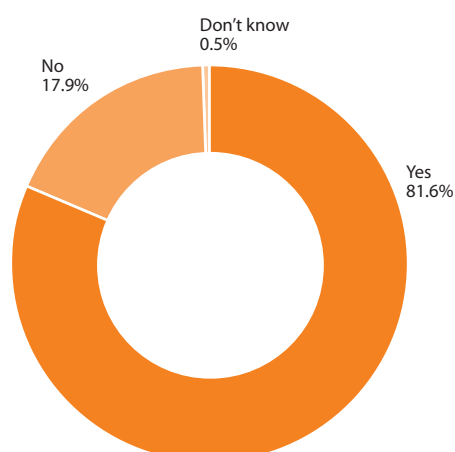
When thinking about what could improve traffic congestion the top two solutions residents point to are investment in the metro system and the expansion of bus corridors in the city. At the same time, the great majority affirm that they would use public transport if there was more of it available and if it was more comfortable, less crowded and faster.

### Travel times to key destinations

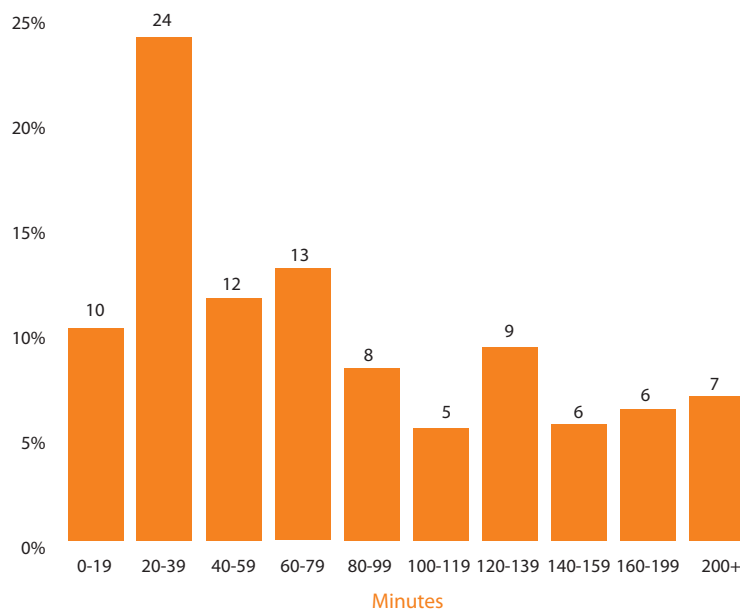


For all urban destinations above, actual average travel times exceed the acceptable levels as stated in interviews. The ratio between the two is similar although slightly higher for those facilities further away, for example museums, theatres and concert halls.

### Would potential car owners buy a car if they could afford one?

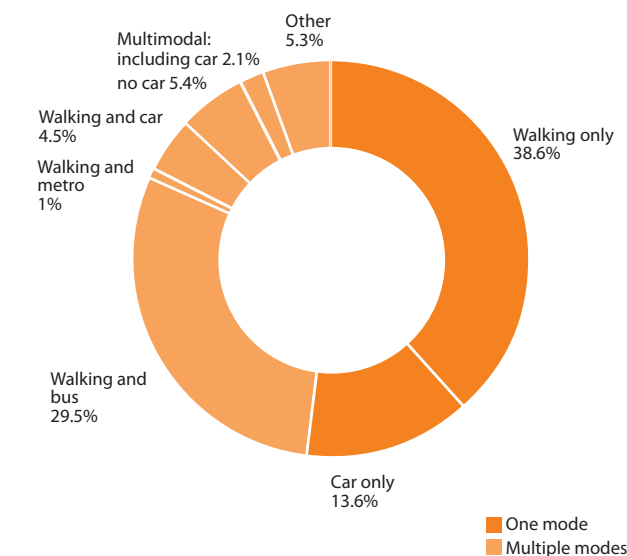


### Return travel times to main daily destinations



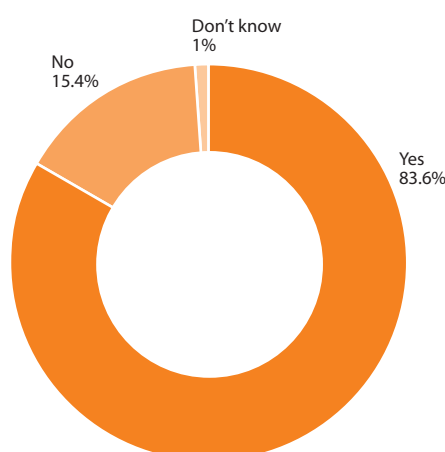
Almost one quarter of those surveyed require between 20 and 40 minutes for their combined return journeys to their main daily destination. More than 7 per cent spend more than 3 hours on these daily journeys.

### Means of travel

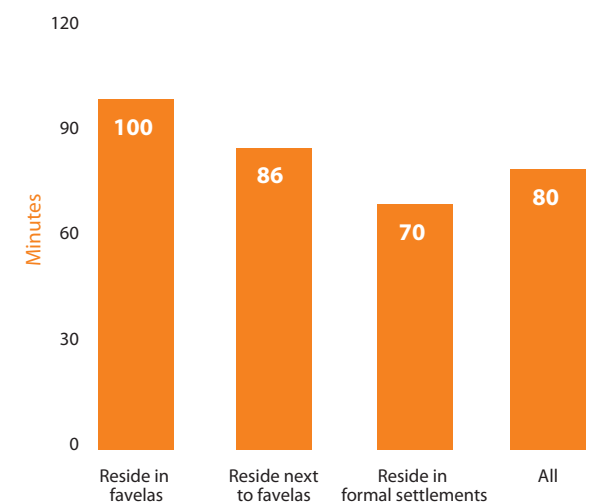


In the past, most surveys of the way people move in cities focused only on motorised transport. Furthermore, they have tended to assume that journeys occur by only one mode of transport. This survey allowed for more specific and dynamic information about the main daily journey and it captures the multiplicity of different means of transport used by those surveyed. The largest percentage of people (39 per cent) only walk to their main daily destination; the second largest travel mode (30 per cent) combines walking with bus transport.

### Would car be used as the main mode of transport?

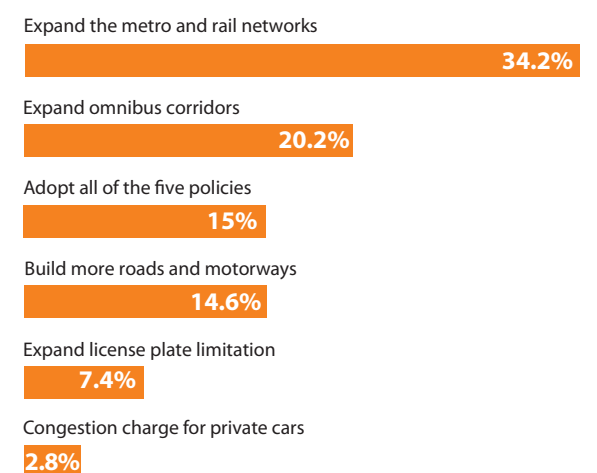


### Return travel times by household type



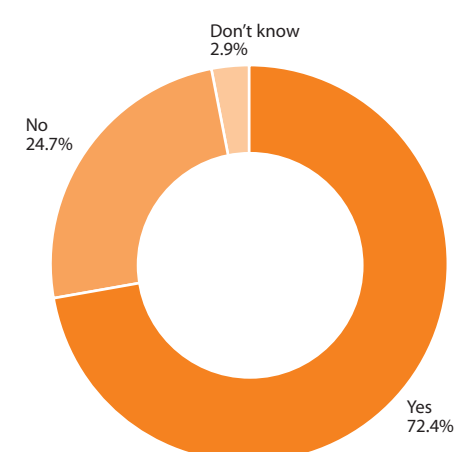
Average travel times for residents of favelas are significantly higher (100 minutes) than those living in formal settlements which are not close to favelas (70 minutes). The average return travel time for the main daily activity of those surveyed is 80 minutes – slightly lower than the travel to work average (85 minutes).

### The public view on solving the transport problems



A vast majority of those surveyed would prioritise the expansion of the metro and rail network followed by expanded bus corridors. Approximately fifteen per cent of those surveyed adhere to the classic – and in most cities unsuccessful – strategy of building more roads and motorways as a priority.

### Agree to reduce car use and promote public transport, walking and cycling



# NEW URBAN OPPORTUNITIES

In a critique of the status quo's preference for privatised urban development and banal urban forms, **Raul Juste Lores** advocates a fundamental shift to reclaim the architectural richness of existing infrastructure in São Paulo's centre.

Every Friday afternoon, an insane race begins for millions of *Paulistanos*. Who manages to escape São Paulo first? The city's fugitives know they will face miles of congestion, that it will take up to four hours in a car to make a 150 km-long journey, and that the same punishment awaits them on their return the following Sunday. Yet this breathless race is repeated every weekend and on national holidays, accompanied by traffic stopping over 220 km of the city's streets.

São Paulo's biggest challenge is invisible, but it is both the cause and effect of its most renowned problems: security and traffic. This challenge is the feeling of being in an urban prison and the need to escape it. Residents complain about it daily, and even those who love the city say 'São Paulo is hopeless'. But how can such a young city, which only became important in the second half of the twentieth century, now be seen as an incorrigible old hand?

In this era of global competition, in which cities want to impress investors and tourists and recruit talented nomads and resources, São Paulo does not present an image of modernity. Missing are Shanghai's Maglev, Dubai's new skyline and Tokyo's high-speed trains. Old and insufficient infrastructure is everywhere: 62 km of metro lines compared to 200 km in Mexico City; hour-long connections between the airport and city centre that depend on taxis; and rivers, the city's business cards, which are dead and stinking despite decades of investment to clean them.

Trying to assess where São Paulo went wrong or to identify solutions involves confronting questions, which range from a lack of mobility to architectural ugliness and residents' feelings of insecurity – even in safe areas. São Paulo needs to analyse itself, and correcting its future growth would be a good starting point.

Over the last 20 years, the Berrini and the Nações Unidas Avenues have shown the greatest economic strength in São Paulo. Yet the area's expansion reveals a series of mistakes, especially in the inhuman, arid and unsustainable form the city is adopting – mistakes that were not due to a lack of money as with other cities in the developing world. The roads that surround the area are only suitable for cars, never for public transport, and they send a clear message: use your car because you cannot rely on access via a metro line or bus.

Real estate speculation has transformed what was once a marginal area inhabited by slums into a series of so-called 'intelligent' high-rise buildings that shut out the city. In some cases, it is difficult to find an entrance other than the car park or the garage. Blocks are over-sized, there are no trees or public spaces, and the ground floors lack bars, restaurants and shops. Even during the day his areas seems uninhabited apart from the permanent traffic congestion surrounding it.

Property developers bought the area cheaply and built-up the last square centimetre. Subsequent lobbying on behalf of the corporations that settled there forced the government to bring in electricity and water supplies, as well as public transport and other public services, leaving the bill to be picked up by the public coffers. São Paulo has repeated this property market cycle now several times: first abandoning the centre for Avenida Paulista in the 1960s, then Paulista for Brigadeiro Faria Lima Avenue in the 1980s and now with this western area since the 1990s. Rehabilitation and modernisation of the city's architectural heritage is alarmingly rare – existing buildings are neglected while new financial districts are created.

São Paulo is, increasingly, an octopus whose tentacles stretch further and further outwards, making it impossible to provide efficient public transport. The tentacles head in all directions: to the West, where the corporate world, gated communities and high-rise buildings proliferate. While the centre has hundreds of empty areas, abandoned buildings and waste land, the poorest people seek housing on the edge of the city, in the North, East and South, polluting areas that should be environmentally preserved, and contaminating the reservoirs that provide the metropolis' drinking water.

In both the expansion of the suburbs and of financial districts, public powers arrive too late, and thus institutionalise the errors made. And despite São Paulo's construction boom and unprecedented economic growth over the last 30 years, resources are not being directed to correct previous mistakes. Both the Mayor and the state government are required to act as educators and regulators for managed growth, and neither should be afraid to curb certain investments, put up barriers or impose conditions.

The unwelcoming character of the Berrini and Marginal Pinheiros areas can be addressed through demands to the property developers themselves. Buildings over fifteen-storeys high should allow for the creation of a square, a garden or a public space that enhances the street-front experience. Avenues need restaurants, bars, shops, pharmacies and bookshops on the ground floors. These functions animate streetlife throughout the day and night, and provide the social surveillance that São Paulo so desperately needs.

Why is it, then, that Avenida Paulista is more secure day and night than other parts of the city? It is because its design embraces the city and mixed-use. There is Trianon Park, public squares, wide pavements, medium-sized blocks and an eclectic occupation. Next to large residential buildings, such as Paulicéia, Saint Honore, the Nações Unidas and Tres Marias, there are banks, schools, colleges, hospitals, pharmacies and pubs, newspaper stands and cultural centres such as the Theatre of SESI, Itaú Cultural and MASP.

Conjunto Nacional proves that São Paulo once knew

how to build intelligent buildings. On its 33 floors, divided into three blocks, there are offices and apartments with separate entrances. The wide pavements outside the building are made of the same material as the floors inside, thus obliterating the boundaries between public and private. The ground floor hosts cinemas, shops, banks, pharmacies and restaurants. This varied use demonstrates how to inject modernity and new life in a 1950s building without damaging it. The result is that the block of the Conjunto Nacional is the liveliest on Avenida Paulista. Continuous streams of people walk the area, weekdays and weekends. In a city that is prisoner to the paranoia about safety, the generous and welcoming architecture of Conjunto Nacional offers coexistence and safety for thousands of people. Criminals, who prefer dark and abandoned places where they can be left alone, are unwelcome there.

Why have the postmodern buildings of the Marginal Pinheiros and Berrini never managed to repeat the success that the Conjunto Nacional, designed in 1953, still has in 2008? If the current real estate market of São Paulo prefers repetitive and simple solutions, it is the responsibility of the public powers to make demands that can 'build the city'. The same permissiveness exists in the planning for shopping malls despite extensive literature about how malls damage the urban landscape. São Paulo now has nearly 80 malls. In five years, the Daslu, Cidade Jardim and Vila Olímpia malls were built next to older ones such as Iguatemi, Morumbi, D&D and Market Place. The result is a chain of seven malls within 10 km<sup>2</sup>. Just as the Mayor can veto building a hundred-storey tall tower because of its impact on the neighbourhood, or can prevent the demolition of a house built in the 1920s, permission for the construction of new shopping malls should require contractors to think about alternatives.

Any intervention that makes a Paulistano not use a car, but instead walk for a few hours on the street in public space, would already have an educational value. Not only because the streets – like the ones in Manhattan, Buenos Aires, Paris or Rio de Janeiro – would be full of people, but also because if São Paulo's elite occupied the streets, there would be greater demand for the care of pavements, traffic signs, and urban furniture.

The new malls could remember the trade streets that marked the Paulistano centre, such as the Barao de Itapetinga. The shopping mall typology that has dominated the past 40 years is not sustainable. Beijing has just inaugurated the Sanlitun Village mall which features 19 low buildings, up to four-storeys high, designed by 16 different architects.



High-end office space is concentrated in towers such as these overlooking the Marginal Pinheiros River in the Berrini region, the second largest financial district in São Paulo. A deficiency of integrated transport here makes the area less attractive than the new growth corridors along Avenida Paulista near the city centre.





The business services which make São Paulo the leading financial centre of South America have yet to occupy the modernist structures in the city centre. These commercial buildings, the result of feverish building activity accompanying industrialization, encapsulate the city's entrepreneurial spirit yet remain largely vacant.

The result creates diversity among the buildings, vast pavements and safe alleyways. It is, in effect, an open mall. So why continue to allow projects that do not give anything back to the urban landscape?

In Tokyo, where real estate is more expensive and scarcer than in any neighbourhood of São Paulo, municipal regulations required the multifunctional complex of Tokyo Midtown to set aside 40,000 m<sup>2</sup> of gardens, with an art gallery in the middle, as public space. Roppongi Hills sponsored the design of banks around the enterprise. In Berrini, builders have already demonstrated that they will not care for the city of their own volition. Regulations could force them to look after the design and maintenance of bus stops, benches and squares – investments that would only enhance their property values.

Palácio das Indústrias, Casa das Retortas, Memorial da América Latina, Casa e Parque Modernistas e Parque Trianon, are all well-known names for Paulistanos, but what do they have in common? The first two are large historic public buildings that have been empty for years, waiting for a new use. The others are freely accessible public spaces that are empty during weekends. Meanwhile, São Paulo has built several theatres in recent years in a region beyond the Marginal Pinheiros and Berrini. For most of the public it takes up to an hour and a half by car to get to a concert or a play. The public authorities have failed to create incentives to use empty and centrally located places that already have infrastructure and public transport.

In a city that has only a handful of buildings more than 150 years old, the heritage of the small town that became the largest metropolis in South America should make preservation and re-investment in the centre a priority. There are dozens of empty or underused twenty-storey buildings. Yet despite the rhetoric about revitalising the historic centre, the last remaining large companies and law offices have left in the last five years.

Residential projects in the centre do not succeed because either humble people without savings are installed in twenty-storey buildings in which the lifts alone generate service charges expected of middle-class housing; or because the 'brand' of the centre still has a negative connotation. Buenos Aires with its Puerto Madero, Mexico City with its historical districts of Condesa and Roma, and Bogotá with Macarena prove that even cities poorer than São Paulo can recover derelict neighbourhoods and transform buildings of past

### The public authorities have failed to create incentives to use empty and centrally located places that already have infrastructure and public transport

decades into local versions of Soho and Chelsea in New York City or the fashionable Marais district in Paris.

São Paulo's centre has the highest concentration of museums and cultural facilities in the city, the most metro stops and bus stations, several squares, wide pavements and public buildings, and the police is more present there than in other areas. The centre is also strategically located in the middle of the city.

Why, then, has the revitalisation of the centre not worked? The answer is that the boost given by the public authorities was too timid. Large construction companies could have been required to think about alternatives in the empty centre or even retrofit buildings whose historical charm is an added bonus. Photographers, visual artists, stylists, advertising executives, musicians and designers have never needed an explicit and direct invitation from the authorities to occupy these voids. The city quickly expropriates whole buildings to make room for viaducts, tunnels and other works, but it cannot allow new uses for empty buildings in the centre for professionals in the creative industries who are priced out of overvalued properties in Vila Madalena, Vila Olímpia or Jardins.

The Pinacoteca, the Sala São Paulo and the Museu da Língua Portuguesa, all excellent cultural institutions, suffer from a pre-supposed revitalisation of their neighbourhoods. They remain isolated buildings, where users arrive and leave hastily by car, avoiding any intrusion into the areas beyond their walls. Nobody thought about creating offices, residential use or studios – subsidised or not – which could have provided a halo effect for the surroundings.

One of the recent examples of São Paulo's vitality can be seen at Roosevelt Square. A pile of concrete since the 1960s, when it was constructed to connect express roads and viaducts, Roosevelt Square was the locus of drug trafficking and prostitution until five years ago. Its devalued residential buildings, however, now have new uses on the ground floor: cinemas and bars sit next to alternative theatre groups in search of cheap space. From the dramaturgic talent to

urban opportunity, Roosevelt Square now hosts bars and seven theatres that offer plays throughout the day to pay for their expenses.

The courage of the pioneers and the growing movement in the area has driven away criminals. Roosevelt Square has thus turned into a small village in the city centre. But despite years of discussions and promises, a 'pentagon' of concrete prevents it from becoming a real square. A landscape design project would allow the Roosevelt 'movement' to spread to neighbouring streets, building even more theatres, pizzerias, and bars and bringing even more lively youngsters to the area. Several other areas in the centre could host clusters of creative industries, such as the beautiful working class village next to Casa de Dona Yayá in Bexiga, the empty plot beside the Teatro da Oficina, the large pavements with galleries from the 1950s, the beautiful Largo do Arouche, the Avenida Vieira de Carvalho, and the abandoned Vila Itororó.

The success of the Cidade Limpa (Clean City) project, which focused exclusively on removing billboards and outdoor advertisements from the streets of São Paulo, shows how even very small interventions can have a strong impact on Paulistanos' perception of their city. This was not an expensive project, but it managed to counter the belief that 'São Paulo is hopeless'. That the project stopped working reinforces the idea of timidity of São Paulo's public management. The billboards hid an ugly and grey metropolis that is now visible, and the government's failure to improve the urban landscape only adds to Paulistanos' low self-esteem.

Twenty-two years ago, Barcelona changed its landscape with the 'Barcelona, posat'e Guapa' project, which combined the withdrawal of outdoor advertising with concessions for temporary billboards. When renovating the façade of a historic building, the sponsors were permitted to put their logo on the protective mesh covering the work. With the ban on billboards, street advertising was thus transformed into something more valuable that gave the local authorities enormous bargaining power when it came to making better use of existing resources.

São Paulo has one of the world's largest collections of architectural modernism: from the 1930s to the 1960s the city was what Shanghai is nowadays. Yet despite several works by Oscar Niemeyer, a cultural or tourist map does not utilise this heritage. Recovering the self-image of the city would start with these architectural landmarks. If it wants to be beautiful, São Paulo needs to dust off, polish and illuminate its past glories as any old European city knows. That the façade of Copan is in poor condition, that the Esther building from 1936 has a decrepit front, and that historically important if not architecturally revolutionary buildings like Martinelli or Sampaio Moreira seem semi-derelict, show the challenges ahead for São Paulo.

São Paulo needs to re-embrace architecture, just as it did in the years of accelerated boom and confidence in the future – in the years when its elite created the MASP, the Biennale and the Museum of Modern Art. This could give its young talent the opportunity to build better than the repetitive and awkward custom of today's real estate market. It could ease the entry of talented foreign architects, who would bring new perspectives, new materials and sensibilities to the city. It could also allow the creation of social housing projects by local architects finding new forms rather than the hundreds of identical 'crates' on the periphery. Lastly, the city could create public-private partnerships and international competitions for the construction of major buildings, with prizes awarded by the public for projects that stimulate beauty and create collective spaces that, rather than frighten, attract the Paulistano.

*Raul Juste Lores is the Beijing correspondent for Folha de São Paulo. He has served as editor and Buenos Aires correspondent for Veja magazine and an anchor and editor for Cultura TV.*



# THE MULTICULTURAL CITY

**José de Souza Martins** connects the roots of São Paulo's transitive multiculturalism to the everyday experience of urban life for Paulistanos.



The Bandeiras Monument marking the entrance to Ibirapuera Park was inaugurated in 1953 and pays tribute to the founders of São Paulo. To capture its non-stop economic progress and successive waves of immigrants, the city adopted 'São Paulo: cidade que não pode parar' as its slogan – the city that is not able to stop.

The city of São Paulo and its Metropolitan Region form without a doubt a multicultural whole. The list of cultural diversities that characterises them is extensive and complex, which is not only due to waves of foreign immigration since 1870, but is also a result of the diversity that characterised this immigration.

The most significant of them, the immigration of Italians, was not actually 'Italian' per se. They did not constitute an influx of tens of thousands of immigrants coming from Italy proper. They came from a newly unified Italy, a new state and nation while they originated from many political realities, and hailed from regional cultures that formed the map of Italian diversity, unified by the *Risorgimento*. They arrived here speaking their regional dialects, bringing local customs and traditions with them. In some of São Paulo's neighbourhoods people still speak Portuguese with a Neapolitan, Calabrian, Venetian or Mantovanian accent.

They became 'Italians' in Brazil, through their children who possibly went to Italian schools to learn their parent's native language. São Paulo became a city characterised by cultural duplications, where people would speak their mother tongue, whichever it was, at home, and speak Portuguese with a strong foreign accent on the streets. It is no coincidence, then, that the engineer Alexandre Marcondes Machado invented an ironic Italian-Paulistano dialect in his literary work, under the pseudonym Juó Bananere, and that his first book, *La Divina Incrência*, published in 1915 – a parody on Dante's *Divine Comedy* – imagined multiculturalism as confusion instead of an encounter.

Since the beginning of the twentieth century, Portuguese with a foreign accent mixed with foreign words has been the language of comedy in the work of different authors in São Paulo. This was not meant to be ironic about the immigrants, but to provide an external point of view that

Multiculturalism was, and somehow still is, experienced as a way of life in which people move through different cultures daily, depending on the roles they play in a fragmented life of slow and difficult convergences.

could highlight, in a critical way, the municipal and political absurdities of the city, which was being transformed through the influx of money from the coffee export: money that would be multiplied in the financial world, in industry and in trade. Money that also disrupted social relations, especially social differences, took away prejudices and in a short time inverted relations of dominance and power.

In his book, Bananere traces a portrait of intense sounds, of the daily mentality of the population of São Paulo in the 1920s and 1930s, their ways of recognising the city and living the contradictions of life. Immigrants had become Brazilians by the time they had grandchildren, in a process of slow cultural migration to the culture of the society they had adopted, which wasn't a strong culture either, but rather a patchwork of contributions from various sources, among them Italian regional cultures and foreign immigrants in general. The work of an Italian descendant – João Rubinato – illustrates this. He made a move in the opposite direction of Bananere, by adopting a Brazilian pseudonym: Adoniran Barbosa. His musical and popular compositions talk – also ironically – about the life of simple people and are written in a residual Brazilian language, mixed with traces of the Italian accent of the working-class neighbourhoods of São Paulo. Many people believe that this was a made-up

language, like in Bananere's book. However, in reality Rubinato spoke exactly like that. When dealing with matters of daily life in the city, as in 'Saudosa Maloca' and 'Trem das Onze', he transformed the accent into a disguised ironic language that tells of the small daily dramas of workers and drunks, just like himself.

This diversity had countless other important manifestations that showed a kind of recognition and respect for multiculturalism, which separated the new generations of children from the generation of their parents (which involved just one or two cultures). Such was the case with a successful radio programme in the 1940s, the *Escolinha of Nhô Totico*. Nhô Totico was the nickname of Vital Fernandes da Silva, who was born in the countryside near São Paulo from an Italian mother and a Brazilian father from Bahia. He had a multicultural background as he was born into and educated in a third culture, the caipira culture, which was formed by old descendants of Indians and whites. In his radio school, Nhô Totico performed all the voices of its different characters: the Brazilian professor, as well as the Italian, Spanish, Syrians, Portuguese and Japanese students. He transformed the diversity of origins, so characteristic of São Paulo at that time, into a pluralist panel unified by the school and by the Brazilian teacher, turning it into an invitation to overcome cultural differences through education.

Later in the 1950s, the vast and intense stream of immigrants from north-eastern Brazil, expelled by the crisis in sugarcane farming caused by episodes of drought, and attracted by the new industrialisation developed by the car industry, made the culture of São Paulo even more diverse. Not only by the way they spoke, but also because of their kitchen and customs, the Nordestinos from North-Eastern Brazil added to the São Paulo culture specific traces of their own. Like there are typically Italian, Spanish, Arab, German, Jewish, Eastern, Russian and Ukrainian neighbourhoods, there are also typically Nordestino neighbourhoods in São Paulo. In recent decades Latin American immigration has added new colours to the city, particularly through immigration of Bolivians. The culinary cultures of these various national groups, which can be experienced through the many restaurants that represent them, easily make any tourist and the city's population recognise it as a multicultural city.

The same can be said regarding its religious diversity, with buildings of worship ranging from synagogues to mosques, from Protestant and Evangelical temples to a great diversity of Catholic churches organised around different devotions which are all expressions of cultural diversity. You can follow a Mass with Gregorian singing in the church of São Bento, or a popular Mass in the shrine of Santo Amaro, an Orthodox Mass in Vila Mariana, a Protestant worship in the city centre, a Muslim celebration on the Avenue of the State, a Jewish worship in one of the several synagogues, a session of the Pentecostal cult in a church in Vila Pompéia or in the Baixada do Glicério, a Protestant worship with the sound of balalaicas in a church of Russian immigrants in Vila Prudente, or even a Protestant worship in a Korean church from Luz.

However, São Paulo is multicultural not because it was historically open to diversity and tolerance. On the contrary, it carries the weight of two kinds of slavery in its history, together with the restrictions and prohibitions that all forms of slavery eventually resulted in. First, the indigenous slavery, which formally terminated in the early-eighteenth century, and subsequently black slavery, which was abolished in 1888. In a city with few slaves, one would anticipate slavery to end in several ways. However, it happened not as the result of a generous commitment to the idea of freedom and equality, but because slavery was an obstacle for a society hungry for cheap labour, which had already established a regular flow of immigrants and free workers that could fulfil its demands. In economic terms, slavery was a disadvantage.





Túca Vieira

A diverse mix of Paulistanos crowd the bustling commercial area surrounding 25 de Março Avenue. Among the nearly 19 million residents in the Metropolitan Region are the largest Lebanese population outside of Lebanon, the biggest Japanese community outside of Japan, and the third largest Italian city outside of Italy after Buenos Aires and New York City.

Influences from those periods of slavery in the language remain in culinary and religious traditions and in other customs. There are even remnants of hybridisations from the time of indigenous slavery. Saci Pererê for instance is a mythical being of indigenous origin, which in its African version appears as a black boy with only one leg. As a regular appearance in stories as a naughty character, he still inhabits children's imagination. His original name, Saci Pererê, is indigenous. He became a black character in the eighteenth century, when indigenous slavery was abolished and the flow of black slaves to São Paulo increased, especially to the sugar cane plantations that flourished within the Capitania, the state of São Paulo.

Studies by Renato da Silva Queiroz show the Saci Pererê was a mythical figure related to limits and boundaries, and therefore he usually appears in fences. In the eighteenth century he had crossed the boundaries and passed on to the side of the new subordinates, the black slaves, taking on their skin colour and identity while continuing to be an indigenous being in a society with social stratification, with more or less rigid boundaries between races, ethnicities and social groups. This cultural transgression of Saci Pererê was the first highly symbolic demonstration of adaptive multiculturalism in the region of São Paulo.

It is not strange that, at that time, the abbot of São Bento paid a black slave from his Order, a magician, to remove the *banzo* from his slaves. This means that a representative member of an emblematic Catholic order turned to voodooism to have his slaves freed from curses and spells. This is a demonstration of diversity and multiculturalism that do not converge, as if society was composed of a structure of specific and distinct cultural layers, each with its own logic, values and reach. Multiculturalism was, and somehow still is, experienced as a way of life in which people move through different cultures daily, depending on the roles they play in a fragmented life of slow and difficult convergences. This is something that persists in practices such as the attendance at shrines of Umbanda, and some people's adherence to Candomblé and to traditions of African and black religious orientation, while at the same time moving in entirely different cultural and religious circles.

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### It is therefore not strange to find a Japanese descendant singing Italian tarantelas in a canteen in Bras, still an Italian neighbourhood.

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It is in religion and religiosity, indeed, where we find the most relevant signs of original traditions' survival, which is a very typical Paulistano way of continuing to be what one once was, rather than ceasing to be what one is. That is what makes São Paulo peculiar and multicultural. Not because it accepts the cultural diversity of those who arrive in it without conflict, but mainly because it ensures each one of the living experience of diversity is allowed to be what it has always been, and at the same time embracing it as the novelty of the daily coexistence of similarities and innovations.

It is therefore not strange to find a Japanese descendant singing Italian tarantelas in a canteen in Bras, still an Italian neighbourhood, or a black man from Bexiga spilling his sins into a priest's ear in Calabrian during confession. Or to have a Frenchman, such as the sociologist Roger Bastide, who is of Protestant and Calvinist origins, dive into African cultures so deeply that one could say that being black is not based in colour of one's skin but on the structure of how one dreams. These are examples of how São Paulo's multiculturalism is, essentially, an invitation to continue to be what it always was, and to become someone new and different. It is a call for cultural creativity and for a free and constant move between different cultural standards.

In that sense, the multiculturalism of São Paulo and its surroundings can be better understood as a transitive multiculturalism, which makes it very different from other multicultural metropolises that are characterised by the collage of a certain diversity of cultures. In such cases, we are dealing with a multiculturalism of confinement, where diversity is accepted as an aggregation of cultural differences and not as a way of communication and transit between differences. With this, I am not saying that multiculturalism

should be faced in terms of rigid forms of organisation of diversity, but as diversity that may be considered from two opposing cultural trends.

The transitive multiculturalism of São Paulo, despite its historical references tending to confinement, ended up being imposed by the complex need for a multicultural transit in a city that was re-created in an urban, architectural sense, and, in terms of its population, at least thrice in modern times: in the 1880s, 1910s and 1960s. These were culturally cataclysmic moments that added new characters to the scene and at the same time, cancelled out old conspiracies.

The rigidity of cultural traditions and customs softened to allow the new and reciprocal adaptation of the former residents and welcome the new residents. However, it would be wrong to say that Paulistanos are unconditionally open to multiculturalism. They are, in relation to aspects of everyday life, in areas where plurality is inevitable, not failing to recognise that this plurality of coexistence is largely responsible for the breaking down of previous identities and the dilution of possible cultural resistance to change and adaptation. Simultaneously, they are not, when it comes to aspects of their private life, family and community, where they will take care for certain elements not to become mixed up in a pluralistic re-socialisation. As is the case of marriages in some of the cultures that persist in São Paulo, reasonably protected from the outside, especially when they involve rituals between young and old generations, such as Japanese and Korean. It has been typical, however, that the dilution of these obstructions that happens with the passing of generations, which is what characterises the transitivity to which I refer, exists in a meaningful balance with maintaining the essential elements of the cultures of origin and a complete assimilation of what does not conflict with them or complements them.

*Sociologist José de Souza Martins is an Emeritus Professor of the University of São Paulo. He has published books on the agrarian question, migration, social movements, and life in the Paulista suburbs and periphery.*



# SÃO PAULO'S URBAN TRANSPORT INFRASTRUCTURE

A research team\* led by **Ciro Biderman** assesses how to improve the current transport system in the São Paulo Metropolitan Region.

Over 19 million inhabitants and 6.2 million cars occupy the São Paulo Metropolitan Region, Brazil's largest, while the municipality of São Paulo accommodates more than 11 million people and 4.2 million cars. São Paulo boasts the second largest helicopter fleet in the world, and its main modes of transport are private vehicles, public transport and walking. Public transport is feebly subsidised however, with nearly half of the city's households opting to commute by car. To date, traffic management has been limited to 'plate restriction' (*rodízio*) through which 20 per cent of cars are not allowed to circulate in the extended centre between 7 am and 10 am and 5 pm and 8 pm on weekdays. Local and state authorities are taking actions to remedy the city's infamous traffic congestion and although official proposals are heading in the right direction, a more conceptual change would prioritise public transport, as well as pedestrians and cyclists.

There are currently 313 km of metro and rail lines dedicated to passenger transportation in the Metropolitan Area. This is less than half the networks of either London, Berlin or New York, all in metropolitan regions smaller than São Paulo. Within Latin America, only Mexico City's rail network is on a par with São Paulo with a total of 553 km. To further complicate matters, some of São Paulo's major commuter rail lines accommodate freight as well as passenger transport. Since the late 1990s, the State Secretary of Transport through Dersa (Empresa de Desenvolvimento Rodoviário) has started to implement a plan to segregate freight from passengers through construction of an outer road ring, the Rodoanel, and an outer rail ring, the Ferroanel, so that passengers will no longer have to share the same rail lines with freight trains.

The Brazilian transport system is highly concentrated by the use of motorised traffic. Even so, in 2002 about 7.4 million journeys on public transport and 8 million car journeys took place in São Paulo, compared to 4.2 million public transit journeys and 4.9 million by car in the other municipalities combined. Then, the number of journeys by

car represented 53 per cent of the daily total of motorised journeys in the Metropolitan Region, an increase from 48 per cent in 1997. Recently, though, this trend has begun to reverse: preliminary data from 2007 shows that car journeys are down to 45 per cent. It is thought that the introduction of the *bilhete único* (single ticket), which allows users of the rail network to pay a standard fare, regardless of distance or number of connections, has reinvigorated the use of public transport. Use is very much concentrated on buses (76 per cent of journeys in 1997 and 72 per cent in 2002). And while the current use of bicycles is negligible, preliminary data from 2007 shows that 33 per cent of families in the Metropolitan Region own at least one bicycle. Increasing the supply of dedicated cycle lanes might increase the use of bicycles considerably.

São Paulo's dedicated bus lanes, Corredores de ônibus, are similar to the TransMilenio in Bogotá, but are much less segregated from general traffic. Furthermore very few stations have passing lanes, and there is no high-level entry or fare pre-payment as in the TransMilenio. Operating at speeds only half that expected of a bus rapid transit (BRT) system, in 2005 the city's Corredores de ônibus occupied just 112 km of the 4,300 km of roads covered by the bus network. The first stage of a new bus line, the Tiradentes Expressway, was recently opened in the South-East of São Paulo, connecting the city centre with the largest social housing complex in Latin America, Cidade Tiradentes. When fully implemented, the Tiradentes Expressway will

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The Minhocão must be seen as an exemplar of what could be achieved across the city if a new approach to public transport and the public realm were introduced in São Paulo.

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be able to transport 50,000 passengers per day. It is the only system in São Paulo comparable to a BRT as it currently runs at speeds over 30 km per hour along permanent, demarcated lanes. The current investments will add around 160 km of corridors.

The general overall public transport plan for the São Paulo Metropolitan Region has been consolidated into an Urban Transport Integrated Plan (PITU) to include projections up to 2025. The PITU 2025 implies very few extensions to the commuter rail network, but a considerable improvement using profits generating from the separation of freight transport. The PITU proposal calls for the partial duplication of lines with new expressways, a single extension outwards as well as the extension of several lines inwards to make them all converge in one area. It also envisages two new lines, one of which will be an express train to the airport. In terms of bus corridors, besides adding more than 300 km to the network, PITU proposes 110 km of 'urban corridors' including passing points to increase their speed to the equivalent of a BRT system. The proposal projects a total of 580 km of new corridors by 2025. To generate these significant change, the system should be highly integrated, a priority of PITU 2025, which calls for 15 key terminals connecting the different modes of transport. Future terminals would start in the metro system and connect directly to buses or rail services at street level.

Since the 1950s, transport policies in the São Paulo Metropolitan Region, as in most other Brazilian metropolitan areas, have neglected public transport, pedestrians and cyclists. The result is a chaotic and inefficient system with long commuting times, especially for the poor. The obvious way forward is to improve the supply of public transport. However, just improving the supply is not enough. A fundamental shift towards more equitable and sustainable transport modes is needed. Cars, buses, pedestrian, cyclists, motorcyclists and street sellers all compete for limited space on city streets, avenues and sidewalks. The government has the power to regulate the use of these spaces and to decide how they are distributed through a range of instruments. Increasing the space allocated to public transport, bicycles and pedestrians is an important first step to redistribute resources as these will specifically improve the lives of the poor. Since the poor have less access to private space for non-motorised uses, they use more public space for those purposes. This modal shift would also benefit the environment by reducing travel distances considerably.

There is no doubt that the PITU proposals represent an advance in standards for public transport in the greater



With one of the largest fleets of helicopters in the world, the business elite in São Paulo opt to commute by helicopter to avoid paralysing traffic throughout the city and the Minhocão (shown centre), completed in the early 1970s to alleviate already debilitating levels of traffic congestion.





Tuca Vieira

Almost 30 per cent of Paulistanos travel by bus on privately operated lines.

metropolitan area of São Paulo. Apart from increasing the length of its rail-based network, they also envisage integration of a bus rapid transit system in the region. Even so, the proposals may still be seen as rather timid given the magnitude of the city's transport challenges. To this end, the study developed by our research group has identified a number of strategies and initiatives that could enhance the impact and efficiency of the plan. Detailed analysis and proposals will be published in a separate report, but the main recommendations include expanding the proposed network of BRT lines by 190 km, upgrading all public transport corridors to BRT standard and adding 60 stations to the system. In addition to spatial strategies such as the future of the Minhocão, the study proposes new funding schemes that rely less on general state taxes and more on tax revenues from petrol, which have remained stagnant despite the massive increase in car ownership in recent years. The overall objective of this new cocktail of proposals is not simply to increase the supply of BRT lines but to bring about a paradigm shift in transport policy in São Paulo to prioritise the balance between public transport and the private car.

One of the key focus areas of the study is the Elevado Costa e Silva, a major elevated motorway known as the Minhocão (big worm) built in 1971 by the national dictatorship government. Apart from its significant political associations, the overpass cuts East-West through downtown São Paulo and is considered to be partially responsible for the deterioration of the city's historic core. Despite this, the Minhocão is the main vehicular link between the centre and the city's western region. The Sé municipality that surrounds it is a socially diversified area characterised by a highly mixed land-use pattern, located close to São Paulo's main public transport hub with access to metro, bus, and rail.

The Minhocão covers an area of 3.4 km, about 5.5 metres above ground and its width varies between 15.5 and 23 meters, with some adjacent buildings within a very close distance of 5 metres. No bus lines run on the Minhocão while 80,000 vehicles pass on it each day. Its construction accelerated land and building depreciation in the downtown area, especially along the urban blocks which border it. In 1976, degradation was so severe that the city decided to close the Minhocão at night because of high accident rates and noise pollution. Today the structure is closed to vehicles on Sundays when it is used by city dwellers as a linear urban park. In 2003 a public transport corridor system was introduced at the lower level to integrate the network to the metro through the Marechal Deodoro and Santa Cecilia stations even though no physical connections were implemented.

## MOBILITY AND THE URBAN POOR

Exploring the links between public transport and quality of life, **Alexandre Gomide** posits a reframing of the public debate about mobility for the urban poor.

Poverty is a phenomenon of many dimensions. It is not just about insufficient income to meet basic needs, but also about the deprivation of basic social rights and limited access to essential services such as public transport. Urban poverty manifests itself through the spatial segregation of the poorest in the peripheries – areas characterised by insubstantial public services and deficient infrastructure – where the provision of mass transport is inappropriate in terms of price as well as availability. As a result, the poorest have restricted access to the opportunities offered by life in the city.

For the poorest, expenses for transport are very high in relation to their low household incomes. IGBE reported that for 20 per cent of the poorest people living in the São Paulo Metropolitan Region, the cost of urban transport represented around 8 per cent of total family expenses – double the average of 4 per cent for the entire population. This association between mobility and income is important. The Origin and Destination survey for the São Paulo Metropolitan Region reported in 2002 that people with lower incomes make about 60 per cent of their trips each day on foot while the rich make five times more per day on motorised transport. This indicates serious problems of access to employment opportunities, recreational activities and social facilities, since the distance the poorest are able to reach each day is restricted solely to walking.

Another survey conducted by the Institute of Information and Development in Transportation and the Instituto de Pesquisa Econômica Aplicada identified problems of urban mobility for low-income populations in four Brazilian metropolitan regions, including São Paulo. It showed that people with family incomes up to three times the minimum wage are deprived of access to collective public transport because of the high prices and infrequency of services as well as the difficulty to physically reach distant stations. It also showed that low levels of mobility for leisure activities during weekends are partly due to the prohibitive total cost to transport a family, but also because the scarcity of public transport is even worse on weekends.

The formulation and implementation of public policies for urban transport towards the poor is imperative, especially for those living in metropolitan peripheries. Suggestions to facilitate the mobility of low-income

populations include mainly a reduction in the price of tickets, but also an increase of the quantity of services and the reduction of waiting times. Since a large part of the poor live in areas with deficient road infrastructures, paving streets was also recommended to allow vehicle access to their neighbourhoods.

In this sense, it is understood that there needs to be means to subsidise transport for the poor by, for example, extending the benefits of *vale-transporte*, which is currently provided by employer to employee, to low-income people employed in informal markets. Mechanisms to provide financial assistance for people searching for employment should also be developed. Funding of such programmes must also be taken from sources outside the current revenues from ticket sales, and not from a cross-subsidy among users of the services. A legitimate cross-subsidy in urban transport systems would tax cars in congested areas in view of their negative impact, with the collected resources allocated to subsidise public transport.

Mobility can be improved not only by investments in rapid and efficient transport systems, but by a better distribution of economic and social activities in urban space. Doing so would reduce the distances required for travel. Here, the relationship between land use and transport policies is critical. Their proper integration is a key issue to ensuring sustainability and mobility in cities. Through their integration, it is possible to reduce distances, increase the productivity of the available infrastructure, reduce costs and travel times.

However, such actions are not going to be solved by technicians, but in the political sphere where conflict – around public budgets, the location of urban activities, the use of property or the granting of public services – is inevitable. From this perspective we see the need to strengthen and improve democratic institutions and political dialogue. Civic participation in the formulation, monitoring and evaluation of local policies becomes more important every day.

*Alexandre Gomide is a PhD candidate at Fundação Getúlio Vargas and a researcher at the Instituto de Pesquisa Econômica Aplicada. His research includes urban development, public services regulation, strategic planning and public management.*

The study has identified the Minhocão as a major strategic component of the city's public realm. It proposes that the Minhocão be converted and that the resulting open space be turned into a permanent urban park for pedestrians and cyclists. Currently there are four lanes for cars on the top level and two lanes for buses and four lanes for cars at the lower level. The system could be easily modified in such a way that the entire upper level and two lower level lanes are given over to pedestrian and cycle routes. Overall four lanes that are currently used by cars could be used by public transport, cyclists and pedestrians. This strategy would transform an urban problem into an urban asset, increasing land values and potentially leading to a significant upgrading of the wider area, even though the economic impact would need to be carefully regulated.

This proposal for the Minhocão must be seen as an exemplar of what could be achieved across the city if a new approach to public transport and the public realm were introduced in São Paulo, bringing with it considerable

social, economic and financial benefits to the surrounding areas. On balance, the study proposes a new way of thinking about transport policies which prioritise modes of transport that have never been prioritised before. Its implementation does not require a substantive increase in expenditure but a diverse investment approach that shifts the balance away from individual to collective modes of travel.

*Ciro Biderman, Professor, Centre for the Study of Policy and Economics of the Public Sector (CEPESP) at Fundação Getúlio Vargas (FGV) and Visiting Fellow, Lincoln Institute of Land Policy, Massachusetts Institute of Technology; Bernardo Guatimosim Alvim, Director of B. Alvim Engenharia, World Bank Consultant and Researcher, CEPESP, FGV; Luis Otavio Calagian, Researcher, CEPESP, FGV; Diogo R. Coutinho, Assistant Professor of the Faculty of Law, University of São Paulo and Senior Researcher, Brazilian Centre for Analysis and Planning; Angélica Aparecida Tanus Benatti Alvim, Assistant Professor, Mackenzie Presbyterian University; Maria Inês Garcia Lippe, Transportation Planner, Secretary of São Paulo Metropolitan Transportation and Researcher, CEPESP, FGV; Vladimir Fernandes Maciel, PhD, ABD Public Administration, EAESP, FGV, Researcher, CEPESP, FGV; Luciana de Mattos, Researcher, CEPESP, FGV.*



# WORLDS SET APART

**Teresa Caldeira** defines the inequalities, fear, and transgressions which determine the social and spatial configurations of urban life in São Paulo.



Extremes of wealth and poverty in São Paulo, as is often cited by this image of the Paraisópolis favela sitting cheek-by-jowl to gated complexes of wealthy Morumbi, only partially capture the city's deep inequality.

One of the most iconic views of contemporary São Paulo, commonly used in international publications dealing with the city, is a picture in Morumbi showing the favela Paraisópolis on one side of a wall and a luxury building with tennis courts and one swimming pool per balcony on the other. However, the scholarly literature on the city and several of its main instruments of urban policy insist on another image: one that contrasts a rich and well-equipped centre with a poor and precarious periphery. According to this view, the city is made not only of opposed social and spatial worlds but also of clear distances between them. Since these imaginaries are contradictory – one pointing to the obscene neighbouring of poverty and wealth and another to a great distance between them – can both represent the city? If so, how well?

Undoubtedly, São Paulo has always been a city marked by sharp social inequalities. However, in the last few decades, the multiple meanings of inequality, the quality of urban space, and the distribution of social groups across the city have changed considerably. The peripheries have improved and some of the physical inequalities between spaces have been reduced as the peripheries have improved. Yet the city that no longer believes in progress – as it did during the second half of the twentieth century and where violence and fear came to occupy the central stage in citizen's lives – is now a city in which the markers setting social worlds apart are carefully and emphatically drawn. It is also a city in which the public space abandoned by most is reinvented as space of contestation inscribed on its walls.

São Paulo is a complex city that will not be captured by simplistic dual models: neither of the proximity nor of the distance of its opposed social groups. Together, both pictures represent the city. In isolation, neither can capture the pattern of spatial and social inequality that structures the metropolis today. These images are the result of two historical processes that have now coalesced and their material expressions are superimposed in the spaces of the

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Together, both the picture of proximity of wealth and poverty, and that of their distance, represent the city.

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city. The view of the rich centre versus the poor periphery corresponds with the pattern of urbanisation consolidated around the 1940s that dominated the city up to the 1980s. During this period, São Paulo's urbanised area expanded dramatically due to the spread of auto-construction. Workers moved to the city by the millions and settled in non-urbanised areas on the outskirts. They bought cheap lots of land in areas without infrastructure and spent decades of savings and family work to build and improve their dream houses. In São Paulo, as elsewhere in Brazil and in the developing world, workers have always understood that illegality and precariousness are the conditions under which they become property owners and inhabit the modern city. The middle and upper classes remained in the centre and benefited from good infrastructure and services, and regularised and subsidised access to land. Thus, metropolitan regions have been marked by a dichotomy between the 'legal city', the centre inhabited by the upper classes, and the precarious peripheries.

However, since the 1970s this neat separation started to be transformed by processes affecting both the centre and the periphery. One of the main sources was the organisation of social movements by residents of the peripheries. These urban activists, a majority of them women, were new property owners who realised that political organisation was the only way to force city authorities to extend urban infrastructure and services to their neighbourhoods. These social movements contributed significantly to the democratisation process and a new concept of citizenship. They also provoked a significant transformation in the urban environment of the

peripheries. The state administrators responded to their demands and the city of São Paulo, among many others in Brazil, borrowed heavily to invest in urban infrastructure. As a consequence, the peripheries substantially improved road access, as well as sewage, sanitation, and electricity. These improvements sharply reduced infant mortality rates. As a result many neighbourhoods in the peripheries that began as 'bush' just a few decades ago have been completely urbanised. Although the urban social movements started to diminish in the 1990s, São Paulo remains highly organised. NGOs and associations of all forms, from religious to artistic – not to mention criminal – are everywhere. These heterogeneous associations signify the consolidation of democracy and the civic engagement of citizens.

A second process that transformed the centre-periphery pattern started in the centre. Beginning in the 1970s, wealth steadily moved away. On the one hand, a new business pole was formed in the south-western zone of the city along the Pinheiros River which today concentrates high-end office complexes, shopping malls, media headquarters, hotels, and new cultural centres. On the other, some of the middle and upper classes began to retreat from the centre and its public space. Fear of violent crime – which grew from the mid-1980s to the late 1990s – was their main justification for migration by the hundreds of thousands. They built fortified enclaves for home, leisure, and work in areas where only the poor had lived before and from where they were not entirely expelled, as in the case of Paraisópolis. Thus, the dramatic proximity of wealth and poverty is a recent phenomenon caused by the voluntary displacement of the upper classes.

Although the image of the favela side-by-side with luxury apartments outside of the centre captures a recent configuration of social inequality in São Paulo, it misses important factors. Favelas are not the type of housing in which the majority of São Paulo's poor live, and the heterogeneous peripheries cannot be described by the term favela. What distinguishes them is home ownership. Although there are many conditions of illegality and irregularity, the majority have bought the land on which they built their houses and have claims to ownership. Favela residents also own their homes, but not the land, which has typically been invaded. Moreover, the increase in homeownership in the municipality of São Paulo from 19 per cent in 1920 to 69 per cent in 2000 is due to high rates in the peripheries rather than in the central wealthy districts. In many of the poorest neighbourhoods, it is more than 80 per cent. Approximately 10 per cent of São Paulo's population lives in favelas, while Rio de Janeiro and a few other Brazilian cities have an exceptionally high percentage of favela residents. Yet, if the view of the centre distant from the periphery misses the new developments that have brought people from radically different social conditions to live side by side, the picture that features this proximity misses the complexity of the peripheries and their significant improvement.

Increased violent crime and fear have also provoked dramatic changes in the space and quality of everyday life across the city since the mid-1980s. The circulation of fear and discourses about violence have created the idiom under which polarised representations proliferate and dualistic and simplistic representations of inequality and are framed.

Violent crime increased substantially from the mid-1980s to the late 1990s. With an overall annual murder rate of more than 60 per 100,000 people in the late 1990s, São Paulo became one of the most violent cities in the world. However, violence is distributed unevenly. Many of the neighbourhoods in the peripheries had a murder rate of more than 110 per 100,000 people, compared to less than fifteen in the city's central districts. The main victims of murder are young men, especially black. Moreover, most of the outrageously high number of cases of police abuse and killings happen in the peripheries. In the 2000s, violent crime rates decreased from 57.3 per 100,000 people in 2000 to 12.1 in 2007, which includes decreases in the peripheries. But it is not yet clear



what this change will generate in terms of representation as the city still seems to operate under the stereotypical mode of the talk of crime.

Conversations about crime have been common since the 1980s. Amid the chaotic feelings associated with the spread of random violence people talk. Contrary to the experience of crime, which disrupts meaning and disorders the world, the talk of crime symbolically reorders it by trying to re-establish a static picture of the world which is expressed in simplistic terms and clear-cut oppositional categories, the most important of which are good and evil. Such reductions and caricatures are central mechanisms associated with the talk of crime. Like other everyday practices dealing with violence, crime stories try to recreate a stable map for a world that has been shaken. These narratives impose partitions, build up walls, establish distances, segregate, impose prohibitions, and restrict movements. In short, they simplify and enclose the world, elaborating prejudices and eliminating ambiguities.

Fear and the talk of crime also organise the urban landscape and public space, generating new forms of spatial segregation and social discrimination. Their most emblematic form is the fortified enclave. These are privatised, enclosed, and monitored spaces for residence, consumption, leisure, and work structured by the discourse of security. They can be shopping malls, office complexes, residential gated communities, and edge cities. They depend on private guards and high-tech security for protection and for enforcing exclusionary practices that guarantee their social exclusivity. They reproduce inequality both as a value and as a social fact. They treat what is enclosed and private as a form of distinction. As this logic becomes dominant, it spreads throughout the city. Walls are now everywhere, even in the most remote areas of the peripheries, not only to protect from crime, but also to distinguish neighbours from each other and express claims of social belonging.

It is in this context of simplifications and stereotypical interpretations anchored in the fear of crime that the heterogeneous peripheries of São Paulo started to be called favelas, a process that obscures their significant urban and social improvements. The tendency to homogenise the conditions and spaces of poverty and to identify them with their worst configurations is now widespread. It is found in several recent Brazilian films that make poverty and favela, blackness and violent crime coincide. The iconic example is *City of God*. It is also the procedure Mike Davis uses in *Planet of Slums* to reduce the most diverse urban housing conditions of the poor worldwide to a single symbol of the worst: the slum.

This tendency is also reproduced by residents of the periphery themselves. In important ways, São Paulo's rap music elaborates a dichotomy between there and here and the denunciation of the inequality that exists between them. Rap articulates the experience of young men in contemporary peripheries growing up in a context of high violence and few chances for inclusion in the formal markets. Hip-hop wants to save their lives and contain violence. By portraying the conditions of the poor in the peripheries, and critically incorporating the prejudices usually voiced against their young and black residents, rappers articulate a powerful social critique. They denounce racism, express an explicit class antagonism, and create a style of confrontation that leaves very little space for tolerance and negotiation. Their raps establish a non-bridgeable and non-negotiable distance between rich and poor, white and black, the centre and the periphery, and articulate a position of enclosure. They think of the periphery as a world apart, something similar to the American ghetto, an imaginary that has never been used before in Brazil in relation to the peripheries, whose residents have always considered themselves unprivileged but nevertheless an integral part of the whole city. As one of the most famous rap groups, the Racionais MC's, put it in the rap 'Da Ponte pra cá' ('On this side of the bridge'):

*in the party with us you don't go  
We here, you there; each one in his place  
Did you get it?  
If life is like this, am I to blame?  
The world is different on this side of the bridge.*

As hip-hop followers reflect on the conditions of life on the outskirts of the city, they transform the quite diverse peripheries into a symbol: a *periferia*. As this new symbol, the periphery is homogenised to represent the worst social inequalities and violence. This transformed space of despair contrasts sharply with the image of improvement and mobility that dominated its representation from the 1940s to the 1990s. It is also sometimes called favela, not to describe the peripheries but to refer to its poor conditions which are re-signified to represent and denounce poverty in general.

The construction of clear and non-negotiable social separations, the circulation of imaginaries of despair, the construction of left-over spaces, and the use of stereotypical symbols to represent opposed social worlds is nowadays found on both sides of Brazilian society. Rappers' construction of self-enclosure is paralleled by upper-class practices of enclosure. Dichotomisation, simplification, and intolerance structure the imaginaries on both sides.

Fear, the talk of crime, and the adoption of walls and separations all transform the character of public space. Privatisation, enclosures, policing of boundaries and distancing devices create a fragmented public space in which inequality is an organising value. Even so, this left-over public space has not remained empty or unmarked. In São Paulo, in addition to walls and fences, graffiti and *pixações* proliferate on almost every street. These public inscriptions are usurpations that recreate a public domain in a city privatised by walls. Graffiti and *pixação* reclaim the streets, the façades, and the walls as spaces of communication and contestation instead of separation. Most graffiti artists and *pixadores* are young men from the peripheries. Through their inscriptions, they transgress, ignore boundaries, and appropriate spaces to mark their discrimination. Obviously, many interpret these appropriations as vandalism, crime, and proof of the deterioration of the public space.

Although both graffiti and *pixação* have similar roots, they constitute different types of intervention in public space. Graffiti is represented frequently on large public surfaces such as viaducts and tunnels. It is accepted as a

type of public art authorised by the city, and occasionally sponsored by private institutions. Several graffiti artists from São Paulo are known internationally, and a few sell their art in private galleries for high prices.

But if graffiti can be assimilated into the imaginary of art and beauty, *pixação* has remained much more transgressive. *Pixação* is equivalent to the American tagging, the writing of words, especially names, in public spaces. It is conceived by its practitioners as an anarchic intervention and as a radical urban sport, an urban alpinism. *Pixadores* inscribe the most impossible of spaces and are never sponsored by City Hall. Instead, they are targets of police harassment and the general population's disdain, who think that they deteriorate and deface, not improve, public space. For *pixadores*, though, their intervention signals the character of a public with few other forms of belonging. With *pixação* and graffiti, those who have been kept outside of the dominant cultural systems master writing and painting in the same way that rappers master rhyming. They invent new styles, spreading signs of their transgressions and powerfully transforming the character of public space.

Together, walls, fences, fortified enclaves, raps, graffiti, and *pixações* configure public space with unmistakable signs of social inequality and social tension. When the city was growing and violence was not an issue, the imagination that dominated the city was one of social mobility, improvement, expansion, and incorporation. Distances embodied spatially and socially were relatively unmarked symbolically. They had to remain fluid to anchor the strong belief in social mobility. Nowadays, inequalities and differences are prominently produced and are rarely left unmarked. Exaggerated and simplified, they mask processes of transformation and of improvement, and inevitably amplify the tension among social groups. Inequality has become naturalised, the taken-for-granted part of everyday life, the matter of social communication, even while it is denounced by unexpected interventions. Therefore, it is the tense and multi-layered production and contestation of inequality that we should look at to capture both the city's predicament and its vitality.

*Teresa Caldeira is a professor of city and regional planning at the University of California, Berkeley, and author of 'City of Walls: Crime, Segregation, and Citizenship in São Paulo'.*



Graffiti such as that on Rua Cardeal Arcoverde defines the streetscape experience of Vila Madalena, São Paulo.



# SAFE SPACES IN SÃO PAULO

A detailed study by **Paula Miraglia** traces the complex relationships between crime, spatial segregation and quality of life in the centre and the periphery.



Crime in Jardim Ângela, once declared by the United Nations as the homicide capital of the world, is today substantially reduced thanks to community and state interventions.

Violence and therefore safety – as themes and elements of social configuration – play a major role in the construction and characterisation of Brazil's major urban centres. Since the 1980s, marked increases in urban crime alongside the emergence of democratic openness and urbanisation have transformed Brazil's cities. The proliferation of robberies, thefts, kidnappings and violent deaths has promoted criminality and a consolidation of fear and insecurity as commonplace characteristics of urban life. Murder rates in the country's capitals have grown significantly, especially among adolescents between 15 and 24 years old. While the average rates for the entire population remained stable between 1980 and 2002, ranging from 21.3 to 21.7 for every 100,000 inhabitants, those among young people skyrocketed from 30 to 54.5. In São Paulo, violence today conjures two opposing trends: while in the 1980s and 1990s a systematic increase in murder rates scared the city (in 1999 the rate

was 43.2), both the state and the Metropolitan Region benefited from a significant reduction over the last six years, so that by 2005 the murder rate had already dropped to 22.

São Paulo, with a rate now lower than the national average and that of Recife, Vitoria or Rio de Janeiro, presents itself as a genuine exception. For although violence remains a constituent part of the city's configuration, especially with regards to its recent history, the city has nonetheless established new patterns of sociability that allow for a renewed understanding of the city and its public and private spaces. This understanding and subsequent use patterns influence the city's spatial and architectural configuration as well as the opposition between centre and periphery. At the same time, the reduction of murders entails a reflection on the strategies involved in the process of confronting a violent sociability and also signifies

broader trends related to concepts of violence and safety.

Despite the constant reduction in murder rates, neither academics nor policy makers have been able to form a consensus about its causes. The reduction has been attributed to an extensive and varied set of factors: state interventions such as the improvement of management policies (for example the creation of INFOCRIM, an electronic database that facilitates communication between the city's various police districts to produce an overall mapping of crime statistics) and increased investigative police activity; the work of non-governmental organisations and community engagement in the most violent areas; policies such as the 'dry law' in some municipalities; reduced availability of firearms; demographic changes in the state and other parts of the country over recent years; and even the rise of Evangelism in the suburbs.

The justifications alternate depending on who constructs the explanatory narrative, with each proposed cause subject to ongoing research and controversy regarding its relevance and effectiveness. Even so, besides the multiple causes of violence, an important battle in the political and institutional arena is taking place over the factors creating the supposed increase in safety and the different ways of confronting it. Which is the best strategy: prevention or suppression? Must safety be a subject that is primarily the responsibility of the police, or does it deserve the attention of other areas of public policies such as urbanism, health or education? If we add safety and violence to the top metropolitan problems – contrary to transport, flooding and pollution, the city's other major challenges – solutions are typically not addressed through urban interventions. In the face of violence and insecurity, typically resources emanate from the criminal justice system, the police force, or other repression apparatuses. This equation shows a failure: originally, safety is a problem of the city, but not for the city. The metropolis assumes a secondary role in formulating policies for the prevention and confrontation of violence, as it is unable to actively participate in changes that promote safe spaces for living and social interaction.

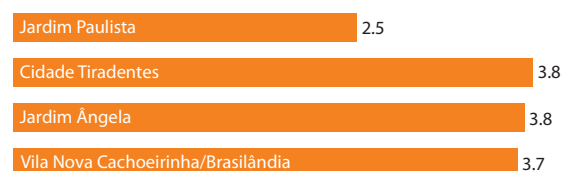
However, an analysis of São Paulo shows how a district, as a place of transformation as well as physical and social interaction, plays a key role in these processes. Mapping the types of safe spaces in different neighbourhoods can reveal the unequal distribution of violence in the city. The concentration of murders, along with other violent crimes against life, in the suburbs demonstrates how São Paulo practises an uneven risks economy. Territorial analysis also allows a deeper understanding of how the city deals with the issue of safety: which are the strategies of each district or region? What are the consequences of each option or arrangement? What is their potential for universal application? And finally, what is the impact on the city's sociability and the life of its inhabitants?

Mapping the heterogeneity of social expressions in an apparently homogenous area in socio-demographical terms allows the differentiation of forms which define the 'periphery'. Research developed by the Centre for Metropolitan Studies (CEM) of four areas in São Paulo – Jardim Paulista in the centre, Cidade Tiradentes in the East, Jardim Ângela in the South and Vila Nova Cachoeirinha/Brasilândia in the North – has revealed various conditions of poverty within the same area. To distinguish between them, the studies considered social group characteristics, combining variables associated with income, education, unemployment, access to urban infrastructure and race or ethnicity. From these isolated indicators, it was possible to make a detailed description of the distribution of such social groups and their living conditions.

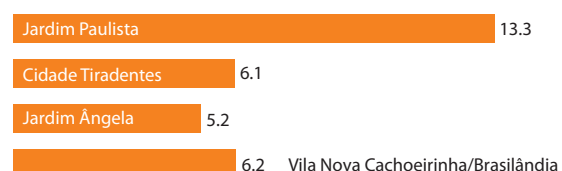
As the distribution of violence and safety influences patterns of sociability, and affects each district differently, the answers revealed phenomena that also take into account the particular characteristics of each area. Thus combining social and demographic characteristics such as income, skin colour and education with symbolic and material resources such as public services, community engagement



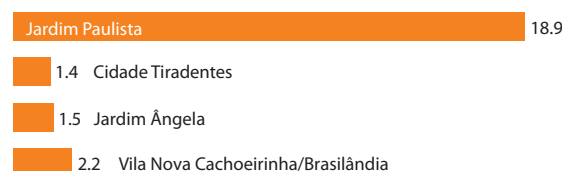
### AVERAGE NUMBER OF PEOPLE PER HOUSEHOLD



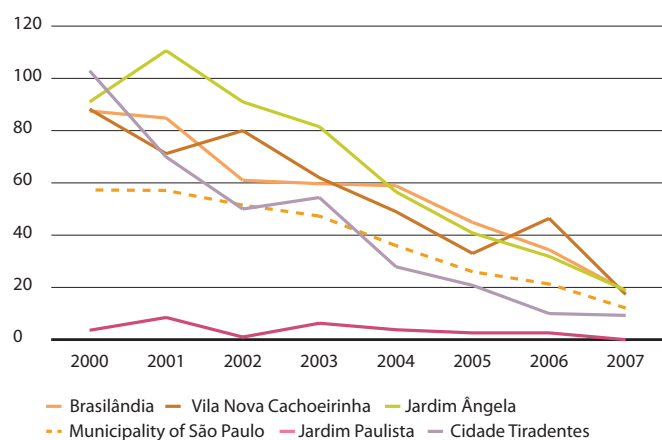
### AVERAGE NUMBER OF YEARS OF EDUCATION



### HOUSEHOLD INCOME PER CAPITA (IN MINIMUM WAGE)



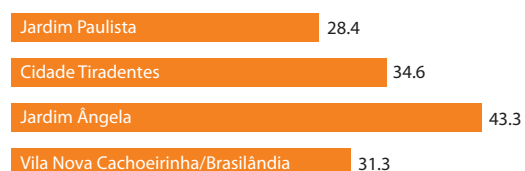
### MURDER RATE PER 100,000



levels, informal arrangements or the very history of the neighbourhood, each community creates its 'repertory of safety' to be assessed against certain violence scenarios. Crime distribution in São Paulo is a good starting point to examine this diversity. If, on the one hand, the association between poverty and crime is discarded, the coincidence of lower income, higher concentration of slums, greater presence of black and brown people, low education levels and the concentration of murders on the other hand cannot be ignored. Other than emphasising the unequal distribution of violence, such a scenario offers a macro-analysis which – alongside other elements – helps to trace a portrait of the periphery and ultimately forms a major contribution to understanding the relationship that is established between the periphery and its residents and the centre. Certainly the occupation and distribution of groups in the city also results from state interventions (or the lack of them), therefore these social indicators are essential to limit periphery areas. But the relational character of the centre/periphery opposition, and its attendant spatial understanding, implies a certain perspective that must also recognise the diverse political and cultural context of what peripheral signifies.

The victimisation of neighbourhoods alone is not enough. Firstly, because not all districts with high rates of vulnerability in São Paulo have high murder rates. Secondly, even in those districts where we find a combination of vulnerability and violence there is a wide range of strategies. We are much more interested in exploring the differences that such scenarios may produce and in identifying cycles in which violence and safety are at the same time producers and products of a particular type of social interaction. Selecting two opposing poles in the Metropolitan Region

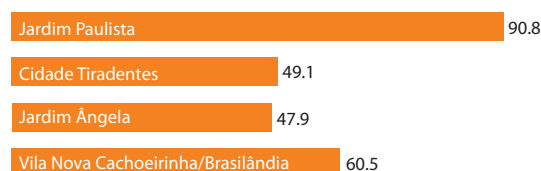
### % OF PEOPLE BORN OUTSIDE SÃO PAULO STATE



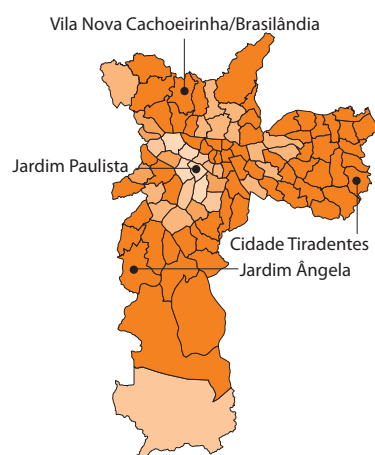
### % OF BLACK PEOPLE



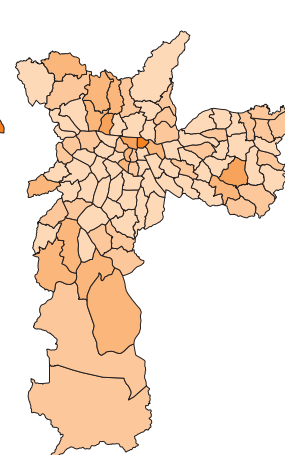
### % OF WHITE PEOPLE



### MURDER RATE 2000



### MURDER RATE 2007



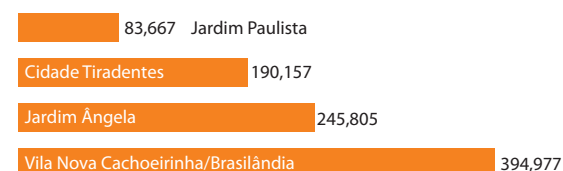
per 100,000 inhabitants  
 0 - 10 10 - 15 15 - 20 20 - 30 30 and over

provides information that can help build a repertory of safety in the city. Doing so reflects on how these strategies combine the categories of 'space' and 'sociability' and how this interaction and diversity are building the city.

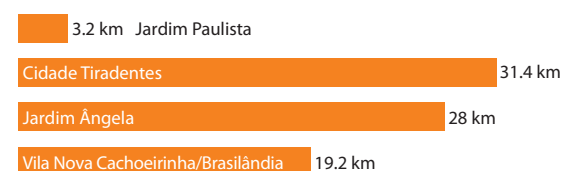
Located just three kilometres from the centre of the city, the neighbourhood of Jardim Paulista (Jardins) corresponds to the city's urban development pattern and constitutes a wealthy neighbourhood in the city's South-East area. Jardins is considered very safe, with a mix of residential and commercial spaces that bring together a wide range of shops characterising the city's luxury retail market. The clientele combines local residents with visitors who enjoy the leisure activities and shopping offered by the district. Recent changes increased the area's safety, although they were intended to improve something that already existed, such as the widening of pavements or enhanced lighting. These interventions were not substantive; on the contrary, the objectives promoted consolidation and stability associated with a sense of peace and safety. An idea of completeness is added to this perception. From the perspective of the residents, the fact that shopping, leisure and social activities can all be carried out with relative proximity is experienced as something positive. 'I don't need to leave the neighbourhood', is often heard. Strategies to protect shops and residential buildings include mixing private security guards or signs indicating that the space is being watched with more hidden features such as surveillance cameras. Even large shop windows generate selective action, and together these interventions both appeal to, and inhibit, passers-by.

One of the most recurring elements when talking about fear or the feeling of insecurity is – not incidentally – based

### POPULATION



### DISTANCE FROM CITY CENTRE



### MURDER RATE



on the presence of someone else, usually a non-resident or a worker from the region. But these 'others' are not random: street sales people, beggars and the homeless populate the category of those that are 'displaced' and are all blamed by local residents as potential threats to peace and safety in the neighbourhood. The CAPE (Centre for Permanent Assistance) of the Secretary of Social Assistance offers a service that is advertised on the residents' association website, which receives 'complaints' about homeless people that are near or in front of their homes, and they 'intervene'. In this quick description, the various attempts to homogenise the area reduce diversity using strategies of avoidance of non-equals, and promote urban interventions that ensure a single standard of sociability.

On the other side of the metropolis, more than 31 kilometres from the centre, the Cidade Tiradentes district and housing complex – the largest in Latin America – occupies a peripheral location in the city's far East. The area, previously a farm called Santa Etelvina, was acquired by Cohab, the metropolitan housing authority, at the end of the 1970s, to be incorporated into the urban network as low-value lots. Built from the 1980s onwards, the large scale of this housing complex eventually produced a uniformity to the landscape which became a defining feature of Cidade Tiradentes. For two decades the neighbourhood had a reputation as one of the worst places to live in São Paulo. The main problems highlighted by residents were the long distance from the centre, violence, limited public investment in basic urban infrastructure and almost no shops. Added to this was the fact that, until recently, the region lived under territorial dispute between criminal organisations, further evidence of its high murder rate. In recent years, however, a series of profound transformations such as the construction of the Tiradentes Bus Terminal have transformed the area. The terminal has significantly improved access to other regions of the city, thus reducing the distance and sense of isolation, while ensuring greater movement of residents to other sectors of the neighbourhood.

Over time the structure of the housing complex has changed. The first- and second-generation buildings were subjected to interventions proposed by the residents. The construction of walls, sentry boxes (though permanently disabled) and the addition of security bars accompanied attempts to enhance the buildings aesthetically. These interventions went beyond the mere improvement of safety standards and defined a process of 'consolidation' of the property that incorporated new standards and references. As a result, more recent buildings were constructed with active sentry boxes and electronic gates already in place.





**Cidade Tiradentes, the largest social housing development built by state and city authorities in the far eastern periphery of São Paulo, is defined by hundreds of identical residential buildings and poor social infrastructure. Residents spend between two and three hours commuting each way for work.**

Alexandre Calças

At the same time the neighbourhood became dominated by a single criminal faction: the First Command of the Capital (PCC). Its exclusivity marked the end of territorial disputes in the area, causing a reduction of murders in the immediate vicinity. With the arrival of the police and expansion of the district police squad, crime today occupies an area called 'Fundão' with a clear territorial demarcation of the activities showing that they have therefore lost a central position in the life of the neighbourhood. The arrival of shops and more diversified public and private services in the area have completed its transformation. Major chain-stores and supermarkets now serve the residents and are seen as important achievements by neighbourhood residents. In this sequence of progressive acquisitions, a bank is one of the last elements still missing.

Thus, even if the area is not totally homogenous, with some pockets benefiting more than others from such changes, the image of a violent neighbourhood is changing into that of one with potential for economic and social development. This process was able to transform the residents' sense of belonging and has changed perceptions among residents about how to access their city.

The presence of public power, exemplified by the increase of police action and by the bus terminal, as well as the multiplication of services offered were responsible for the diversification of the landscape and its social fabric, which nowadays is more pluralistic and varied. Therefore, it can be argued that Cidade Tiradentes has made use of a social diversification strategy. The heterogeneity of the neighbourhood has become a factor of resilience. The permanence of the PCC indicates that it is not impossible to live with violence or crime; the continued proliferation of slums emphasises that the region is still extremely socially and economically vulnerable. But these changes show that the district was able to lift itself beyond a position of victimisation.

Despite the ethnographic wealth of both examples, we are not interested in caricatures to illustrate the differences

between rich and poor neighbourhoods. Instead, the issues and problems that actually are in permanent dialogue with the wider structures of urban interaction that merit attention. Many of the elements mentioned in both cases have been repeated, with appropriate contextual adaptations, and offer themselves as genuine choices for the city and its residents. Together with other tools of segregation, they form a fragmented city in which the channels of communication between centre and periphery are constantly weakened. Using a so-called 'repertoire of safety' may become a permanent mechanism to promote the actualisation of inequalities.

Taking the difference between homogeneity and heterogeneity in Cidade Tiradentes as an example, the void resulting from the lack of public and private services, together with an endlessly repeated anonymous architectural pattern, created residents' resignation about the region's vulnerability. Therefore the strengthening and enhancement of the complexity of the social fabric are associated with changes that, in this case, produce movement and circulation: elements that can provide physical, symbolic and social interaction between groups from within the district and from the rest of the city.

In the case of Jardins, however, the transformation takes the form of permanence and repetition. The maintenance of certain urbanisation patterns ultimately perpetuates the homogeneity of the area, either in terms of space, or with regards to visitors' profile and characteristics. It has established itself as a well-maintained progressive area. Jardins reinforces a sense of community that is generated by an organic enclosure of the neighbourhood. There is nothing new about using separation strategies inspired by protection: the high walls of closed apartment blocks, the gates and the guards make it easy to identify this set of mechanisms. But when it comes to open spaces, involving streets and pavements, segregation tools go beyond physical aspects. From this perspective, imitating the fluidity and the ample capacity of the circulation of violence, safety appears to be a continuum, that, like violence, is supported

by urbanisation resources that are merged with segregated sociability strategies. This projects the distinct separation of a determined area without building intentional explicit physical limits.

The comparison between these two strategies to reduce crime and violence raises questions about the effectiveness of solutions. Although a reduction of murders is evident throughout the city, the question persists whether the peripheries will some day be less violent than the centre. The applied strategies are not able, or do not contemplate a reversal of the patterns of victimisation. Even if reduced, most violent deaths are concentrated in the periphery. The continuing victimisation and levels of violence, as well as the strategies of segregation, are obstacles in the subversion of the relation between centre and periphery which occur today.

Spaces are able to determine patterns of sociability, but coexistence and interaction are also powerful elements in the configuration of community. If we assume that safety and its distribution shape the city, the opposition between 'strategies of protection' and 'safety development' seems to summarise the available options and translate the implications of each model. The first, more reactive strategy, mobilises an individual dimension of avoidance, while the second, propositional, emphasises the collective dimension of interaction between individuals and groups. The contrast suggests the limits of partial solutions to the problem. This is evident not only in the tension between the models of safe spaces in a safe city, but also through the way they announce a struggle for the city itself. In other words, the creation of safe spaces is not complemented by the perception of a safe city. Such models are exclusionary, and show that either the entire city is safe or no one is.

*Paula Miraglia holds a PhD in social anthropology from the University of São Paulo and is the Director of the Brazilian office of the United Nations Latin American Institute for the Prevention of Crime.*



# IMPLEMENTING URBAN CHANGE

By comparing São Paulo's realities with international examples of urban regeneration, **Nadia Somekh** and **Carlos Leite** explore the constraints and opportunities to deliver high quality design in the city's major urban projects.

When it comes to the realisation of major urban interventions, São Paulo is lagging behind other world cities. Buenos Aires, our closest neighbour, has with Puerto Madero succeeded in creating a high-end development on brownfield industrial land, which attracts business and visitors, despite its lack of integration within the city.

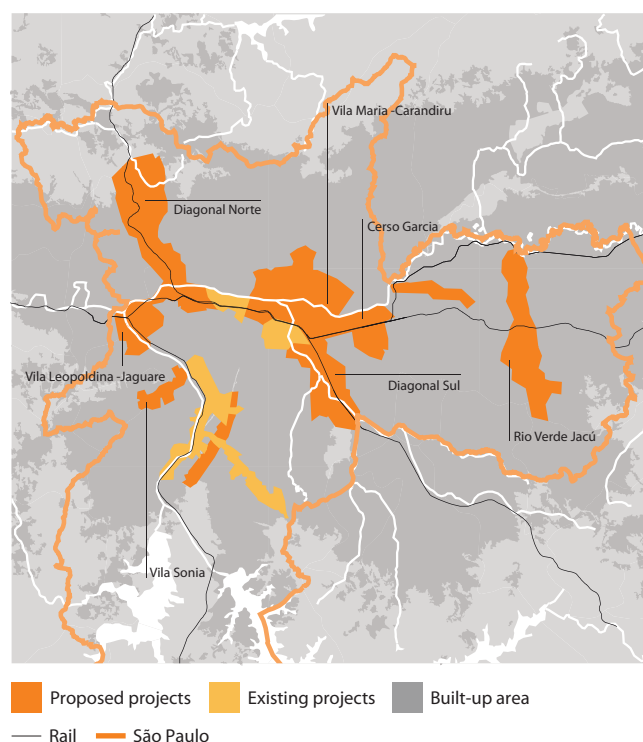
But who wins and who loses in these projects? How are these projects delivered? What institutional arrangements impact on design quality and the creation of sustainable environments? How many jobs are created? And for whom? These are the questions that São Paulo's political, design and development communities need to address to formulate a new urban policy and to deliver a strategy to implement high quality urban design that works with the grain of the city.

Many of the international success stories in the regeneration of large-scale sites – such as redundant ports, railway, manufacturing and transport areas – suggest that considerable levels of public investment and management are necessary to make them work. In Brazil the private sector has historically taken the lead due to the lack of public funding or involvement in urban regeneration. Yet, a long-term perspective is a prerequisite of sustainable planning as opposed to the short-term returns on investment required by any commercial operator. In Washington DC, for example, the Corporation for the Development of Pennsylvania Avenue developed a 25-year vision for the regeneration of the area. The establishment of a delivery vehicle – an administrative structure with strong public as well as private sector representation – that manages and implements the project from inception to realisation is critical to its success in promoting economic development and generating new activities.

The compact city model, with its reduced energy footprint that promotes intensification of well-connected inner city sites, has become the central objective of many European cities. Urban containment, smart growth and sustainable development within a defined urban footprint are central components of this new urban vision that not only drives the identification of individual sites – often highly contaminated areas near the centre – but also shapes policies that promote sustainable living such as the introduction of the Congestion Charge in London or the Velib public bicycle in Paris. This approach has driven the development of a new urban hub at Paris Rive Gauche on the Eastern edge of the city – coordinated by SEMAPA (Société d'Economie Mixte de Paris) – which has attracted 60,000 jobs, counterbalancing Paris's better-known financial centre at La Defense in the West.

Paris has developed its urban interventions within a clear regional and metropolitan perspective of economic restructuring that prioritises the international service sector, while London has focused some of its spatial policies on the creative industries through the actions of the Mayor's London Development Agency. Bilbao, instead, developed plans at various regional and metropolitan scales before empowering the RIA2000 agency with the strategic implementation of the plan that gave rise to Frank Gehry's Guggenheim Museum, Norman Foster's metro stations and Santiago Calatrava's bridge. These interventions were instrumental elements of a successful marketing strategy that has promoted the city as tourist destination, placing it in competition with world capitals.

The wide-scale adoption of neo-liberal ideologies and their impacts on social exclusion has led to what Neil Smith has identified as the new 'global strategy for gentrification'. In Paris traditional, old-style policies – enshrined in the ZAC (Zones d'Aménagement Concertés) – still constitute the legal



Sites identified by the city authorities for urban regeneration, *Operações Urbanas* (urban interventions), include areas often – but not always – adjacent to existing transport infrastructure.

starting point for urban and social housing projects, as they do across the whole of France. Exceptions to this rule are the implementation structures applied to the redevelopment of Paris Rive Gauche, Parc Citroën, Bercy and the former Renault car-works area. In the case of Paris Rive Gauche, a direct confrontation with the local community resulted in the provision of an appropriate number of affordable housing units and the incorporation of an old industrial mill as the seat of this industrial mobilisation.

The evidence from these projects points to the development of new management tools and the involvement of a wider range of social agents to better define successful urban regeneration. A key element is public transport, a critical component of sustainable urban development. Canary Wharf, the massive office and commercial complex in London's East, only took off after the Jubilee Line extension connected it to the city's main metro network. The success of the Kings Cross development and the London 2012 Olympics site in the Lower Lea Valley are also highly dependent on their location next to major rail-based transport hubs that will create higher density clusters of a polycentric nature. In Milan, the viable redevelopment of ex-industrial sites at La Bovisa and La Bicocca into major office and residential neighbourhoods were predicated on their proximity to the city's extensive public transport network.

By analysing international case studies, it becomes clear that the state has played a key role in their implementation, despite the high level of private sector investment. Even in the United States there is evidence of substantial public investment – at federal, state and city level – to implement infrastructure, transport, public spaces and cultural institutions in major urban projects. Another lesson is that solutions to urban problems depend on the involvement of local actors, civil society and the active participation of government at many levels. On balance it can be observed that highly centralised traditional planning tools which regulate land use and urban development – as they are currently implemented in Brazil – have become obsolete.

São Paulo's strategic plan – the Plano Diretor Estratégico – is a case in point. The PDE 2000 determined that 20 per cent

of its built-up area should become sites for *Operações Urbanas* (urban interventions). To date these have been the subject of repeated criticism with piecemeal results which lack a comprehensive vision of urban design. There is no vision for a sustainable urban model with clear environmental objectives, nor has there been any public debate about public space and rebalancing the role of public transport and the private car in the city's future

The crisis of contemporary Brazilian urbanism reflects the weakness of the system of large-scale 'strategic masterplans', which wrongly assume that all urban problems can be solved by one single instrument. The successful strategy for city-level 'urban interventions' must be considered as an instrument of structural transformation, built on a partnership between the public and private sectors. It is a process that requires the participation of landowners, investors, residents and representatives of civil society which identifies particular urban areas for transformation as part of a wider metropolitan strategy. To be implemented successfully, such a strategy requires a series of medium and long-term measures, including land tenure reform, evaluation of real estate potential, strict land use regulations and public space interventions.

The São Paulo experience has since the 1990s failed to deliver an effective and democratic urban vision for the city. The major reason for this failure is the absence of a proper management and implementation vehicle that takes into account the full social and economic costs and benefits of projects of this scale and complexity. Any intervention of this sort must embrace the various actors and agents involved in the production of city space, constructing a communal fabric that values the individual citizen. Yet, this approach assumes public engagement to achieve a shared objective. Demolition of entire pieces of city and their replacement by 'model' projects will do little to improve the lives of existing urban dwellers, and will simply cause displacement and erosion of its existing social and urban fabric.

Given the extreme levels of social inequality found in most Brazilian cities we would argue that a more subtle and sophisticated approach to urban regeneration is necessary: one that is based on a collective effort and broad participation, and that aims to promote local development and social inclusion. To this end we would suggest that São Paulo adopts a new system for the implementation of its urban interventions founded on the following principles: require a clear political commitment to implementation, innovation and inclusion through a metropolitan masterplan that integrates the development potential of urban sites with public transport provision; establish a legal framework that promotes social inclusion and public participation (by creating a Participatory Management Forum for individual urban projects); establish an independent local development agency to implement specific urban projects, that includes all key stakeholders and is responsible for project management and delivery, inward investment, funding and project financing; develop an integrated mobility plan that optimises public transport use incorporating metro, bus, bicycle and pedestrian movements and minimises private car dependency; establish a metropolitan-wide development fund that can capture value of future return on investments; promote a sustainable environmental approach that integrates the remediation of water and river systems with redevelopment of brownfield land; propose mixed-use centres that provide housing and employment and support the 'new economy'; and identify special conservation areas across the city that take into account the historic value and architectural merit of buildings and spaces.

*Nadia Somekh is the Dean of the Faculty of Architecture and Urbanism at the Mackenzie Presbyterian University. Carlos Leite is an architect with a PhD in sustainable urban development and is a professor at Mackenzie Presbyterian University.*



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