

DEVELOPING URBAN FUTURES



URBAN AGE

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Cover: Urban development near Bole Arabsa on the edges of
Addis Ababa. ©Charlie Rosser

Back cover: Addis Ababa's Chinese-built light rail transit is the
first in sub-Saharan Africa. ©Charlie Rosser

FOREWORD

The Urban Age turns its ‘reflexive lens’ to Africa after a series of international conferences that have allowed us to assess selected cities in hotspots of urban growth and change across the world. For 15 years, the Urban Age project has conducted a worldwide investigation into the future of cities, holding conferences, generating research, curating exhibitions, publishing books (most recently *Shaping Cities in an Urban Age*) and producing newspapers like this one to explore the relationship between the design of cities – how we live, move and work – and how they can be better governed and managed to tackle the challenges of, for example, uncontrolled sprawl, inequality and climate change.

The final leap towards an ‘urban age’ requires urgent exploration. 2.5 billion more people will be living in cities by 2050, the vast majority in Africa and Asia. Yet, much of the infrastructure to support this urban expansion is yet to be built. To contribute to the exploration, the Urban Age has carried out new research on African cities in the build-up to the Addis Ababa conference on *Developing Urban Futures*. The dynamics of growth and change of ‘young’ sub-Saharan African cities – their size, population, density and social and economic profiles – are presented alongside those of emerging cities in Asia and more mature urban centres of developed nations. The aim is not to create a ranking of urban performance or ‘success’ but to better inform the decisions that are taken today that will shape urban lives for generations to come.

The risks associated with steep and unmanaged urban growth are high. The essays in this publication provide context and perspective on the challenges faced by developing cities: from fragmented urbanisation and economic inefficiency, to environmental damage and limited democratic accountability. As the location for the 17th Urban Age conference, Addis Ababa, with its distinctive model of urban transformation in Africa, is explored in greater detail as a basis to frame questions around our shared urban future.

With the help of over 60 experts and policymakers from 26 cities in Africa, Asia, Europe, South and North America, the Urban Age conference in Addis Ababa is designed to create *common ground* to take the debate about *Developing Urban Futures* further. It is the continuation of a conversation that since 2005 has investigated over 40 cities globally, engaged more than 6,000 people and given voice to 500 urban experts, scholars, practitioners and policymakers.

We welcome you to the 2018 Urban Age.

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DEVELOPING URBAN FUTURES

Peter Griffiths

In 1950, roughly half the world’s urban population lived in Europe and North America. A few decades on, Asia eclipsed Europe and is today home to half the world’s city dwellers. As Europe enters deeper into an ageing society, Africa will soon overtake it for second position behind Asia. Today, 42 per cent of Africans are urban dwellers, about 500 million people. In the next few decades this number will swell to over 1.4 billion, with twelve million young people entering the labour market every year.

‘...experiments across Africa’s divergent cities suggests that perhaps Africa may give birth to new forms of city-making.’

The rapidly growing urban areas in Africa and Asia may soon set the global urban agenda on everything from climate change and social inclusion to productivity and transport innovation, given the relatively larger populations and significant need for constructing spaces, connecting people and supporting livelihoods. Nigeria’s cities alone will accommodate 189 million more people by 2050. Ethiopia is fast moving from being a predominantly rural economy to an urban one, with Addis Ababa growing at an annual rate of about 4 per cent – twice the rate of Beijing or Jakarta. In the rush to deliver cities, critical infrastructure needs may be overwhelming. According to the African Development Bank, two-thirds of the investments in urban infrastructure needed between now and 2050 have yet to be made, and extensive informal housing will require some form of upgrading. But can the grace of an incremental growth narrative be afforded to African cities? London grew its metro rail network over 150 years; Shanghai built the world’s longest metro in little over 15 years. In a more technologically advanced world than Victorian England, the question of how to design and plan cities may never have been so important.

Since the start of the millennium there has been renewed interest in building tall in cities as diverse as Cairo, Maputo, Abuja, Kampala, Cape Town, Durban, Addis Ababa, Dar es Salaam, Luanda and Port Louis. A building in Johannesburg’s financial district has just become the new tallest building in Africa after 45 years, highlighting a growing optimism in Africa’s cities. Plans for even taller towers in Casablanca, Nairobi, Accra and Abuja are on the drawing board.

The state-led development model in Addis Ababa is perhaps atypical of the African story. Green and yellow corrugated-iron sheets enclose demolished

areas like bandages, highlighting a scale of change occurring in many cities across the continent (see page 24). The plethora of experiments across Africa’s divergent cities suggests that perhaps Africa may give birth to new forms of city-making and find bold ways of responding to rapid growth, environmental sustainability and reconfiguring cities to be spatially more inclusive in a context of urbanisation without industrialisation.

A potential benefit of the continent’s current phase of urbanisation is that development models have already been tested sufficiently across the globe. Those developing Africa’s urban futures can learn from what worked and, perhaps more important, what didn’t. But the evidence on the ground is, at best, mixed. Congestion, sprawl and inadequate infrastructure prevail as city leaders attempt to modernise and retrofit overstressed urban systems. Policymakers, investors and entrepreneurs are operating in a context where the informal economy accounts for 50–80 per cent of the continent’s GDP, 60–80 per cent of employment and 90 per cent of new jobs. The prevailing form of growth in many African cities of varying size is ad-hoc and incremental.

As a continent, Africa’s infrastructure patterns have historically focused on connecting resources and commodities to global markets, rather than people and ideas. This process has become more complex in the twenty-first century, with China playing a critical – and controversial – role in creating a new generation of infrastructure with potentially transformative impact. Among other forms of investment, the growing superpower is replacing and extending some of the railways built by British, French and Portuguese colonial governments to connect places in Nigeria, Kenya and Ethiopia. This infrastructure may allow cities in the world’s most unified regional union (the African Union covers the entire continent) to link not just to the outside world, but also internally.

Intra-regional trade in Africa is only 18 per cent of total exports versus 59 per cent and 69 per cent for Asia and Europe. As African cities connect to each other and share ideas, opportunities to negotiate more favourable trade terms increase. Africa’s changing flight patterns (see page 30) illustrate this: growth has not only been directed at China and India – flights within Africa have also doubled in the last 15 years. Trade figures over a similar period mirror this trend, with export and import growth between Africa and China and India almost doubling. And, as China taught the English to drink tea, Ethiopia is taking coffee to China, with one entrepreneur betting on an empire of 100 cafes by 2022, highlighting how culture continues to flow *from* African shores.

An Urban Age perspective

The data and essays in this Urban Age newspaper present key aspects of African urbanisation in a global context. Shlomo Angel’s work shows that, globally, it isn’t necessarily rapid population growth (while a significant contributor) that is driving urban expansion, but sprawl, with cities taking up more space per person than ever before, a condition known to make cities less productive, less sustainable and less inclusive. Since 1990, a basket of 200 cities has expanded five times, but their populations have only doubled. This, and Nicholas Stern’s caution that the next few decades are a once-in-history opportunity to build sustainable cities, frames the challenge of developing new urban futures that are resilient to technological, economic and climate change, and inclusive.

Even so, all the research into understanding Africa’s existing popular transport networks, the challenge of connecting people and opportunities and how best to govern urban informality also suggests that at least some of what might need to be built in Africa has already been built. Lagos and Cairo already have populations as large as some of the world’s largest mega-cities: New York City, Shanghai and Mexico City.

‘Perhaps the biggest challenge facing Africa’s urban future is not the magnitude of problems, but the urgency of implementing solutions.’

In the quest to have a story that is more connected to a modern and global narrative, Fasil Giorgihs warns of the importance of retaining a past, not only in symbolic architecture, but also in the texture of connection on the streets. These are qualities that, once lost, can never be designed back in. Edgar Pieterse’s provocation is that citizen participation experiments, like in Nigeria’s Port Harcourt, could be part of the solution to retrofitting existing pieces of city instead of rebuilding them from scratch. An extensive community mapping project plugged a gap in available data, enabling the possibility of delivering urban infrastructures in informally planned areas.

A significant challenge in understanding Africa’s urban conditions is its vast complexity. While some areas are among the least urbanised globally (see page 26), others can trace urban histories back further than much of Europe¹. Language barriers in Anglo-, Franco- and Lusophone knowledge

production, and a tendency to simplify the African story given limited and inaccessible locally produced content, has increased the challenge of comparing African cities to each other and to global examples. Almost half of all cities in Africa do not have a recent census and accessing data at sufficient quality for study required substantial resources except in a few examples.

Many of the African cities investigated by the Urban Age simply cannot be known at the same level of detail as more developed cities. With knowledge production about cities still concentrated in the Global North, the risk is that Africa’s urban success stories remain hidden. But there are exceptions. Cape Town, for instance, encourages the use of city data by universities, entrepreneurs and the general public to drive innovation. There is considerable work to be done, though, to satisfy Michael Bloomberg’s tongue-in-cheek exhortation to city mayors: ‘In God we trust. Everyone else bring data.’

In an effort to understand the local story, we commissioned a series of commentaries on cities across Africa. Some came back overwhelmingly negative. The more objective comparative data collected by LSE Cities (see pages 24–49) shows that African cities do not necessarily perform worst-of-the-worst. In many instances African cities – for now – perform far better than cities elsewhere, particularly in resource use. This can offer some reason to hope. It is also clear that African countries with the highest human development are also the most urbanised (see page 24), mirroring a trend found across the world. As Africa urbanises, it seems likely that measures of education, health and wellbeing will increase, as will democratic accountability.

The Urban Age has investigated models of sustainable development in other parts of the world where urbanisation is largely complete. Will Africa produce new models, rendering them more inclusive, productive and liveable? The evidence, in part, suggests this is possible. Greater connectivity and trade between cities, which could soon be part of the largest free trade area in terms of participating countries since the formation of the World Trade Organization², may also result in a far less fragmented urban landscape. Perhaps the biggest challenge facing Africa’s urban future is not the *magnitude* of problems, but the *urgency* of implementing solutions.

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PERSPECTIVES ON AFRICA



Street vendor, Kampala: Africa’s cities, like all others, thrive by maximising opportunities for transaction.
©Mudondo Evaline

AFRICA’S URBAN TRANSFORMATION

Vera Songwe

Africa, along with Asia, is the epicentre of global urbanisation. This transition will undoubtedly result in considerable challenges including demand for employment, services and infrastructure. At the same time, it presents significant opportunities to enable structural transformation, if well planned and managed.

Urbanisation in many African countries has not been driven by improving productivity. Indeed, most countries are urbanising rapidly amid declining or stagnant industrial output and low agricultural productivity. One useful way to group African countries in terms of urbanisation is to consider their position in natural resource exports and economic diversification. Countries fall into four basic groups with similar development challenges: pre-transition countries, transition countries, diversified economies and natural resource exporters (see page 48). Pre-transition countries (for example, Ethiopia), have an opportunity to set a trajectory for well-planned development of cities, balanced development of urban systems and diversified, labour-rich industrial target sectors. They also face challenges of limited public resources, low capacities (particularly outside primary cities) and low levels of infrastructure.

Transition countries (Cameroon, Mozambique and Rwanda) tend to be early in the urbanisation process, but already experiencing some of the urban diseconomies. They can still channel emerging growth to invest in key infrastructure and create well placed and serviced industrial locations, linking industry to rural resources. Diversified economies (Mauritius and South Africa) must manage the challenges of urban growth to maximise the benefits of agglomeration economies and the continued dynamism of their cities. They face crucial trade-offs between investing limited resources, primarily in established and growing cities and industries, or attempting to balance development and industrialise lagging regions. Natural resource exporters (Republic of Congo and Gabon) face some of the toughest challenges. Large, export-driven consumption cities tend to have high informality and inequality, and job-poor sectors can crowd out industries that generate more jobs and more balanced development. However, these exporters also have huge opportunities to use financial resources for infrastructure investments, leverage industrial linkages to successful export sectors and harness the power of consumption as a driver of industrial development.

African leaders have already affirmed the need to harness the potential of urbanisation for structural transformation through the Common African Position on the New Urban Agenda that emerged from Habitat III as the global urban development framework for the next two decades, underscoring the role of cities in structural transformation and sustainable development.

Using urban demand to drive industrial development

Industrial targets tied to urbanisation can tap into Africa’s rapid urban growth to develop domestic and regional markets for domestic industrial products, including through leveraging the recently agreed African Continental Free Trade Area. Africa’s urbanisation is in many places accompanied by a growing consumer class with more purchasing power and preferences for manufactured goods. Changing consumption patterns have already created opportunities for domestic industry, especially in the automotive, food, housing and the infrastructure sectors.

Automobile consumption in Africa is associated with rising incomes and continued urbanisation. With the sector’s potential to meet the growing demand of the urban middle class for vehicles domestically, or regionally, policies can target the sector to foster industrialisation and generate learning for later entry to global value chains.

South Africa – the continent’s leading producer – illustrates the industry’s potential. Largely reflecting policies since 1995, it domestically produced 588,000 vehicles and exported 329,053 in 2017. The automotive industry, which has 150 component companies, contributed 6.9 per cent of GDP in 2017. Gauteng, though geographically the smallest province in South Africa, is the most populous with an estimated population of 14.7 million. It also has the most automotive suppliers, as it offers investors business opportunities, including a well-developed infrastructure. The Gauteng Growth and Development Agency, the Automotive Industry Development Centre and the Automotive Supplier Park provide support to the industry and are charged with promoting its trade and investment and implementing projects. An additional enabling factor is South Africa’s position as a major supplier of platinum and other platinum-group metals required by the automotive industry. South Africa meets 12 per cent of the demand for catalytic converters and has 70 per cent of the world’s chromium, used in producing modern auto exhausts¹.

Similarly, in Morocco industrial policies have fostered a large and fast-expanding automotive industry, including a Renault factory in the economic free zone municipality of Melloussa, near Tangiers. The industry is now the country’s largest export sector, dethroning phosphate exports. Automobile production is also on the rise in Algeria, Egypt has 15 car assembly plants targeting the domestic market² and Kenya and Ethiopia have emerging vehicle assembly sectors.

In the area of construction, growth, particularly for housing and urban infrastructure, reflects rising urban demand. Housing is a major source of wealth creation and savings, with investments accounting for 6 per cent of GDP, and for each house built, five jobs can be created³. Housing, through backward linkages, can

encourage construction industries to form, including basic industries such as cement and steel. With the expanding housing and construction sector and sophistication of the real estate market, there are good prospects to develop industry further by upgrading skills and developing design, contracting and consulting capacities.

African per capita spending on urban housing is consistently higher than in rural areas, pointing to growing opportunities. However, the sector is struggling in many countries as institutional problems account for an inefficient supply chain and expensive housing units, highlighting the need to remove regulatory barriers. Housing is 55 per cent more expensive in urban Africa than in other developing countries’ urban areas⁴. Typical house-price-to-income ratio globally ranges between 3:1 and 5:1, but often in Africa, even for public service employees whose average income is higher than the majority’s, the ratio goes above 10:1. The cheapest formally built housing, too, is much higher in Africa on this ratio than in other developing regions.

The level and growth of per capita GDP will be major contributors to upgrading urban housing supplies. Middle-class households tend to own their own homes and reside in bigger and more permanent housing, equipped with modern durable goods. In Algeria, Morocco, South Africa and Tunisia more than 60 per cent of households own their homes, in part a reflection of the rise of the middle class⁵. The quality of their housing also tends to be better, with more solidly built roofs, walls and floors, and less overcrowding⁶.

There is need for governments to actively address the persistent formal housing gap for families who will not enter the middle class in the coming decades. Such programmes can be directly tied to industrialisation policies, as has been done in Ethiopia. Similarly, the investment in housing that North African countries like Morocco and Tunisia have made since the 1990s is reflected in impressive changes in housing conditions. In Morocco the share of the urban population living in slums fell from 37 per cent in 1990 to 13 per cent in 2005.

Africa’s urban housing deficit is accompanied by a huge infrastructure deficit. The continent lags behind the rest of the world in access to electricity, internet penetration and access to improved water, and has large road-maintenance needs. West Africa has lower road density and road quality than other regions; North Africa has a higher prevalence of paved roads and better access to electricity; East and Southern Africa do best on internet servers. The annual financing requirement for infrastructure investment in Africa excluding North Africa is estimated at \$93 billion⁷, but this covers rural and urban areas. With rapid urbanisation and growing cities, countries will need to simultaneously catch up with the backlog, invest for the growing population and spend on maintenance. In the last two decades the region has seen significant growth in infrastructure investment, with an increasing share of private sector finance relative to official development assistance, including growing investment by China. Still, 65 per cent of the total comes from public budgets. This might be lower than the 5–6 per cent of GDP advocated by development practitioners, but countries such as Angola, Cabo Verde and Lesotho are investing more than 8 per cent of GDP⁷.

Diverse and connected system of cities

African countries are often characterised by unbalanced national urban systems with a very large primary city and less competitive smaller cities. Urban systems tend to be top heavy with expensive and crowded primary cities, and secondary cities that are too small to be viable alternatives for competitive industries. In response, some African countries have put in place policies to rebalance urban systems, which risks wasting resources.

Ethiopia’s urban policies focus on promoting planned secondary city development in advance of urbanisation, largely as industrial enterprises are relatively clustered. In 2009/10, Addis Ababa had 11 times the number of manufacturing enterprises of the second city on this metric (Awassa)⁸.

Road and railway linkages connecting secondary cities to each other and to their surrounding rural areas form a central plank for developing regional growth poles. During the first decade of this century, Ethiopia allocated 3 per cent of GDP to investment in roads, bringing the quality of the trunk network up to the level of other low-income countries in Africa⁹. Current and planned railway mega-projects, including the Addis Ababa–Djibouti railway project (see page 16) and road and railway connections to agricultural hinterlands, are designed to facilitate trade, agro-processing and industrial development.

In Egypt, crowding in urban centres, particularly Greater Cairo and Alexandria, as well as urban expansion onto precious agricultural land, led the government to develop a New Cities programme from 1977. Twenty-two new cities have been established, which fall into the following categories: primarily residential satellite centres around Cairo; twin cities intended to have an economic base but connected to an existing smaller city; and independent cities, with their own industrial base.

Better-functioning cities

The power of agglomeration economies gives large cities a major productive advantage. Firms in cities have better access to labour, markets, inputs and knowledge sharing. However, many large cities in Africa are underperforming, with the potential of agglomeration economies undercut by poorly functioning land and property markets, inadequate mobility options and disconnected and sprawling urban form including residential segregation.

Poorly functioning land markets lead to disconnect between the productive potential of a city and the cost of land. For instance, the cost of non-residential land is not necessarily correlated with GDP per capita in Africa’s cities. Tunis and Nouakchott, for example, have lower rents while Lusaka and Dakar have higher rents relative to per capita GDP.

Rwanda has proven that large-scale land regularisation is financially and administratively feasible. As part of its land reform policies, the Land Tenure Regularisation Programme identified and registered 8.4 million plots, with a trial period in 2008–10 and full scaling-up in 2010–13¹⁰. The programme employed 110,000 Rwandans, with 99 per cent working in their own communities, while keeping the cost per title at approximately \$7, which is extremely low for such programmes¹¹. As of 2014, 81 per cent of identified plots had been approved for titling (freehold and leasehold), with only 0.1 per cent remaining unregistered parcels with unresolved

disputes¹². The programme improved gender equity through regulations and education, resulting in the inclusion of married women’s names on plots and enhanced gender parity in inheritance rights¹³.

Agglomeration economies are also undercut by weak connectivity and poor urban mobility. The inability of people to move easily through cities shrinks opportunities for labour pooling and knowledge sharing, both critical to increased firm productivity. One study has revealed that there is a higher productivity gap within Kenya’s industrial sector than in India or China, with the productivity differential between firms at the 80th and 20th percentile three times more than in India and over four times more than in China.

Insufficient, poorly planned and disconnected road space alongside increasing motorisation has led to choking levels of congestion in many cities. Road investments are often skewed towards highways and ring roads rather than a more fine-grained scale of urban connectivity, leading to only temporary relief as excess road space is quickly filled up by more drivers and as cities de-densify in response to new peripheral connections. However, five quantitative studies on industrial clusters in Africa suggest that agglomeration economies are at work, confirming that urban areas hold benefits for firms in Africa.

Harnessing urbanisation for industrialisation: policy priorities

Today’s policy decisions for urban design and infrastructure will have a long-term lock-in effect and thus shape the development path of Africa’s cities. But to be more productive and tap into urban advantages for industrial development, policies need to be more integrated in the following areas:

Centrality of national development planning: Policymakers need to leverage urban drivers such as increase in aggregate demand and consumption by maximising urban productivity enablers and addressing barriers through a coherent set of sound urban development policies, planning and investments aligned to industrial development goals and priorities. Many African states have recently re-recognised the need for national development plans, including long-term visions and the means of achieving them. South Africa’s 2030 National Development Plan, for example, considers urban growth an opportunity.

Industrial policies should enable sector targeting: Investments and public resources will have more impact if they lift certain industrial subsectors and their value chains to achieve the development goals in the national development plan. Targeting specific subsectors for industrialisation and managing the trade-offs between investment strategies should consider the comparative advantages of these subsectors.

Spatial considerations in industrial policies: Successful industrial policies should be tailored to the spatial needs of targeted subsectors and firms, and different types of cities should be developed to match different industry needs. Spatial targeting of investments and developing a functionally complementary system of cities and towns must be embedded in industrial and urban policies. Special economic zones (SEZs) offer one option for spatially connecting industry with the benefits of agglomeration economies in pockets of well-served land.

The way forward

African cities present common opportunities to expand industries to meet urban domestic and regional demand while generating jobs and supporting development outcomes, including agro-processing, urban housing construction and urban infrastructure construction. Across the continent, national, regional and city-level policymakers can make the most of these opportunities, but only if they take into account the following interconnected issues that will enable cities to deliver sustainable change.

Implementing policies: Administrative arrangements and budgetary support should mirror a coordinated structure for urban and industrial development policies. Disconnects between these elements are often the cause of failures in implementation.

Institutional capacity: Implementing urban and industrial policies in a coordinated manner requires a sound institutional framework matching the structure of the policies. Many African countries still face institutional constraints for coordinating the two strands – urban and industrial.

Finding the financing: Empowering urban local authorities with financial capacity to better plan and manage cities is crucial if cities are to better support industrial development. The Addis Ababa Action Agenda, for instance, recognised the role of subnational actors in financing for development. But decentralisation without financing, and weak local capacities for financial management and revenue generation, challenge many African cities.

Knowledge: A critical challenge in harmonising urban and industrial development is the paucity of knowledge and evidence. In particular, spatial economic data, especially at subnational level, are lacking, which constrains progress. Closer cooperation is thus needed between urban agencies and national statistical offices.

Conclusion

Africa is undergoing a rapid urban transition with considerable implications for industrialisation, a key imperative for inclusive structural transformation. Urbanisation and industrialisation are closely linked elsewhere, but in Africa these links are weak. Where they exist, the urbanisation-industrialisation nexus has often developed organically rather than through deliberate policy responses, even though the importance of coordinating industrial and urban development was recognised by African policymakers as far back as the 1960s¹⁴. The challenge for Africa is thus to transform its economic growth into sustained and inclusive development by harnessing urbanisation to promote economic diversification, with a special focus on industrialisation that creates jobs, reduces inequality and poverty, and enhances access to basic services.

Domestic and regional markets are expanding, creating opportunities for African industries to meet growing, and shifting, demand. Strategic and expanding sectors, supported by domestic policy, are in a position to leverage this demand to boost industrial development. Still, policies that are well targeted can create viable industrial locations that meet the needs of industry without impinging on the economic power of large cities. Supporting the role of large cities to be centres of knowledge and innovation can help leverage their potential for

industrial productivity. At the same time, secondary cities and well-located SEZs with the right infrastructure can balance the needs of sectors for access to inputs, labour, markets and knowledge.

Further, despite the importance of cities for industrial development and vice versa, the planning processes and institutional frameworks are disjointed. Policies are often formulated and implemented in ‘silos,’ with little analysis of the impact of urban trends and economic geography on industrialisation in national development plans.

To leverage the opportunities created by urban demand, a host of strategic actions should support activities at all stages of targeted value chains in agriculture, manufacturing and services, such as building skills, improving infrastructure, expanding access to business services and promoting spatial development policies.

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PARADOXES OF AFRICAN URBANISM

Edward Glaeser

Africa’s past is rural. Africa’s future is urban. The growth of Africa’s cities offers tremendous economic, social and political upsides. Urban agglomerations have generated industrialisation, cultural breakthroughs and democratisation, but there are also downsides of urbanisation.

Rural life in poor countries offers much less chance for change than urbanisation. Despite the challenges of Africa’s cities, the right response is to fight for improvements in the quality of urban government. For when density is managed well, cities can be places of remarkable pleasure and productivity. Singapore, for example, manages to be clean, healthy and relatively uncongested. Without proper management, density can diminish quality of life.

Cities are the absence of physical space between human beings. That closeness enables the flow of goods and ideas, and the use of shared urban joys, including museums, parks and restaurants. But just as urban proximity makes it easier to share a laugh or an insight, it also makes it easier to share a virus. Density enables harmful involuntary transactions, like robberies, just as it enables benign voluntary transactions. The downsides of density can readily spiral out of control, unless they are managed by effective local government.

Many of the wealthy cities of the Global North dealt with these by-products of urban crowding so long ago that they may have forgotten how difficult it was to make Paris or New York liveable. Only massive investments in infrastructure and incentives turned London from a place of early death to a city of long life. Even as recently as 1992, murder continued to haunt New York. Yet today that city is remarkably safe. This change didn’t happen easily.

The lessons of the wealthy world’s past are particularly important today, but so are the lessons that come from the more recent urbanisation of Latin America. Just like Africa today, many Latin American countries urbanised before they industrialised. São Paulo and Mexico have dealt with crime and traffic congestion for decades. They lacked resources, just like many African cities, and often responded with creative solutions.

The scope of the challenge of African cities generates a temptation to just give up on urbanisation, but there is little future in rural poverty. Cities can provide a pathway out of poverty into prosperity, and they are the best hope for political improvement. Improving the quality of life in developing-world cities brings the hope that those cities can enrich their countries and bring more freedom and political accountability. The quest for better cities in the developing world is one of the most important battles of the twenty-first century.

The race against time

Europe urbanised over centuries. Africa is urbanising over decades. Communities, like Kibera in Nairobi or Dunoon outside Cape Town, emerge in a startlingly short period of time. Whereas European cities grew because of massive demand for industrial labour in cities like Manchester in the UK and Lille in France, in many cases, urban growth in Africa reflects a flight from conflict, agricultural desperation, or high fertility.

Consequently, African cities face the dual challenge of enhancing quality of life and economic viability. East Asian urbanisers such as China and Japan also followed the path of industrialisation, but will this path be open to Africa?

In a sense, African cities are in a race against time. Some cities are gradually improving their transportation infrastructure and experiencing capital-deepening, but at the same time, industry is continuing to mechanise. If global automation is sufficiently fast, then African industry will find it difficult to compete despite relatively low wages.

In the West, cities have moved from manufacturing to services. Yet to be successful, these service-oriented cities must still have a viable export base, such as the financial sector of London or technology in San Francisco. Today, many African cities also specialise in services, and rely on the export of natural resources. Will this be enough in the middle twenty-first century?

I remain optimistic because cities have long innovated their way to prosperity. I expect the same for the cities of Africa. Entrepreneurship is abundant in Lagos, Nairobi, Addis Ababa and Johannesburg. Yet for these cities to survive, they must attract and retain talented job creators. Quality of life is important, not only for its own sake, but also because cities attract talent by being pleasant.

The poverty of African cities tends to push local governments to focus on service delivery for the poor, and this is largely appropriate. But if cities are going to be successful economically, they must also be appealing to their wealthier residents. One useful framework is to think of city governments as having a pair of tasks, which require radically different approaches.

The first task is wealth creation through the management of urban real estate. Essentially, governments can think of themselves as operating an incredibly large and complex for-profit real estate development company. This company will only succeed if it enables the for-profit sector of the economy to thrive, and if it entices talented entrepreneurs to locate within the city.

But the purpose of this profit-making entity is to provide funds that will pay for the second, more important task of city government: poverty alleviation. In a sense, cities should see themselves as having a for-profit real estate company that is owned and operated in the interest of a non-profit poverty reduction organisation. Clearly dividing the two tasks of government is important so that African cities can accurately assess the trade-offs when allocating urban space.

The African challenge is particularly difficult because successful poverty alleviation will only lead to continued rural–urban migration. That inexorable flow means that African cities should never view poverty as failure. They will attract more poor people if they succeed. Success and failure should be judged based on whether the city is transforming poor people into rich people. As long as the city is an upward ladder then it is doing its job.

Land and money

As Henry George argued in *Progress and Poverty* more than a century ago, the most natural source of subsidy for urban infrastructure is local property and land taxation. Property values can be easier to assess than income. Land cannot relocate in response to a local tax. Taxes based on the value of land, rather than structure, do not even deter new building. Better property taxation provides a means for cities to pay for their own infrastructure in a way that does relatively little damage to the overall economy.

In many cases, implementing local property taxes requires a number of difficult institutional reforms, including the constitutional ability to tax, establish land records, create tools for property value assessment and, in many places, the replacement of informal land occupancy by formal land ownership. In India, Mumbai’s ability to act is restricted because the city is controlled by the state government of Maharashtra. Property records are often murky, and local real estate expertise is often limited. Most importantly, vast swathes of the urban world lack formal land titling, which prevents the owners from using their property to finance entrepreneurship and prevents the city from imposing civic obligations, like taxes, on the owners.

When local expertise is lacking and vulnerability to local corruption is considerable, property tax assessment can be centralised and essentially automated. Simple statistical models can evaluate land values based on plot size and distance from the city centre. Structures can be evaluated by using images, which can either come from Google Street View or be taken by local governments themselves. By combining these images with a database on property sales, machine learning can provide a reasonably accurate model for assessing the values of every home in a city. Nationwide property value assessment can also limit abuse of compulsory purchase or eminent domain at the local level by providing external estimates of the value of appropriated land.

Providing infrastructure requires a source of financing, but it also requires institutional design. Should the infrastructure provider be public or private? If public, should it be part of the city government or an independent agency? There is no easy answer. Private companies can save costs, but they can also corrupt local government. Independent authorities may become centres of excellence, or they may become bloated parastatals that provide an unaccountable patronage source. Paradoxically, weak public capacity can be a reason to manage the project in-house instead of outsourcing it to a private enterprise, because placing sewers can be a less difficult task than avoiding subversion by a profit-making enterprise.

The final challenge in water and sewerage provision is ensuring adoption. A ‘last-mile’ problem often exists in developing-world cities where sewer mains are built, often with external aid, but poorer citizens are unwilling to pay for services. It is not surprising that families in countries with a per capita GDP of less than US\$2,000 are not willing to pay US\$1,000 for a water connection.

In some cases, poorer citizens are even unwilling to take free services. In Manila, the water and sewerage companies often offer free desludging for the thousands of septic tanks that are the primary waste repositories in that metropolitan area. Homeowners do not want the service, however, because their septic tanks lie under their kitchens and living rooms and desludging is disruptive. The result of not desludging is that waste spills out into the streets and their neighbours’ space, and the cost of clearing up is not borne by the household itself.

The adoption problem is generally more difficult for sewerage than for water. In the case of clean water, most of the benefits accrue to the household and consequently there is usually some willingness to pay. In the case of sewerage, most of the benefits accrue to the wider community that is saved from the costs of rampant waste.

Consequently, there is a particularly strong need to provide incentives that complement sewerage infrastructure.

Property and ownership

In much of urban Africa, property rights are murky at best. One major agenda for Africa is to regularise ownership of urban land in a way that is both fair and efficient.

Westerners often act as if the nature of land ownership is somehow obvious. It is not. Western conceptions of property ownership actually combine a wide range of property rights and obligations. For example, ownership is related to the right to be free from expropriation both by the state and private actors, the right to sell land, the right to mortgage land, and the right to build on that land. Typically, the poorer residents of African cities can occupy their land with little fear of expropriation, but they often lack the other rights that are associated with property ownership in the west. Typically, well-meaning western attempts to promote property ownership focus on land registration, not on the set of rights that may or may not come with registered ownership.

Expanding the number of rights associated with property ownership in African cities and townships is important, but far from straightforward. For example, the right to build is challenged by building codes. Poorer residents may want to build higher-density homes, but they may be unable to build safely enough to satisfy existing building codes. The right answer is not obvious, since both density and safety are worthy objectives.

Institutional reform around property rights must be part of the African urban

PRODUCTIVITY AND URBAN FORM

J. Vernon Henderson, Sebastian Kriticos and Tanner Regan

Sub-Saharan Africa has experienced massive urban population growth over the past half century, dramatically reshaping the spatial and social profile of the region. Simultaneously, the process has challenged the conventional view that urbanisation and economic transformation go hand in hand, as the sub-continent has experienced far less of the economic gains alongside urbanisation than in Latin America and Asia. This challenges the very notion of why people move to cities and how they contribute to economic development. Since most of Africa’s urbanisation is yet to come, it poses a significant challenge to policymakers: what policies will help future urbanisation be a catalyst for productivity growth, rather than an extension of rural poverty. Improving mobility within cities and land use are two policy instruments at the core of Africa’s urbanisation challenges, fundamentally driving the productive potential, efficiency and liveability of cities.

As individuals and activities cluster in cities, scale and specialisation manifest themselves and generate efficiencies. Firms enjoy closer connections between buyers and suppliers, lowering input and transport costs. Workers and employers experience better job-related matching opportunities, reducing search and hiring costs. Meanwhile, close proximity allows individuals and firms to learn from each other, generating knowledge sharing. From a governance perspective, it’s also much cheaper to provide essential public goods – like infrastructure and basic services – when populations are large and clustered together.

Economic density

The notion that productivity gains should be closely linked to urbanisation stems from the seminal work of Saint Lucian and Nobel-prize-winning economist Arthur Lewis on structural transformation and

agenda, but that institutional reform must be sensitive to local conditions. Ideally that reform will lead to the ability of current slum dwellers to upgrade their residences and increase the number of people who can thrive within the city. Yet it is also possible that reform will lead to land-taking and expropriation of the poor. Improving institutions in an equitable fashion must be a big part of making African cities more liveable.

There is much magic in developing world cities. Rural–urban migrants come to these places because they are hoping to find a better future. They are not fools and they are not misled. For all of Rio de Janeiro’s problems, it offers much more than the impoverished rural north-east of Brazil.

Yet these new urbanites do face risks from disease and crime. They will spend far too much time crowded into jitneys or minibus taxis sitting in traffic. Living in dense, poorly managed cities will increase stress in their lives.

Developing-world cities can be improved. Simple management tools can improve policing. Singapore instituted congestion pricing using paper permits, not high-tech wizardry. Even water and sewerage improvements are possible. These changes may often be difficult, but they are also necessary. These cities are the best hope for the poorer parts of the planet.

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their urban areas. In Ethiopia, for instance, 90 per cent of the workforce is in agriculture, as is close to 15 per cent of the urban population. For other African countries – including Mali, Cameroon, Tanzania, Uganda, Rwanda and Kenya – the proportion of primary sector activity in urban areas ranges from 12 to 40 per cent, as compared to countries like India where the share is closer to 7 per cent. Services employment is another key issue. Although it comprises more than half of GDP, Africa has had limited development of high-value industries like financial and business services. Among the largest cities in Africa, typically less than 12 per cent of employment is in tradable services, and under 10 per cent in manufacturing.

Nevertheless, recent evidence suggests that there are large income gains to be made by living in Africa’s denser areas, and that these gains exist across multiple industry sectors. On average, based on data from five African countries, households in the top 25th percentile of cities by population size earn double the income of their rural counterparts. Perhaps even more salient are the returns to urban density, noting that households benefit from both the overall urban density of the city they live in and the local neighbourhood around them. Within a set of 115 larger cities in these countries, a household moving from the tenth to 90th percentile of average city density across cities increases income by 290 per cent, and in moving from the tenth to 90th percentile of neighbourhood density within cities by 89 per cent. Moving people out of low-density settlements and into high-density living has huge impacts on income.

These relative gains from increased density are important, but they obscure the fact that absolute productivity in Africa is low compared to the rest of the developing world. The issue is that much of the continent is urbanising while poor, with a poorly educated population, indeed, strikingly poorer than continents like Asia and Latin America were historically at similar levels of urbanisation. This low base of taxable urbanites contributes to deficiencies in institutional capacity that limit economic density and the agglomeration benefits that come from higher densities. Some of these limitations are based on transport deficiencies and weak land market institutions.

Transport

Reducing commuting costs is the key to allowing jobs to cluster and centralise. With very high commuting costs people live very close to where they work, limiting access to job opportunities and constraining firms to remain local in scope. The reason why London became a manufacturing and services powerhouse in the early 1900s is because firms could access the labour force and their customers with reliable transport services. The construction of the rail and underground system was at the heart of this through its role in centralising employment (see page 38).

Between 1831 and 1921, employment rose four-fold in the City of London while the city lost population. The new infrastructure allowed people longer commutes – rising from a typical one to two kilometres of walking to five to six kilometres – contributing to a massive spatial spread of residential locations into the peripheries, and an intense clustering of economic activity within the City of London.

In most African cities, economic efficiency is undermined by limited infrastructure and weak public transport. Most travel is

done by private means; occasionally by car, motorbike or bicycle, but most often on foot. In major cities like Nairobi, Lagos and Addis Ababa, 30–45 per cent of trips are made on foot, and as many as 70 per cent of trips in Kampala are made by walking (see page 40). This limits households to small distances around their residences and impedes their access to jobs. Another striking feature of African cities is that motorised transportation is primarily informal – with *matatus*, tuk-tuks and *boda bodas* being the standard examples. Planted on congested streets with slow speeds and uncertain commute times, they are not enough to transform mobility in cities.

The question is whether the building of modern transit systems in developing countries, such as the roll-out of the Bus Rapid Transit system in Dar es Salaam, could have a similar impact on employment clusters and centralisation as rail did in London historically. Bogotá’s TransMilenio BRT system suggests it can. Commuting distances have risen, employment has clustered into productive locations and city in-migration and employment have both increased – leading to substantial welfare gains due to the BRT. Challenges still remain; in particular, zoning restrictions on building height have limited the extent of economic clustering, thus inhibiting the full benefits of the TransMilenio.

The Colombian example highlights the fact that installing transport infrastructure in isolation can mean limited success for truly tackling mobility challenges. Accessibility for an everyday citizen must be considered in terms of three factors – distance, time and cost – that all relate closely to the proximity of citizens to jobs and other urban services. This is why any successful transport policy has to be closely coordinated with land use planning in order to facilitate the intensive, high-density land use needed to make publicly provided transport efficient and cost-effective.

Land use

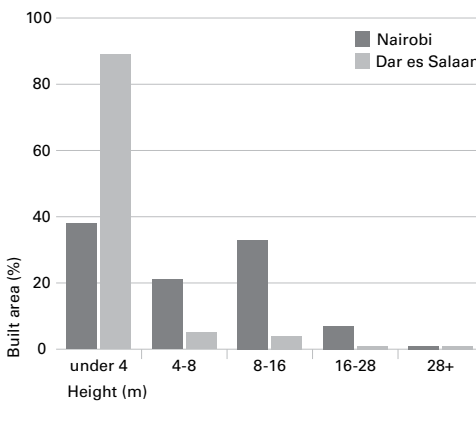
Strong institutions for land and property seem essential to urban development for several reasons. Marketable, enforced property rights facilitate contracts and the transfer of land to its most productive users. These users will invest in intensive development through high-rise building near the city centre and durable buildings throughout the city. Without such rights, the risk of expropriation, the uncertainty of trade and the inability to obtain financing and insurance would limit investments in property and intensity of development. Well-defined rights systems also support legal enforceability, allowing governments to impose obligations on land owners for the public good such as taxation, enforcements that allow the coordination of public services and restrictions on land use that mitigate negative externalities like industrial pollution and overconsumption of public space.

The contrast of the state of institutional development to the intensity of land use across different African cities is revelatory in this regard. In Nairobi, for instance, around 90 per cent of all non-government building land is under private ownership and effectively well titled. This has played a large role in fuelling the city’s construction boom over the last decade. In contrast Dar es Salaam is still moving from customary rights to private property rights. Government registry data suggests that only 20–25 per cent of residential plots have full title through a certificate for right of occupancy. Transferring rights across uses

is also difficult, which makes it extremely challenging for a developer to assemble plots to pursue large-scale developments. The result is two very different-looking cities.

In Dar 89 per cent of buildings are four metres high or less (meaning one storey), while in Nairobi it is only 38 per cent. Of the taller structures, 8 per cent of buildings in Nairobi are over 16 metres, or five storeys, while for Dar it is 2 per cent.

Average building height



The highest buildings are in the city centres, but outside the centre, Dar is mostly one-storey buildings while Nairobi has much more height and intensity of land use. It appears that property rights in Nairobi have facilitated intensive investment, while weaker rights in Dar have not. Of course, there are other differences. Tanzania is poorer with a different culture and Dar’s climate is much warmer.

Land institutions and their impact on urban density are essential considerations for national, municipal and local governments in Africa. Particularly because many countries are currently undergoing major reforms to streamline land administration and registration, as well as to update overall standards and spatial planning principles. Kigali, for instance, has used satellite technology to register all plots at a low cost

DELIVERING EQUITY LOCALLY

Mpho Parks Tau

The commitments made at the United Nations’ High-level Political Forum (HLPF) on Sustainable Development Goals (SDGs), in July this year, marked a watershed moment for recognition of the indispensable role of local government in implementing the 2030 Global Agenda. For the first time there was unequivocal acceptance of local and regional governments to deliver, effectively and sustainably, on the SDGs, the New Urban Agenda and the Paris Climate Change Accord.

This recognition was underlined in the words of the UN Deputy Secretary-General Ms Amina Mohammed that closer collaboration is required ‘to ensure that this twenty-first-century United Nations system includes a new and innovative strategy to support and build the capacity of local governments.’ This highlights that cities are now located at the centre of a changing and complex world and, furthermore, that cities have a seat at the global table as equal participants to shape and drive the future of humanity.

while making reforms to physical planning schemes to involve further public participation. In Dar es Salaam, the government has made efforts to establish universal access to formalised tenure security but has faced prohibitively high survey costs. Like Kigali, Dar has experimented with new forms of derivative right tenure using satellite-image-based surveying methods. Another approach that has seen particular success in peri-urban areas of Dar that are yet to be intensely developed, such as the Kigamboni district, was to encourage private companies to supply surveyed land data to the municipal offices. It is important that such efforts are able to keep ahead of intensive development, as evidence from Tanzania shows that pre-emptive action in planning and surveying before settlement can lead to much more efficient urban development

Conclusion

Being a competitive city has many dimensions; for instance, better human capital through investments in education and training; better provision of supporting legal and financial institutions; and improved integration and coordination across multiple levels of government. These areas for policy reform, which we have not been able to focus on here, are not only critical but also highly complementary. But there should be no doubt that if African cities hope to succeed and accommodate the needs of their rapidly expanding populations, they will need to get transport and land use policy right.

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DELIVERING EQUITY LOCALLY

The UN is legitimately concerned to capacitate and empower cities since there is a mutually reinforcing relationship between local government and sustainable development¹, and meeting the needs of citizens and communities hinges on the quality of governance. The degree to which cities and local municipalities are able to deliver ever-expanding public goods depends on meeting the challenges of urbanisation, infrastructure, migration, dwindling finances and climate change. These cannot be solved in isolation. Rather, since their impact cuts across societies and regions they require interlinked governance models. In the memorable words of the late UN Secretary-General, Kofi Annan, these are meta-problems that show scant regard for borders or ideologies, travelling autonomously without passports.

If local government and cities are best placed to deliver effectively most common goods, it calls for policy interventions and concerted action to capacitate cities,

Namirembe Road, Kampala: Activity concentrates centrally in Uganda's capital, facilitating an intense dynamism for trade and exchange. Limited traffic management renders movement difficult.

©Mudondo Evaline



home to more than four billion residents. Such strategic interventions and actions include granting cities and city-regions greater financial muscle and operational powers. Such decentralisation will benefit the local sphere of governance, but demands – especially in the developing world context – political will.

An absence of such political support has driven some mega-cities to respond to challenges thought to be the domain of national government. Lagos, like other middle-income cities, is beginning to emphasise its sovereignty over problem-solving by generating its own electricity.

Prioritising cities and local government is informed by the understanding that locally rooted economies and administrations, based on the specificities of local conditions, provide immeasurable benefits. The role of cities in expanding opportunities and capabilities talks to the central argument of Amartya Sen in *Development as Freedom* about ‘the equality of opportunity’ and ‘participation in growth by all’.

Equitable governance

Specifically, the quality of governance in the developing world is especially important, since its failure means equitable service delivery is denied to many – like the indigent, urban poor, immigrants and refugees. Good governance, then, is about extending people’s basic opportunities to overcome their conditions and climb the social ladder.

Localising the SDGs through shared growth and inclusive urbanism is an indication of the importance of cities and city-regions. ‘Localising’ does not mean the indiscriminate parachuting of global goals into the local context but instead centres on responding to global challenges through locally sourced solutions.

This requires closer collaboration between the resourced North and under-resourced South, through mechanisms like peer-to-peer co-learning, so that humanity as a whole can move towards a higher trajectory. The Addis Ababa Action Agenda is a significant global compact designed for this particular purpose.

As Ms Mohammed said, it is incumbent on all 193 UN member states ‘to get urbanisation right’ as it is the common lifeboat we share, as citizens of Planet Earth. This requires that we ‘ensure balanced territorial development, and urban design and land use planning to promote growth, climate mitigation, urban resilience and poverty eradication.’

This inclusive urbanism calls for taking collective responsibility for a shared future and delivering on universal outcomes such as access to basic-quality services, expansion of economic opportunities and better planning to meet growing infrastructure demands. This was arguably achieved at the City of Johannesburg through projects such as the Bus Rapid Transit System (BRT), Jozi@Work (mainstreaming economic equality) and Jozi Digital Ambassadors (designed to bridge the digital divide).

Johannesburg’s flagship BRT project intentionally set out to attain integration through mobility by creating a cheaper, safer, faster and more reliable public transport system. The Corridors of Freedom, a concept and project borrowed from Curitiba in Brazil, is now accepted as a model in developing societies for its objective of equitable access to urban amenities through bringing people closer to opportunities and opportunities closer to people.

In essence, the BRT Rea Vaya, which means ‘we are going’, was intended to redress apartheid spatial patterns and bring dignity to the lives of formerly excluded citizens and communities like outer-lying Soweto through provision of a reliable and affordable public transport system. Noteworthy achievements of this project include activating real estate markets in previously dormant areas, increasing social infrastructure investment and providing greater recognition of public spaces for social inclusion and national cohesion.

Such policy interventions are a practical expression of the Global Network of Cities’ Local4Action Hub. The Hub is targeted at building communities of practice to support local and regional governments in addressing local challenges. We should not, in the words of former UN Deputy Secretary-General Mark Malloch-Brown, await ‘tragic events of some kind to bring countries to the table.’ Self-initiative is urgently required to guarantee we comprehensively and sustainably deal with problems without passports.

1. Sustainable development, according to the UN, is ‘development that meets needs of the present without compromising the ability of future generations to meet their own needs.’

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PLACE-MAKING IN DISSONANT TIMES

Edgar Pieterse

Dissonance is the overwhelming condition of the current era. At a time when formal politics in multiparty democracies seem interminably stuck, over the past few years a supposedly ineffectual United Nations has been able to broker a series of path-breaking development agreements, of which the 2030 Agenda for Sustainable Development and the New Urban Agenda adopted in 2016 are the most ambitious. These agreements represent a fundamentally different political landscape within which tough social justice questions can be confronted more easily. It also means that the opportunity for the pursuit of urban justice is unprecedented, even if not always activated. Yet, even a cursory review of dominant political processes and priorities across the OECD and Global South is enough to deflate hope.

Why is participatory development so damn hard?

There is remarkable convergence of policy thinking and prescription on participatory development in the knowledge fields of urban development. The New Urban Agenda is emblematic of what is currently considered normative when it asserts a vision for cities that:

Are participatory, promote civic engagement, engender a sense of belonging and ownership among all their inhabitants, prioritise safe, inclusive, accessible, green and quality public spaces that are friendly for families, enhance social and intergenerational interactions, cultural expressions and political participation, as appropriate, and foster social cohesion, inclusion and safety in peaceful and pluralistic societies, where the needs of all inhabitants are met, recognising the specific needs of those in vulnerable situations.

According to the New Urban Agenda, there are four drivers that can activate this vision. One, multilevel urban policies that are consistent between the local and national levels. Two, strong urban governance institutions that consistently act in a democratic, accountable and inclusionary manner. Three, an embracing of long-term and integrated territorial planning and design to ensure that the spatial dimensions of urban form – compact and complex – are optimised. Lastly, effective finance policy frameworks to ensure dedicated revenue streams for a new approach to infrastructure investment priorities. Such priorities should be underpinned by a prescriptive spatial (land use) agenda to ensure that the economic, social and environmental benefits of density are realised.

It is hard to fault the principles and aspirations. However, it is critical to interrogate these frameworks to understand whether they are able to be deployed for transformative purposes, or whether they will merely keep the status quo in place. The ‘drivers of change’ postulated by the New Urban Agenda are of particular relevance

because they are regarded as prerequisites for the establishment of participatory governance and rights-based citizenship. In sub-Saharan Africa, where decentralisation has effectively stalled and national governments are determined to retain control of countries and cities, it is hard to see how ‘consistent’ multilevel urban policies might be formulated. Specifically, opposition parties tend to first get a foothold in cities, which establishes a dynamic whereby national governments resist decentralisation. In such contexts, National Urban Policies can easily become mechanisms to starve cities of power and resources in the name of retaining national coherence and economic development. If multilevel urban policies cannot be developed in an inclusive manner, it reduces the influence of cities on key policies that shape urban investments. Limited power at the local level erodes the value of participatory processes since decisions are consolidated somewhere else. In most sub-Saharan African countries democratic decentralisation remains a distant ideal.

The evidence from many African cities suggests that democratically elected local government institutions are not necessarily accountable or inclusionary. They are more likely to opt for chauvinistic populist policies that reinforce certain portions of the electorate at the expense of others, fuelling conflict and sometimes violence. These practices are incorporated into the ways in which political parties are embedded at the grassroots and associated systems of clientalism and patronage. The undemocratic stranglehold political parties exercise at the community level undermines the quality and utility of public participation.

Furthermore, there is simply no guarantee that the institutional adoption of long-term and territorial planning is necessarily going to lead to decisions that have a positive impact on urban form, social inclusion and environmental sustainability, as the New Urban Agenda suggests. Long-term planning is equated with anticipatory planning on greenfield sites to accommodate future growth – a policy aggressively promoted by UN-Habitat. Often associated with private mega-projects, this condition leaves the existing city in a state of utter neglect and exclusion, even though this is where the majority of the urban population lives. Private sector mega-projects create conditions for rent-seeking at a scale that far exceeds the typical scenario in existing cities. Most African cities are characterised by limited tax-raising powers and small tax bases. In this context, it is common for local political leaders to negotiate ‘facilitation fees’ outside of the formal tax system to ensure major development projects are approved and connected to existing urban infrastructure networks. Such projects create an even stronger incentive for encrusted elites to want to stay

in power, and for cosy business relations to keep them there in order to mitigate risks associated with long-term capital-intensive investments. In other words, mainstream discourses on participatory urban planning and management can come across as naïve about how the real (estate) world of urban reproduction operates, and about what is required from a democratic oversight perspective to reorient the incentives of urban management and governance away from rent-seeking towards radical inclusion.

Port Harcourt: grounding participatory urban development

Insisting on a realistic account of institutional and political constraints on the ideals of participatory development does not amount to an argument for abandoning the ideal. On the contrary, it is an assertion that we ground political ideals in real-world contexts and emergent experiments.

The Port Harcourt, Nigeria case study illustrates instances of advocacy and alternative experiments as forms of critical opposition to state neglect. However, both kinds of democratic actions – cooperation and opposition – are vital for a vibrant democracy that can attend to the structural drivers of inequality and social injustice.

Founded just over a century ago as a key trading node, the city has experienced rapid urbanisation since 1958 when crude oil was discovered, swelling to 1,450,000 inhabitants today. The economy remains entirely reliant on the extraction of crude oil. In 2009, modernisation ambitions of the then-governor of the state resulted in violent evictions. Up to 19,000 people were displaced in one particularly violent weekend.

The first political action of an NGO, Collaborative Media Advocacy Platform’s (CMAP), was to expose the violence through documentary photography and recorded testimonies of waterfront slum communities. This work engaged with those most affected, telling their stories and equipping them to tell their own. One of the most striking symbolic actions was to produce large-scale billboards that projected high-quality portrait images of the residents of these communities, simply saying who they were and that they belonged in the city. An important technique for repressive states is to render their subjects invisible and therefore inconsequential. By installing assertive portraits of ordinary residents in public sight lines, the oppressive power of the state is questioned and rendered a little less absolute.

After a couple of years, CMAP’s work moved on to help communities formulate their own visions and plans for the future. At the core of this phase was a radical deployment of participatory planning processes to develop a detailed spatial account of the waterfront communities, which in turn formed the basis for identifying and prioritising needs. The design quality of the maps is striking. This is clearly attributable to the insider/outsider roles of CMAP initiators, Michael Uwemedimo and Ana Bonaldo, who worked for London-based institutions and were therefore able to navigate the international humanitarian and development donor communities. They were able to provide the necessary administrative and financial controls to attract funding and communicate effectively. However, this always went hand in hand with building elected grassroots organisations and focusing on skills development.

Through a collaboration with architectural firm NLÉ, CMAP embarked on the design of Chicoco Space/Our Place.

This hub aims to consolidate existing community projects and programmes into a series of public-focused activities including recording studios, meeting rooms and a cinema. The project offers a literal and imaginative bridge between the host neighbourhood and the city at large.

On the back of this evolving practice of participatory planning, mapping and cultural production, CMAP were able to escalate their impact by joining forces with a United States-based research company, and successfully tendered to produce a faecal-sludge-management-based strategy to tackle the sanitation crisis in Port Harcourt. This was premised on the experience and reputation of CMAP to train community members and produce rigorous work. Most importantly, it allowed CMAP and the various community organisations to move from a deep focus on a few of the 49 waterfront communities to the whole city. They are now engaging directly with various state-level and local government departments, enabling them to combine alternative experiments with forms of partnership towards service delivery collaborations down the line.

In conclusion

There is nothing inevitable about the kinds of outcomes that participatory development processes produce. On the contrary, participation rhetoric and techniques can be deployed by powerful interests to reinforce their legitimacy and stymie sustained critique. Yet, in formal policy pronouncements the mantra remains as confident as ever. The CMAP example reflects that participatory techniques linked to the problematisation of space, with an eye on redefining use and cultural value, can prove to be potent in substantiating urban citizenship even when the state demonstrates disinterest or has a proclivity for exclusionary practices.

However, it is important to confront a wicked irony in attempts that seek to reconfigure and democratise power in African polities and cities. In classic leftist thinking the stranglehold of elite power is unlikely to be resolved without a radical displacement of the status quo, which implies a sustained politics of protest, mobilisation, occupation and eventually the gain of electoral power through an effective party that is rooted in a broad-based coalition of insurgent interests. Unfortunately, this scenario is unforeseeable in most African polities (and much of the North, for that matter) because of the difficulty associated with sustaining such coalitions. Moreover, since the state has limited reach in controlling the drivers of urban reproduction, electoral gains are often no guarantee of being able to pursue transformative strategies.

Economic and spatial reproduction are co-constituted by a plurality of actors, not least traditional authorities, religious leaders and other local strongmen that regulate daily life. Since urban reproduction in terms of basic services, livelihoods, economic transactions and public space are rarely fully public actions, but rather hybrid institutional configurations of formal, informal, makeshift practices, the work of participatory policies must target these fluid and often opaque knots of regulation. This is a big political ask, but unavoidable. This condition also undermines the prospects of a classic left-styled politics of critique, opposition and counter-power that can generate displacement or replacement.

In the end one is left with a canvas of micropolitical experiments that could be

articulated through strategic coalitions of citywide importance that, hopefully, confront the intractable questions of spatial justice. The emerging experiences in Port Harcourt demonstrate the immense power that can be unleashed through carefully curated and deployed participatory techniques that are embodied in

MAKING INCLUSION MORE INCLUSIVE

Kate Meagher

Cities across Africa reveal a pressing need for more inclusive approaches to urban development. Despite growth rates averaging 5 per cent for much of the past 15 years, African cities are confronted by expanding slums, persistent poverty and expanding unemployment and informality. Sub-Saharan Africa has the world’s highest rate of informal employment, accounting for 77 per cent of the non-agricultural labour force, and even in the era of ‘Africa Rising’, the International Labour Organization notes continued increases in working poverty. Underlying growth dynamics, based on natural resource dependence, dwindling access to land and decades of infrastructural neglect and deindustrialisation, fail to generate adequate levels of employment or basic services for rapidly expanding urban populations. ‘Jobless growth’ and urbanisation without industrialisation have forced policymakers to grapple with the challenge of how to ensure that economic growth and urbanisation generate viable livelihoods and adequate service provision for the vast urban populations living and working informally in African cities.

But what does ‘inclusive growth’ entail? How can Africa’s informally employed millions be constructively integrated into urban development strategies in ways that foster urban modernity while engaging the growth potential of Africa’s expanding young populations? Three models of informal economic inclusion have emerged in contemporary urban development thinking: global connection, formalisation and co-production. While economic inclusion sounds inherently positive, it is useful to remember that modern slavery and sweatshops are also forms of global economic inclusion. There is a need to look beyond the fact of inclusion to consider the extent to which inclusive strategies actually reduce informality, improve livelihoods and enhance social rights.

Models of informal economic inclusion

The *market-led model* of informal economic inclusion focuses on the importance of global connections. Economic and digital linkages across the formal-informal divide serve to link African informal workers into the modern economic opportunities of the global economy. Many argue that the expansion of the formal economy has proceeded too slowly to absorb Africa’s rapidly expanding labour force. What is

cultural and artistic sensibilities to animate democratic passions, while fostering a space for thinking and acting propositionally.

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needed are direct connections via global value chains, internet and mobile phone connectivity and corporate Bottom of the Pyramid initiatives that can act as conduits of resources, skills, technology and modern jobs for Africa’s vast pool of informal labour.

A second model focuses on ‘*formalisation*’ through registration, taxation and the extension of basic social protection to informal actors. Rather than assuming that rights and resources will trickle down through global market linkages, formalisers argue for the inclusion of informal actors in the systems of urban governance, including statistics, revenue generation and urban planning. Inclusive policies focus on simplified registration, improved informal economy statistics and the extension of taxation and basic social protection into the informal economy. Formalisation initiatives can be digitally enabled through the spread of mobile phones and mobile money that capture the economic behaviour of informal actors and provide new mechanisms for gathering statistics, collecting taxes and providing social protection.

A third model emphasises inclusion through participatory engagement for the *co-creation* of urban development strategies. Inclusion depends on recognition of the complex organisational ecosystems and constraints that shape informal livelihoods. Without an understanding of informal livelihood systems, market connections or formalisation may disrupt rather than include informal actors. Proponents highlight the need for participatory design and decision-making, engaging with the distinctive logics and innovative solutions of informal ‘insurgent planning’ systems, with a view to harnessing the knowledge and innovative capacities of informal actors in ways that avoid the risks of withdrawal or outright resistance.

Inclusion or adverse incorporation?

There are clear tensions between the policy approaches deriving from these various models of inclusion. Each seeks to include informal economies differently – the first in markets, the second in formal regulatory systems and the third in urban design and decision-making.

Policy implications also vary: inclusive connections call for deregulation to facilitate linkages with informal economies and formalisation strategies seek to adapt regulation to the realities of informal economies,

while co-production emphasises participatory governance. While digital technologies offer new ways of combining these modes of inclusion, greater attention needs to be paid to the resulting terms of inclusion.

Discussions of informal economic inclusion need to look beyond the apparently benign notion of inclusion to consider the new economic and regulatory ecosystems being created. Global connections with the informal economy tend to cut out informal nodes of accumulation, such as informal wholesalers, local manufacturers and informal transport firms, to connect directly with the informal labour at the micro-end of the informal economy. Such inclusive connections are highly selective, cherry-picking informal actors that facilitate market access and reduce labour and transaction costs, while cutting out those too successful to be compliant, or too poor or unskilled to be economically useful. Global connections with the informal economy also create processes of ‘deregulation through the back door’ by bypassing legal frameworks of labour rights that normally govern employment in formal firms and substituting algorithms and corporate codes disembedded from national democratic control. In the process, global economic inclusion creates new dynamics of exclusion, labour informalisation and political disempowerment.

Similarly, more inclusive formalisation initiatives focus on simplified and innovative forms of registration and taxation to bring informal actors into the formal economy. Yet informal actors in Anglophone Africa have been paying formal taxes at the local government level since colonial times without altering their conditions of informality, suggesting that formal economic inclusion requires more than taxation and registration. As Martha Chen has pointed out, there is a tendency to include informal actors in the costs of formalisation, while focusing less on including them in the benefits, such as equitable social and legal protection. New efforts at ‘second best’ inclusion in derisory social benefits serve less to ‘formalise’ than to ‘normalise’ informality by making it more sustainable.

Finally, inclusion through participatory urban governance offers more insight into informal ecosystems and livelihood constraints but forgets about the deeper realities of power. Community mapping of informal settlements or generating digital transaction data helps to make African informal economies more legible to states and corporations but gives little control over what this data is being used for. A lack of bargaining power, even when included in urban decision-making and service delivery, limits the transformative power of co-production. Without the support of supportive formal allies, co-production of urban design is easily hijacked by more powerful urban interests to harness informality for profit rather than to improve rights and livelihoods.

Digital taxis and paradoxes of inclusion

The rise of digital taxis in urban Africa illustrates some of the paradoxes of informal inclusion initiatives. Digital ride-hailing companies claim to use new technology to create jobs, formalise the taxi industry and enhance the efficiency of urban transport. Yet, ongoing research on digital taxis in Lagos, including Uber, Taxify and Oga Taxi (the main Nigerian contender), shows that digital inclusion can exacerbate rather than reduce informality.

Collectively, Uber, Taxify and Oga Taxi claim to create a total of over 20,000 jobs

in Nigeria, connecting unemployed and informally employed urban youth to modern employment. However, both the extent and quality of jobs created by digital ‘inclusion’ are problematic. 32 per cent of drivers use digital taxis as a second income rather than as a ‘job’, while 64 per cent of drivers work for two or more digital taxi companies simultaneously in order to improve incomes, reducing the touted 20,000+ new jobs to fewer than 8,000. A recent McKinsey report acknowledged that digital connections ‘have a relatively modest impact on employment’ and do as much to eliminate and informalise jobs as to create them. Digital connections and the definition of drivers as ‘independent contractors’ also cut drivers loose from national frameworks of labour protection. While digital taxi drivers are referred to as ‘partners’ rather than employees, they are subject to corporate regulatory systems that lower tariffs and vehicle specifications without consultation, and regulate earning and working conditions using algorithms that undermine driver autonomy.

To further complicate matters, 66 per cent of digital taxi drivers do not own the cars they drive. Paying returns to car owners provides incomes well below the minimum wage, despite drivers working an average of 76 hours per week. Given the high levels of education needed to qualify as a digital taxi driver – 47 per cent are university graduates – most drivers regard the activity as a ‘stopgap’ while they look for a proper job. Only 52 per cent of digital taxi drivers in Lagos regard the activity as a ‘job’, and only 14 per cent regard their work as a formal activity. Officials at the Ministry of Labour and the National Labour Congress are also sceptical about the formality of digital taxi work. While they work for a formal company and generate statistical data, digital taxis operate under the radar of national labour laws.

Concerns about taxation cast further doubt on the inclusive effect of digital taxi companies. Despite Lagos’ celebrated taxation drive, neither digital taxi drivers nor digital taxi companies pay the taxes and licence fees required of the taxi industry. While this reduces costs, it also informalises the activity and deprives municipal and state authorities of revenues for improving the transport system. Much of the celebrated competitiveness of digital taxi companies derives from cut-rate fares and the evasion of licence fees, which includes underemployed graduates at the expense of existing taxi and car hire drivers. There is a need to question the value of inclusive initiatives that undermine the livelihoods of those with more occupationally relevant skills, better tax compliance and sustainable incomes geared to capital and life-cycle costs.

As for the generation of statistics for improved planning, digital taxi companies have extensive data on drivers, riders and traffic patterns, but have so far been unwilling to share this data with relevant government authorities. As a result, Lagos transport authorities are unable to factor digital taxis into their transport plans because they are unable statistically to distinguish digital taxis from private cars. Moreover, digital taxis operate outside existing forms of labour or enterprise organisations, such as the national road transport workers’ union and taxi associations through which the state interfaces with the taxi and mass transport industry, undermining any potential for participatory planning. Digital organising in WhatsApp and other social media groups helps to mobilise strikes, but does not provide a vehicle for engagement with the state.

While digital taxis are recognised to have their place in the urban transport ecosystem, Lagos transport authorities feel that their unregulated proliferation runs counter to the official transport strategy, which focuses on mass transport and *reducing* the number of private cars on the road. Given that public transport in Lagos costs less than 25 per cent of the cost of a digital taxi ride, and less than 20 per cent of Nigerians own smartphones capable of supporting digital taxi apps, inclusive transport means *public* transport. Despite direct connections to global firms, digital taxi drivers in Lagos feel deprived of dignified inclusion, operate even farther outside formal statistical and regulatory systems than regular taxis and lack the organisational capacity for participatory engagement in urban transport planning.

Conclusion

Finding effective policies for inclusive growth must move beyond nominal forms of inclusion via connections to the global economy, efforts at formalising without transforming informality or exploitative co-production. Genuine inclusion must

VISUALISING POPULAR TRANSPORT

Jacqueline M. Klopp

From Cape Town to Cairo most people rely on walking, motorcycles, bicycles and minibuses to get around. These forms of popular transport move large numbers of people and goods and employ a plethora of workers. While imperfect, this makes urban life possible and productive.

Individuals, companies and cooperatives often organically arrange everything in these systems, from setting fares and providing security to determining stops and routes. All these are usually critical government functions; when not provided, popular transport steps in to provide services and planning.

Given this ‘informality’, popular transport, while strongly present on the street, is often absent from planning, policy and projects. Ambitious infrastructure investment is underway in many African cities, animated by a modernist ideal that envisions eventually replacing these systems. The focus is on expanded highways, Bus Rapid Transit or commuter rail, which, while sometimes necessary, are not sufficient to make cities work well for people. By marginalising popular transport in planning, new infrastructure tends to perform poorly and often adversely impacts people using these modes.

Highways designed without considering how most people move tend to be dangerous, adding to already alarmingly high road fatalities in African cities. Similarly, mass transit systems built along corridors tend to poorly integrate with popular mobility systems, which are needed to ‘feed’ these systems passengers. Hence, after a great deal of investment, these systems do not

do more than just shifting the underemployed from the informal economy into the precariat without altering the realities of extreme vulnerability. Turning Africa’s burgeoning informal economies into sources of urban prosperity requires a stronger focus on how to ensure that informal workers and consumers are included in the gains as well as the processes of growth, share in the benefits as well as the costs of formalisation and are empowered not just to share knowledge and data, but to influence how it is used.

There is a pressing need to move beyond the illusion of inclusion if urban development futures are to stem the risks of expanding informality, intensifying inequality and simmering social unrest. Even amid promising rates of growth and technical change, eruptions of disaffection across the continent have made it increasingly clear that failure to find ways of making growth more genuinely inclusive may give ‘Africa Rising’ a more sinister meaning.

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always perform as well as they could. Finally, critical services taken for granted in Europe or North America such as basic transit maps and apps – information systems that allow passengers to better plan efficient trips by public transport – are simply missing.

Lack of data on popular transport enables official invisibility of these mobility systems in planning. Data is needed to understand and *see* popular transport – their networks, dynamics and importance. Without this ability to visualise and analyse these systems, transportation planning is, in effect, looking at the body of a city without understanding the vast, dynamic circulatory system that gives the city life. Working in blindness, planners are more likely to design and implement fragmented, poorly integrated, disruptive and even dangerous transport interventions.

The digital commons

Rallying against this, a ‘digital commons’ movement has emerged in support of better transport planning globally. This movement leverages the digital revolution to build high-quality, open and standardised public transport data for planning, information services and as the basis for moving towards a new mobility paradigm. Within this paradigm, the ability to access a wide suite of high-quality mobility options via a mobile phone becomes a more compelling ideal of freedom than simply owning or using a car.

This transition to freedom of movement by not owning a car but accessing and paying for a choice of multiple transport modes via mobile-phone technology is a key step towards more equitable, clean, safe and



Kampala Old Taxi Park: Shared minibus taxis (*matatus*) form the backbone of Kampala's public transport provision. Over 16,000 taxi owners pay their city taxes by mobile phone. ©Mudondo Evaline

low-emissions cities. Companies like Uber, Lyft, Google and Citymapper are already anticipating and adapting to this trend. This new mobility paradigm means that data and technology are an even more important part of the core infrastructure for urban transportation and mobility.

With high public transport and mobile-phone use, African cities are uniquely placed to leapfrog into this transition. Indeed, with this vision, civic activists (hackivists) are using basic GPS-enabled mobile phones and other technologies to build high-quality, standardised data for public transport including dominant popular transit modes. This data is made open and shared widely to improve understanding and discussions of how to improve transport planning and build passenger information systems, the stepping stones to a new mobility paradigm.

The Digital Matatus project (digitalmatatus.com) is a flagship project that helped catalyse this ongoing mapping work. By making the data publicly available in a standardised format, the project enables spatial analysis and visualisations including the first data-based, stylised public transit map for a minibus system on the continent (see page 39).

The Digital Matatus map and data allow us to see a critical part of Nairobi’s circulatory system. The *matatu* system is radial with routes converging on the centre, contributing – along with cars – to congestion. Connections cluster at the city centre, and the absence of cross-town routes means passengers must get off and walk a distance to find another *matatu* to cross the city.

An optimal network for Nairobi would have more of a grid structure and a richer spread along with cross-town routes. As Jarrett Walker, author of *Human Transit*, notes: ‘This is a common thing that goes wrong in privately evolved systems. Every *matatu* wants to go downtown because it’s the biggest market, and a *matatu* driver doesn’t have to be coordinated with anyone else to fill a bus going to and from there.’ While these systems generate certain efficiencies, they do not create the best kinds of networks for the city and its residents. This suggests negotiating network reorganisation, using financial support as a lever, could improve public transport significantly.

When *matatu* data is overlaid with other kinds of data, we can explore how this mobility system generates *access* to services and opportunities in a city where only a minority owns cars. For in the end it is really *access* we wish to improve, not just mobility. The World Bank¹, for example, was able to use Digital Matatus data to explore *physical* access to hospitals in Nairobi.

The report identified that good physical access is clustered in the centre of the city. Disturbingly, for significant parts of the city, people do not have a hospital within a 30- or even 60-minute *matatu* ride. This data highlights the ways that transport and land use are inter-related; the problem of physical access to hospitals in Nairobi can be solved by building more dispersed facilities, encouraging more and better housing in well-serviced areas, redesigning *matatu* routes or through a combination of these and other interventions.

While 70 per cent of Nairobi’s adult residents use *matatus* daily, many of the city’s poorest residents can only afford to walk. In contrast, the wealthiest residents travel by personal vehicle. Thus, by using the data to compare access by mode, we can get a crude idea of the inequality of physical access to the city by socioeconomic status. Cars give widest access to the city, *matatus* create substantial access and walking

provides limited access to the city. Access is greatest in the centre. This suggests why people may accept lower housing standards and high rents in centrally located slums; it allows more critical access to the city by walking and cheaper *matatu* trips.

Conclusion

Overall, this means high-quality, affordable public transport and better land use and distribution of (affordable and good-quality) services are all critical steps towards a more equitable, inclusive and just city. To intervene intelligently and advocate for change, however, we need to be able to *see*, analyse and also discuss these inter-relations and advocate for holistic data-driven policies and projects. This is also why *open data* and building a ‘digital commons’ is so critical; it allows more actors to build, analyse and even correct this critical resource for cities.

Beyond creating tools for understanding, seeing and refashioning the city, this new open data creates a very important basic service for citizens; passenger information. Passengers can look at a map or on a transit app and see how to get from one place to another using the minibus system. Digital Matatus data is on Google Maps and other platforms, allowing trip planning for *matatus*, information not available for the vast majority of cities in the world.

Evidence is growing that this kind of trip-planning information can help people make more efficient trips and, when coupled with real-time information, reduce waiting. This, in turn, improves the way passengers interact with and feel about public transport. Infrastructure improvements are still very necessary, of course, but building these information systems including ways for citizens to give feedback helps advocate for these improvements and move closer to a twenty-first-century mobility paradigm.

Africa’s rapidly growing cities have an opportunity to leverage technology to build critical data infrastructure, not only for minibuses but for other forms of public and popular transport as well. A crowdsourced bike lane map for Nairobi highlights where cycling infrastructure could be beneficial². New technology and data tools can be applied in many creative ways to allow citizens, transport operators and government to see their whole system together, discuss it in new ways and reimagine policy interventions and projects.

Across the continent, in more and more cities government officials, civil society and tech ‘hacktivists’ are leveraging new technological capabilities to build critical open-data infrastructures for transforming urban mobility. Work is ongoing from Cape Town to Cairo and from Accra, Dakar and Maputo to Addis Ababa. To further scale up these efforts, a network of data builders for public transport, with support from the French Development Agency and World Resource Institute, is building an online, open collaborative platform to share standardised data, tools and knowledge called Digital Transport 4 Africa (digitaltransport4africa.org). Motivating this work is the very real possibility that African cities can fashion a transit-oriented, safer, cleaner and more productive future – and in the process address climate change and help the planet too.

1. World Bank World Urbanization Review 2016.

2. <http://bit.ly/NairobiBikeMap>

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ETHIOPIA’S RAILWAY REVOLUTION

Philipp Rode

PHOTO: ETHIOPIAN RAILWAY CORPORATION

The office of Ethiopia’s Minister for Urban Development displays a beautiful artwork. The woodcarving captures the country’s transformation, depicting a farmer surrounded by new industries, urban housing estates and roads. Prominently situated, a twenty-first-century high-speed train emerges out of a tunnel, offering a glimpse of the importance and powerful symbolism of railways as a catalyst for the country’s urbanisation.

The central positioning of railways in Ethiopia’s urban and economic development has already been realised by two prominent projects. The first is Addis Ababa’s 34 kilometres Light Rail Transit (LRT) system, which opened in 2015 and cost US\$475 million¹. Its north–south and east–west lines link 23 newly built stations, connecting inner city business and transport hubs with rapidly developing commercial centres and new housing developments at the urban periphery.

The second project is the Addis Ababa–Djibouti railway, a 650 kilometres electrified, single-track line costing US\$4.5 billion and operational since early 2018. Descending from Addis Ababa’s new Furi Lebu Station at 2,300 metres above sea level to Adama and then along the Rift Valley to the Gulf of Aden, it serves several other second-tier cities such as Bishoftu and Dire Dawa along its 17 major stations. The route, designed as Ethiopia’s main transport corridor, includes industrial parks and dry ports, connects the landlocked country with Djibouti Port, which has handled more than 90 per cent of its international trade in the last decade².

These costly investments, occurring in one of the world’s poorest nations, highlight their exceptional status. The projects are more astonishing when considering the marginal role of railways on the African continent after decades of limited investment and unfavourable institutional conditions. Even a push towards rail concessions towards the end of the twentieth century did not stop the decline of railways. In the case of Ethiopia, it ultimately led to closure of the old metre-gauge railway between Addis and Djibouti in the early 2000s. Today, reliable urban rail only exists in a few African cities, while 80 per cent of all rail passenger transport in Africa takes place in just one country: Egypt. Rail-freight plays a more prominent role but in most African countries trains transport less than 20 per cent of total freight volumes³.

Ethiopia’s bold commitment to new railway infrastructure recognises a range of key advantages. Rail systems offer high capacity, require less land and are safer, less polluting and lower-carbon than motorised road transport. Not surprisingly, the contemporary case for rail references the enormous negative externalities of road transport, above all accidents, congestion and environmental impact. In an urban context, the advantage of a more efficient use

of scarce urban land is critical. Ultimately, however, Ethiopia seems to acknowledge the transformative role railways can play in land development and urbanisation, as well as in connecting societies across regional borders and nations.

But the complexity of building and operating railways can be a major obstacle. As a closed and highly integrated system, railways are unique in their demands for joined-up institutions and governance arrangements. They require an ambitious ‘right of way’ that needs to be negotiated with other land uses and utilities. The particularity of railways also includes its rigid infrastructure, the need for an operator, its interoperability dependent on many technical aspects and a system performance that is based on the weakest section across the entire line. In addition, railways depend on complementary transport services for last-mile connectivity as well as associated electricity supply, communication and signalling systems.

Ultimately, railways are compromised by institutional arrangements that rarely allow for capturing the societal benefits they produce. Often, planning and decision-making processes do not even recognise these wider benefits for which land value increases are arguably the most prominent indicator. As a result, and until recently, most rail expansion plans in Africa did not pass the initial appraisal phase, which concluded costs were simply too high compared to expected returns and economic benefits⁴. One critical area ignored by transport appraisals is the medium and long-term implications for urban form, a key driver of growth and prosperity. In many rapidly urbanising countries, where fragmentation of urban form, low residential densities and leapfrogged urban expansion severely compromise economic productivity and development⁵, this is a particularly problematic omission.

The impact on urban form

Intra- and intercity transport infrastructure systems have always shaped urban development. The distinctive characteristics of railway systems, particularly compared to road infrastructure, have considerable implications for urbanisation patterns and city designs. Railways produce highly nodal centralities concentrated around stations and interchanges, usually enhanced by the station’s level of connectivity and exclusivity in accessing destinations. These centralities can be strong enough to produce the hyper-urbanity that is within walking distance of most of the world’s great train stations such as Tokyo Station, Paris Gare du Nord or Mumbai’s Chhatrapati Shivaji Terminus. High-capacity public transport combined with walking underpins the urban intensity of these centralities, which are usually distributed across larger inner-city areas.

Road infrastructure usually does not produce such nodal centralities. This is mainly for three reasons. First, their significantly lower capacity limits the number of people that can access a specific location. Second, the mix of high- and low-speed movement and parking requires exponentially more space with reduced urban qualities. And third, access to road infrastructure does not necessitate nodal access as road networks can be accessed from almost any point. Road and rail developments in expanding cities in China illustrate this: the combined effect of radial highways and ring roads was a relocation of around 25 per cent of central city residents to surrounding regions. Regional railways had no such effect⁶.

The successful integration of rail and urban development requires conscious decisions about trade-offs and thus relies on coherent, cross-sectoral planning. Ethiopia’s recent experiences demonstrate the challenge. The Addis LRT is already a victim of its own success – with considerable levels of overcrowding, it is struggling to provide the service level required to connect peripheral public housing areas. Its fenced ground-level sections, which have so far ensured that there has not been a single fatality, have also created new barriers and community severance across the city.

In the case of the Addis–Djibouti line, rather than reutilising existing city centre stations, the new line features new stations at the outskirts of cities. Addis’ new Furi Lebu Station is more than 11 kilometres south-west from the old La Gare Station in the city centre (twice the distance to the airport and requiring an almost 20 kilometres road journey). In Dire Dawa, this distance is 10 kilometres and again significantly further away than the airport. This follows the logic of China’s new generation of rail connectivity, where high-speed rail stations for Shanghai, Wuhan and Guangzhou are located more like airports at the urban periphery. While providing considerable opportunities for new transit-oriented development (TOD) on less developed and open land, this approach sacrifices the major advantage of direct city-centre rail connectivity.

Governing a rail revolution

Beyond reflecting on transport and urban development, three underpinning governance issues of Ethiopia’s first two modern rail projects can be identified. First, the unusual commitment to rail infrastructure development of a lower-income country with little experience in building and operating modern railways can only be understood as part of its developmental state ambition and the political leadership that underpins it. It is within this context that state-led infrastructure rollout is considered the central impetus for economic growth and industrial development. Indicative of following this macroeconomic model and its East Asian pioneers such as South Korea, Singapore and China, Ethiopia has become the African country with the highest infrastructure investments at around 19 per cent of GDP since 2012^{7,8}.

The central reference guiding this level of infrastructure development is Ethiopia’s Growth Transformation Plan. Its first edition, covering 2010 to 2015, aimed achieving middle-income status for Ethiopia by 2020/23 and becoming a carbon-free economy by 2025. The plan proposes five rail corridors covering 2,400 kilometres and connecting neighbouring Djibouti, Kenya and South Sudan⁹. However, while the benefits of railways are well established,

it is less clear to what extent they can unlock new economic development when other economic development parameters may not be as favourable. Rail-related urban, logistics and industrial development that is planned and underway alongside new rail infrastructure, however, certainly expresses the planners’ confidence in developmentalism.

Second, the ambitions of a centrally planned state have created tensions with Ethiopia’s constitutional commitment to ethno-federalism with devolved political powers to its regions and municipalities. This tension has become evident for both the Addis LRT project and the Addis–Djibouti rail line for which top-down institutional arrangements accelerated infrastructure roll-out, despite complex negotiations between city, regional and federal bureaucracies¹⁰.

Addis Ababa is formally responsible for all urban transport. However, the initial impetus for Addis’ LRT came from the federal government and former Prime Minister Meles Zenawi while the city was preparing to introduce bus rapid transit. Then, the Ethiopian Railway Corporation, created in 2008 as a state-owned corporation, was tasked with developing the Addis LRT. The city was also not involved in securing financing despite its considerable budgetary and fiscal autonomy.

For the Addis–Djibouti rail line, the federal government had to secure land, which necessitated negotiations with regional governments, and to offer compensation for land losses and livestock killed in accidents. Interestingly, the new train stations in Addis Ababa and Dire Dawa are located precisely at the border between the city administrations and the surrounding Oromia and Somali regions.

Third, the introduction of modern railways in Ethiopia would have been impossible without the financial, technical and managerial support of other countries. While this initially included the EU, Brazil, Turkey and India, it is China who emerged as the most committed. Loans from Exim Bank of China covered 60 per cent of the initial US\$400 million financing requirements for the Addis LRT¹¹ and 70 per cent of the initial costs of US\$3.4 billion for the Addis–Djibouti line⁹. By 2014, Ethiopia had become the second-largest recipient of Chinese credit in Africa after Angola, with loans totalling US\$12.2 billion¹¹.

The design, construction and initial operation also depended on China, the country that has laid the most rail over the last three decades, and the Ethiopian Railways Corporation (ERC) relied on Chinese companies for both the Addis–Djibouti line and Addis’ LRT. As much as the new strategic relationship between China and Ethiopia has unlocked rail infrastructure and operations, it has also created a new technological dependence on China. Most troubling for Ethiopia’s government today may be servicing ERC’s external debt, which stands at 7–8 per cent of Ethiopia’s GDP¹². As a result, China recently agreed to extend the repayment period for the Ethiopia railway loan from ten to 30 years. To generate additional revenues, ERC is accelerating efforts to capture land values via TOD around the newly created stations – a process that once again has exposed the urgency of better integrating transport infrastructure provision and urban development.

Ethiopia’s railway revolution is an instructive case for acknowledging the political economy, governance agenda and planning rationale of a developmental state. In future, the role of railways to enable particularly favourable urban form, intensity

and high levels of accessibility may prove to be as important as narrower concerns over transport economics. Railways’ stubborn demand for the concentration of urban activities and keeping cities together may well be their primary long-term benefit and a key factor for overcoming poorly planned, dispersed urban development. A return to substantial rail investments, particularly in a developing-world context like Ethiopia, is therefore nothing less than a game changer for urbanisation and managing urban change.

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GLOBAL CHALLENGES

Lagos Island from Makoko: Over 1,000 people enter Lagos every day, many ending up in informal settlements like Makoko. Built on stilts, the de facto self-governing fishing village is also a significant source of cut timber.
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URBANISATION TRENDS

Eduardo López Moreno

Since 1990, the world has seen an increased gathering of its population in urban areas. This trend is not new, but has been marked by a remarkable increase in the absolute numbers of urban dwellers – from a yearly average of 57 million between 1990 and 2000 to 77 million between 2010 and 2015. In 1990, 43 per cent (2.3 billion) of the world’s population lived in urban areas; by 2015, this had grown to 54 per cent (4 billion). By 2050 there will be 6.3 billion people living in urban areas, nearly seven out of ten inhabitants. This increase has not been evenly spread throughout the world. Different regions have seen their urban populations grow more quickly and virtually no region of the world can report a decrease in urbanisation.

The fact that more and more people live in urban areas is no longer seen as a development scourge. Although Asia has not yet achieved an urban transition (at 48 per cent urban), it generated close to 33 per cent of world output in 2010. Africa, as one of the least urbanised regions in the world at 40 per cent urban, also observes a positive link between urbanisation and economic development, with cities contributing between 50 and 70 per cent to the continent’s GDP. Other regions’ earlier processes of urbanisation have historically been associated with industrialisation and modernisation.

Urbanisation and economic growth are inextricably linked; as a country becomes more urban, it becomes more developed. Urbanisation constitutes a transformative force, with cities becoming a positive and potent force for addressing sustainable economic growth, development and prosperity, and for driving innovation, consumption and investment in both developed and developing countries. Beyond any reasonable doubt, increased urbanisation is expanding societal, economic and political progress. Cities are progressively turning into centres of political and cultural life and urban agglomerations are connecting people and places in new and better ways.

Due to their densities and economies of scale and agglomeration, cities are visible and invisible strings that connect all development sectors, with the capacity to address many of the global challenges including air pollution, climate change, poverty, inequality, unemployment and environmental degradation. If they are well planned, built and governed, cities can be real drivers for sustainable development.

Urbanisation is slowing

At the end of the 1950s urbanisation in Africa reached its peak, at 2.85 per cent. Today urban population growth is 1.06 per cent per year. This makes Africa the second-fastest urbanising continent after Asia, which is growing at 1.47 per cent. In the last 20 years (1995 to 2015) Africa’s urban population has doubled from 236 million to 472 million. The sub-Saharan Africa region, which is growing faster, saw its urban population double from 2000 to 2015, reaching 471.6 million.

In less than three years Africa’s urban population will be larger than the total urban population of Europe (559 vs. 555 million people in 2020). Asia, despite being less urbanised than most other regions today (48 per cent), is home to 54 per cent of the world’s urban population, followed by Europe and Africa (13 per cent each). It is expected that in two years, Asia will achieve its urban transition with 2.34 billion people living in urban areas. Nearly two-thirds of this urban population will live in India and China.

Growing inequality

Cities are developing and providing benefits, goods and services to many inhabitants. However, they are also failing to cater for the needs of all residents, creating entire areas of deprivation and concentrated disadvantage. Despite the opportunities urbanisation represents, many cities today fail to make sustainable space for all, not just physically, but also in the civic, socio-economic and cultural dimensions attached to collective space.

Growing inequality, social exclusion and spatial segregation continue to have an impact on people’s lives in most of the world’s cities. In the last 20 years, seven out of ten cities in the world have grown more unequal, even in traditionally more egalitarian nations, with income and wealth increasingly concentrated. All these forms of exclusion disproportionately affect women, youth, older persons, migrants and other marginalised groups.

Housing, once considered a development asset, has largely become a speculative asset, and remains generally unaffordable in both the developing and developed world with 1.5 billion people living in inadequate housing in 2016. Although the proportion of people living in slums decreased from 28 per cent in 2000 to 23 per cent in 2014, the absolute number continues to increase, reaching 883 million urban dwellers. The majority of the 25 million refugees and 40 million internally displaced people in the world live in urban areas, often under difficult conditions.

Global trends threaten sustainability

Although urbanisation is not uniform, the experiences of diverse cities around the world exhibit some remarkable similarities. Cities are generally developing in a discontinuous, scattered and low-density form that is not sustainable. Expanding far beyond formal administrative boundaries into endless peripheries, many cities in the world have a high degree of fragmentation and vast wasted spaces that make them consume more energy, produce more CO₂ emissions and increase the cost of the provision of infrastructure and public goods. An outward expansion with low densities tends to affect the environment and intensify social and economic inequalities. Three global trends are threatening the sustainability of cities:

Sprawl is becoming more prevalent – once associated with the suburban growth pattern of North American cities, in the last 25 years

different forms of sprawl are taking place in cities in both developed and developing countries (see page 20). This phenomenon is triggered by residential preferences for a suburban lifestyle, housing affordability strategies, speculative behaviours and peri-urban poverty. Poor land regulations, weak planning practices and advanced commuting technologies and services support this type of growth.

Residential densities are drastically reducing – from 1990 to 2015, residential densities declined worldwide by 40 per cent. This reduction undermines opportunity for prosperity and sustainability, constraining the provision of public goods.

Urban growth is unplanned – despite impressive technological advances, more mature and solid public institutions, better forms of urban management and, in some places, more robust civil society, urban planning has not been able to make good use of city assets and resources, including land, to harness the potential of urbanisation. Exclusionary mechanisms and different forms of hidden power prevent urban planning from responding adequately to the majority of residents, creating enclaves of prosperity for specific areas of the city and particular interest groups. Surprisingly, spatial planning is declining all over the world, with random development, informal growth and inadequate urban layouts becoming the norm.

Sustaining positive change in cities

The New Urban Agenda (NUA), adopted in Habitat III Quito (2016), is a global milestone that presents a roadmap towards sustainable urban development. Well planned and managed urbanisation can accelerate development in all countries, creating conditions for sustainable growth and shared prosperity. However, this can only be achieved if the NUA is implemented at all levels of government, with a prominent role given to cities, following an inclusive and participatory process of prioritisation and strengthened ownership. An enabling environment and enhanced international cooperation and partnership are critical for this agenda to support transformative change in every city – big or small.

The NUA is an accelerator for the 2030 Agenda for Sustainable Development, which includes strong urban components. Effective implementation requires a wide range of approaches, including mobilisation of financial resources, innovations, enhanced advocacy, awareness and focused capacity development. It also requires effective spatial planning and management, including the use of territorial approaches, a sound regulatory framework, a clear city vision and strong leadership. Mechanisms to learn from experience and effective monitoring systems that can track changes, identify unsustainable practices and assist in implementing timeous corrective measures are paramount.

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LOCKING-IN CITIES

Nicholas Stern and Dimitri Zenghelis

Almost as striking as the current enormous influx into cities across the globe is the dramatic slowdown in urbanisation that will follow. It took 200 years for the urban share of the world’s population to rise from 3 per cent to 50 per cent, from a few million people to 3.5 billion in 2010. After more than doubling over this century, in all the centuries that follow we may add at most another billion. This makes the current global urbanisation era not just immense, but also a brief, once-in-history phenomenon. The choices around investment and design of new and existing cities are effectively determining the infrastructure, technologies, institutions and patterns of behaviour that will define the functioning of our cities and the future of the planet.

There is a very narrow window of opportunity to help plan and design this future. The world’s infrastructure will more than double in the next 20 years. These investments will determine whether we have cities where we can move and breathe. If new cities are built over the next two or three decades on a carbon-intensive, resource-hungry model, based on sprawling urbanisation, all hope of meeting ambitious targets to limit climate risks will be lost. Such a path would also risk stranding physical and human assets that become redundant and hard to replace or update in a world that is

transitioning to low-carbon technologies to produce goods and services. This could leave cities and countries struggling to meet their resource needs and unable to compete in global markets.

The scale and pace at which the world is becoming a network of cities and the fact that cities are at the heart of the process of human innovation, resource efficiency and prosperity puts the economics of urbanisation and urban change centre stage. Sustainable cities, involving communities enabled and committed to self-improvement, have been shown to be the most cost-effective way to provide basic services, opportunities and a high quality of life. But tackling difficult social challenges and generating inclusive growth relies on creating an environment in cities that fosters and empowers innovation. The required investment and the financing for such activities are often beyond the resources of city halls and will need partnerships with central government and the private sector. Often, the necessary skills and leadership are scarce.

Cities and prosperity

Urbanisation, innovation and productivity growth go hand in hand. The richest nations, such as the United States, Japan, the United Kingdom, Hong Kong and South Korea, are more than 80 per cent per cent urbanised.

The correlation between urbanisation and prosperity is tight (see page 24), leading many observers to agree that important agglomeration economies – benefits from clustering people together – exist in cities.

The clustering of people generates higher productivity and higher wages. But urbanisation carries its own problems, including pollution, congestion, poor health, crime and waste. Unregulated, unplanned, urban sprawl might appear to be the cheapest option in the short run, as it requires minimal institutional interference, infrastructural provision and urban planning. But the medium- and long-run costs to society, the economy and the environment can be dire. Unregulated cities will be less attractive, more polluted, congested and inefficient in the use of resources. Evidence shows they will fail to prosper, to attract skilled workers, to promote creativity and to enhance the returns to human capital.

Growth theories have shown that innovation is stimulated by learning, experience and sharing of knowledge, and through working with other people and new machines. It should be no surprise that much of this happens in dense cities. Such innovation allows us to get more out of the resources we have, enabling society to use resources more efficiently and more sustainably. Indeed, studies find a close connection between wealth creation, efficiency and urbanisation.

Yet despite this mounting evidence, national policymakers have often failed to recognise adequately the importance of cities in generating the ideas and innovation that drive national productivity growth. This lack of understanding can inhibit the ability of city governments to collaborate effectively with the private sector and national government to deliver for all citizens, including those in non-urban regions.

Many studies underestimate pollution effects. The European Environment Agency estimates that premature deaths resulting from PM2.5 and NO₂ air pollution totalled 510,000 in 2012 in Europe alone. The World Resources Institute values the health impacts of PM2.5 exposure (including premature deaths) in China at 10 per cent of annual GDP.

Building for the future

The urban form we lock into over coming decades will determine cities’ openness and resilience to changes. The development of clusters is ‘path-dependent’. Unlike manufacturing, which is increasingly located outside cities, idea-oriented industries tend to cluster in urban centres.

Patterns of urban mobility, production and behaviour can shape a city’s fortunes for centuries to come. Mistakes or shortcuts made in planning risk locking in infrastructure, institutions and behaviours that can make cities ill-placed to take advantage of structural transitions such as those taking place in low-carbon energy and transport networks. Examples include the costly, traffic-clogged Bandra Worli sea link in Mumbai, the alienating and polluting Segundo Piso urban highway in Mexico City and the sprawling car-dependent suburb of Victorville, 161 kilometres north-east of downtown Los Angeles, which suffered population decline and the demolition of new homes after fuel prices doubled.

Resilient and dynamic urban infrastructure should allow for unexpected future developments. For example, consideration must be given to how autonomous, predictive, on-demand mobility affects the need for fixed mass-transit infrastructure.

New technologies have the potential to enhance the efficiency of infrastructure and the scope for participation via shared ownership, not just in housing, energy and mobility but also in health, education and security.

Moreover, now is a good time to invest in sustainable urban infrastructure that generates wealth. In many countries, real interest rates are negative. This means that essentially interest-free public borrowing can fund investment in housing, railways, broadband networks, schools or power networks, valuable assets that can be set against public debt. In cities, key policies for the future include the deployment of advanced technologies like fast broadband networks and electric vehicle infrastructure; or it might require investment in basic road, rail and bus rapid-transit provision, water and waste infrastructure and higher-density housing.

A key challenge to creative and effective action is that some of the poorest cities in the world are also the fastest-growing, and lack the resources and capacity to prevent locking into structures that are inefficient, unreliable and polluting. City governments can struggle to directly access capital: according to the Coalition for Urban Transitions, in developing countries only 4 per cent of the 500 largest cities attain an investment grade rating. This poses a challenge for national and local policymakers. Climate change and sustainable infrastructure is now a priority for regional development banks and the World Bank, which are scaling up programmes to assist cities in developing countries with low credit ratings. At the same time, if capital is available at low cost and tailored to the purposes and risks involved, there is real potential to avoid the mistakes of the past and to build attractive, liveable, clean, innovative and productive cities.

Successful urbanisation is not just about infrastructure; it is also about skills. Investment in talent and skills (from job training programmes to secondary education) helps raise wages, attract talent and promote urban growth. It also improves the flow of information vital to civic inclusion and open, accountable governance.

Locking in infrastructure, institutions and behaviour

The consequences of bad government and inaction over planning and urban design can last centuries. Because infrastructure becomes entrenched, the pattern of development of infrastructure builds on what went before, or becomes locked in. For example, the form and location of many modern road and rail networks and office developments in London were influenced by choices made by Roman conquerors 2,000 years ago. Lock-in is not confined to physical capital; human and cultural capital is affected too. Researchers working in Italy found that regional differences in social capital (levels of cooperation, participation, social interaction and trust) – dating back at least as far as the twelfth century – determined cities’ ability to function effectively today, more so than governance reform in the 1970s.

Once the urban population is stable, road, rail and utility networks have been laid and cultures and institutions have become entrenched, it will be much harder to reform or retrofit urban infrastructure.

A sprawling city entrenches car-based cultures and institutions that are hard to retrofit once built, as the example of Victorville amply shows.

The opportunity of sustainability

The good news is that meeting these climate and sustainability targets is possible in a way that greatly enhances our wellbeing and how we live in new cities over a whole range of dimensions, and in a way that stimulates global productivity and wealth. Innovative, well-run cities are uniquely placed to tackle major global challenges.

This is why the December 2015 Paris Agreement also aimed to bring into the story policy action of city actors. At the Habitat III cities conference in Ecuador in October 2016, global leaders signed into force the New Urban Agenda, which set out a vision for urban transformation based on compact cities with public transport.

The big innovation of the Paris Agreement is that it is based on voluntary contributions. This reflects the growing appreciation of both the opportunities associated with a low-carbon transition and the recognition that action to reduce greenhouse gas emissions is in the

NEW URBAN PERIPHERIES

Shlomo Angel

We suspect that most urban planners and policymakers – at the local, national and international level – are not fully aware of the extent to which urban peripheries are growing and are unsure of the quality of the urban fabric in these new urban peripheries.

This essay reports on these matters using satellite and census data for a global sample of 200 cities, including 18 cities in sub-Saharan Africa. The first part of the essay introduces a set of findings from newly generated maps and measures of the new urban peripheries of cities, areas built between 1990 and 2014. We find massive expansion coupled with a significant reduction in average population densities. The second part of the essay compares the quality of the urban fabric in these new urban peripheries with areas of cities built before 1990. We find significant declines in the worldwide average quality of urban footprints in the newly built areas and similar declines in cities in sub-Saharan Africa.

Mapping and measuring urban expansion

Using satellite imagery, we can identify the new urban peripheries of cities for the first time. In 2010, there were 4,231 cities in the world with populations of 100,000. We focused on a sample of 200. (Methodology and data at [atlasofurbanexpansion.org](#).)

We define cities as contiguous built-up areas and the open spaces within them. Cities are thus defined by the limits of their built-up areas. A city can span numerous municipalities. São Paulo, Brazil, for example, extends across 31 municipalities.

In many cities in the global sample, urban peripheries added to the city after 1990 are larger in area than their pre-1990 areas. The new (1991–2014) urban periphery of Accra, for example, was 5.5 times its pre-1991 area. In 64 per cent of the cities in the global sample, the new urban peripheries were larger than their pre-1990 areas; in

self-interest of individual cities and nations.

For cities to deal with these challenges, there must be continued innovation in governance and learning. To learn from each other and demonstrate the benefits of sustainable planning and decarbonisation, national and urban policymakers must build on and utilise city networks such as C40, ICLEI and UCLG.

Cities are at the heart of human development, innovation and productivity growth. Cities that are poorly planned will fail to grow and risk leaving humanity with a costly and potentially deadly climate. Humanity has a narrow time frame in which to plan and design its urban future. It is our responsibility to ensure that this opportunity is not squandered.

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28 per cent of cities, the new urban peripheries were at least triple their pre-1990 areas.

The extent of cities is thus expanding at a significantly faster rate than their populations. Average densities of cities are declining over time, despite a near consensus among urban planners the world over that cities need to stop expanding and densify existing footprints. Indeed, average densities in cities – the ratios of the population and the area of their urban extents – are in significant decline.

Population and urban extent average annual growth rates (1990–2015)

	Cities in all countries (200 cities)	Cities in developed countries	Cities in developing countries
Population growth rate (1990–2015)	3.8%	1.1%	4.7%
Urban expansion rate (1990–2015)	5.6%	2.4%	6.7%

Change in average density (people per hectare) (1990–2015)

	Cities in all countries (200 cities)	Cities in developed countries	Cities in developing countries
People per hectare (1990)	90	31	111
People per hectare (2015)	52	22	66

The quality of the urban fabric in new peripheries

Comparing the quality of the urban fabric in the areas of cities built before and after 1990 required the random spatial sampling of ten-hectare locales distributed through the global sample of cities and using high-resolution satellite imagery to analyse these locales. This procedure, largely undertaken in preparation for Habitat III – with the collaboration of UN Habitat and the Lincoln Institute of Land Policy – allowed us to arrive at ten important findings.

The first set of findings pertains to the amount of land dedicated to roads:

1. *the share of the built-up area for roads* in new urban peripheries (21 per cent) was similar to the share in older parts of cities (21 per cent). On the peripheries of cities in sub-Saharan Africa it was significantly lower than on the peripheries of all cities in the world at 16 per cent.

2. *the share of the roads less than 4 metres wide* increased significantly during the 1990–2014 period. It was higher in new urban peripheries (31 per cent), on average, than in older parts of cities (23 per cent). On the peripheries of cities in sub-Saharan Africa it was 36 per cent.

Two findings relate to the walkability of urban neighbourhoods, typically measured by the average size of blocks and by the share of four-way road intersections. These two measures, which are inversely correlated with each other, are associated with the increase in walking distance resulting from the layout of streets. The higher the average block size and the smaller the share of four-way intersections, the greater the multiple between actual walking distance between two locations and the shortest distance between them.

3. *average block size* increased significantly during the 1990–2014 period. It was higher in new urban peripheries (5.6 hectares), on average, than in older parts of cities (3.3 hectares). On the peripheries of cities in sub-Saharan Africa, average block size (4.7 hectares) did not increase significantly during the 1990–2014 period.

4. *the share intersections that were four-way* decreased significantly during the 1990–2014 period. It was lower in new urban peripheries (10 per cent), on average, than in older parts of cities (14 per cent). On the peripheries of cities in sub-Saharan Africa it was not significantly different from the share in the peripheries of all cities in the world at 9 per cent.

Three findings pertain to arterial roads, the wide roads that make up the intra-city transport network, typically the network that connects commuter residences to their jobs and that carries most public transport vehicles. The absence of a dense network of arterial roads increases walking distance to public transport on these roads, makes them more congested and greatly increases commuting times, making cities less productive and less inclusive.

5. *the share of roads more than 16 metres wide* decreased significantly during the 1990–2014 period. It was lower in new urban peripheries (7 per cent), on average, than in older parts of cities (10 per cent). On the peripheries of cities in sub-Saharan Africa it was significantly lower than on the peripheries of all cities at 3 per cent.

6. *the density of all arterial roads*, not just roads more than 16 metres wide, declined significantly during the 1990–2014 period. It was lower in new urban peripheries (1.3km/km²), on average, than in older parts of cities (1.9km/km²). On the peripheries of cities in sub-Saharan Africa it was significantly lower than on the peripheries of all cities at 0.9km/km².

7. *share of the area within walking distance of arterial roads* decreased significantly during the 1990–2014 period. It was lower in new urban peripheries (84 per cent), on average, than in older parts of cities (91 per cent).

On the peripheries of cities in sub-Saharan Africa it was significantly lower than on the peripheries of all cities at 77 per cent.

Finally, three findings pertain to residential layouts. We distinguished three types of layouts: areas that were not laid out at all, areas that were laid out in informal land subdivisions and areas that were laid out in formal land subdivisions or housing projects. We also measured the share of layouts that were gridded. There is great value in laying out residential communities – whether formally or informally – before they are settled. Layouts increase the value of properties, facilitate the provision of infrastructure services and reduce their cost and accelerate the transformation of informal settlements to regular urban neighbourhoods. The cost of installing infrastructure services in Brazilian favelas like Rio de Janeiro’s Matinha favela that were not laid out before they were occupied was estimated at three to nine times the cost of installing them ahead of time. In contrast, squatter settlements that were laid out in advance, like Comas in Lima, Peru, were quickly transformed into ordinary urban neighbourhoods, increasing greatly in value.

8. *the share of residential areas that were not laid out before they were occupied* increased significantly during the 1990–2014 period. It was higher in new urban peripheries (32 per cent), on average, than in older parts of cities (22 per cent). On the peripheries of cities in sub-Saharan Africa it was higher at 43 per cent.

9. *the share of residential areas in informal land subdivisions* increased significantly during the 1990–2014 period. It was higher in new urban peripheries (32 per cent), on average, than in older parts of cities (20 per cent). On the peripheries of cities in sub-Saharan Africa that share was significantly higher than the share on the peripheries of all cities at 47 per cent.

10. *the share of built-up areas that were gridded* was very small and still decreased significantly during the 1990–2014 period. It was lower in new urban peripheries (2 per cent), on average, than in older parts of cities (5 per cent). On the peripheries of cities in sub-Saharan Africa that share was lower, but not significantly lower than the share on the peripheries of all cities at 0.8 per cent.

These ten findings, taken together, suggest that the quality of the urban fabric in newly settled areas is not improving, but rather deteriorating, a realisation that should alarm planners and policymakers and draw attention to the high costs of continuing along this path.

Conclusions

The urbanisation challenge is now, first and foremost, a challenge for less-developed countries. An estimated 33 per cent of the projected increase in the world’s urban population between 2015 and 2050 will be in cities in sub-Saharan Africa, for example. The intervention in the rapid urbanisation process must be limited, targeted and tailored to available capacities and resources. Focusing on urban form and the territorial organisation of cities, it needs to attend to several key issues:

- Lower densities and incomplete arterial road networks make public transit less feasible, leading to higher energy use and higher greenhouse gas emissions.
- Cities with inadequate protection of open spaces – where urban development is not allowed – have smaller capacities

- carbon sequestration, higher occupation of flood-prone areas and steep slopes and weaker protections of areas of high environmental risk.
- Inappropriate regulation of land use and land subdivision in cities prohibits densification and the creation of mixed-use neighbourhoods. Over-strict and inappropriate regulation keeps informal settlements invisible and limits their contribution to orderly urban expansion.

Upgrading is a term given to government measures to improve housing and community-related infrastructure and services (such as piped water, sewers, drains, household waste collection and healthcare) to settlements considered (or officially designated as) ‘slums’ or illegally developed. Many include measures to provide inhabitants with secure tenure. Some also support improvements to housing. Upgrading represents a different approach to improving housing conditions for low-income groups as it accepts the validity of upgrading ‘illegal’ settlements, structures and land uses.

Globally, we have nearly 50 years of experience with government-led upgrading programmes. One of the earliest and among the best-known is the Kampung Improvement Programme in Indonesia, initiated in informal settlements in Jakarta and Surabaya in 1969 with the support of the World Bank. By the mid-1970s, many other governments were implementing upgrading schemes, although some continued to bulldoze informal settlements (typically those in valuable locations) and continued with (mostly ineffective) public housing programmes.

Viewing documented experiences with upgrading up to the present, we can see large differences in what upgrading provided, what it cost per house, who implemented and paid for it and the extent to which it engaged the population and served their needs. Where upgrading works well, it greatly improves housing conditions and access to services. It removes or reduces the risk of eviction. It builds on the investments that those living in informal settlements had made before upgrading and, crucially, it does not require residents to move (with all the costs this brings, as well as disruptions of social networks and almost always with less favourable locations). But care is needed in upgrading schemes in order not to impose costs that cannot be afforded – such as payment for water, sanitation and electricity after upgrading – and to ensure good maintenance and repair for community infrastructure and services.

Government-led upgrading

Government-led upgrading ranges from rudimentary (e.g. some investment in drains and provision of public taps), which

Rapidly growing cities can become more productive, more inclusive, more sustainable and more climate-resilient. But this requires addressing declining densities, the scarcity of arterial roads, inadequate protection of vulnerable open spaces, poor and ineffective drainage networks and inappropriate regulation of land use and subdivision.

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The form of government-led upgrading varies, with some projects displacing residents when the whole point is not to do so. An assessment of India’s Basic Services for the Urban Poor programme in 11 cities found that many upgrading schemes involved clearing the site and constructing small contractor-built apartments rather than supporting households to make incremental improvements to existing housing and involving residents in the design and decision-making process. In many such schemes, former residents do not receive accommodation in the ‘upgraded’ settlement.

In Latin America, there seems to be an acceptance by many local governments that upgrading informal settlements is the conventional policy response – a remarkable departure from policy responses in the 1960s and 1970s of bulldozing or ignoring them. This policy change was in part the result of political changes brought about with the return to democracy and the strengthened capacities of city governments, including elected mayors. These were in turn often supported by participatory budgeting.

Community-led upgrading

There are many urban initiatives in Latin America, Asia and Africa that contribute to upgrading but are not labelled as such. The hundreds of community-designed and -managed toilet blocks and washing facilities in informal settlements in Mumbai would not be labelled as upgrading because they are not addressing housing. However, the last 20 years have brought an increase in documentation of upgrading, from city or national federations of slum/shack dwellers. There are 32 such federations, all of them members of an international network managed by Slum/Shack Dwellers International (SDI).

One of the main constraints on upgrading informal settlements is the lack of data and maps, or even street names. The federations collect data and prepare detailed digital maps of every informal settlement and plot boundaries. This is presented back to residents to engage them in designing the intervention. These citywide maps help establish official recognition by city authorities of needs, and provide the basis for negotiating *in situ* housing upgrades. For example, the Epworth Local Board (Harare, Zimbabwe) used the enumeration conducted by the Zimbabwe Homeless People’s Federation to develop an *in situ* upgrading plan for an area with high levels of informal housing. The community data were superimposed on satellite images and linked to Geographic Information Systems (GIS) spatial data, informing the regularisation of plots for more than 6,500 households. In Pune, India, the *in situ* upgrading in Mother Teresa Nagar managed by Mahila Milan (Women Together, a federation of women’s savings groups) was complicated by the high density and difficulties entailed in reblocking the site to allow for the installation of trunk infrastructure. Architects worked in consultation with each household to design their units. Two thousand individual house plans were prepared and sanctioned by the local government. Some of the housing plots were too small to upgrade, so their inhabitants were rehoused in apartments in three-storey buildings within the settlement.

Another constraint on upgrading is lack of funding. The Asian Coalition for Community Action (ACCA) developed a novel way to catalyse community-driven upgrading. ACCA has supported over 1,000 small community upgrading projects and more than 100 larger housing initiatives, working in 165 cities in 19 nations, by providing community organisations with up to US\$3,000 and the flexibility to choose what to do with it. The small budgets give them the opportunity to think about what is possible and what other resources can be mobilised. The most popular interventions have been improvements in water, sanitation, drainage, solid waste management, electricity, street lights and community centres.

In each city, community organisations undertaking ACCA-supported initiatives present their work to city government. In most of the cities, some kind of joint working group has been established at the city level to provide a platform for community networks, city governments, civic groups, NGOs and academics to plan and manage the upgrading and city development fund process and to identify responses to land issues. Community development funds have been established in 107 cities.

Co-production: government and community working together

There is a recognition among community leaders that getting upgrading at scale needs the support of local governments. One of the most ambitious upgrading initiatives that centres on co-production is the Baan Mankong (‘secure tenure’) programme implemented by the Thai government’s Community Organisations Development Institute (CODI). This channels government funds in the form of infrastructure subsidies and housing loans direct to community organisations in informal settlements. Community organisations plan and carry out improvements to their housing or develop new housing. This includes negotiating to purchase or lease all or part of the site from the owner. From 2003 to 2011, CODI approved 858 projects in more than 1,500

communities in 277 urban centres, covering more than 90,000 households. Overall, CODI and the organisation out of which it developed (the Urban Community Development Office) has provided loans and grants to community organisations that have reached 2.4 million households since 1992.

CODI has particular significance in four aspects: the scale; the extent of community involvement; the extent to which it seeks to institutionalise community-driven solutions within local governments; and how it is funded by domestic resources through a combination of national government, local government and community contributions.

Some of the most successful upgrading programmes have been driven by local NGOs working with residents and their organisations, who then built partnerships with local governments. This is because community-driven upgrading without government support inevitably comes up against the need to integrate with citywide systems.

One of the largest and most successful programmes bringing together household, community investment and government investment was initiated by the Pakistani NGO the Orangi Pilot Project-Research and Training Institute. It began supporting households in an informal settlement in Karachi with more than 1 million inhabitants, to plan, implement and finance toilets in the houses, underground sewers and neighbourhood collector sewers. Then the organisation showed how it was possible for local governments to plan, finance and implement the larger ‘external’ trunk sewers, into which the neighbourhood sewers feed, and ‘end-of-pipe’ treatment plants. In more than 300 locations in Pakistan, communities have financed, managed and built their own internal sanitation systems. Local governments were then able to install the external systems (the big pipes) as they no longer had to fund and manage the ‘small pipes’.

National and local funds for local upgrading

There is a growing awareness of the need to match the growth in the competence and capacity of community organisations with the flexible funding they need to expand the scale and scope of what they do and to support partnerships with local government. The issue is how to set up national or local funds to support community-driven, local government-supported upgrading at scale.

Many of the SDI federations have developed their own funds with savings from their member savings groups but also funds through which external (local, national and international) support can be directed and managed. The Kenyan federation Muungano wa Wanavijiji (‘United Slum Dwellers’) has the Akiba Mashinani Trust to raise and manage bridging finance. The Trust has provided almost 7,000 households with loans for shelter upgrading. The National Slum Dwellers Federation of Uganda and the government of Jinja town have set up a Community Upgrading Fund to support initiatives prioritised by low-income communities.

In many of the cities involved in the ACCA programme described above, new local funds have been developed, jointly managed with local government. Some countries have started with national funds, such as the Urban Poor Development Fund in Cambodia and CLAFNet in Sri Lanka, and 70 cities have started with city-based funds (as in cities in Nepal, Myanmar and Vinh, Vietnam).

Expanding scale and scope

It is clear that meeting many of the Sustainable Development Goals’ demands for universal basic services coverage by 2030 in urban areas will depend on successful upgrading in informal settlements. But as with the SDGs, the UN’s New Urban Agenda hardly mentions civil society and the innovation, resources and capacities local organisations can bring and have brought to upgrading; the New Urban Agenda does not mention mayors at all.

As acknowledged by the Inter-governmental Panel on Climate Change, upgrading also has importance for locally driven disaster risk reduction and climate change adaptation, since high-quality urban infrastructure and services and better housing are at the centre of reducing risks from extreme weather. Upgrading can also support low carbon emissions, as

most upgrading takes place in dense clusters of housing able to support high levels of walking, bicycling and public transport. But, at present, the international funds that are meant to support climate change adaptation do not see informal settlement upgrading as a priority and lack the structures to engage with local governments and local civil society organisations to make this happen. The potential is there for a very large expansion in upgrading, with local government and community support.

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ON HOLD IN JAKARTA

AbdouMaliq Simone

Every afternoon two dozen middle-aged men huddle at one of the several coffee shops in the underground mall of one of the most infamous vertical housing developments in Jakarta, Kalibata City. A pervasive air of melancholy is punctured only by passing security guards, or when everyone proceeds to the outdoor smoking area a few metres away. Like so many Jakartans these days, these men are on standby, constantly browsing WhatsApp and seemingly assembled to disperse on important missions at a moment’s notice. But these missions never seem to materialise and so they appear stuck in an interminable wait.

The complex where this waiting occurs falls under a kind of dictatorship of the developer. Its 13,000 units were almost all sold prior to construction on government land by real estate company Agus Podomoro and equipped with public subsidies – this complex was intended as ‘affordable housing’. The complex is six years old and replete with an array of infrastructural problems. The internal sewage-processing system has collapsed, with waste being dumped into a nearby lake. Elevators are often broken; the complex won’t last more than a decade without significant reconstruction, which, given the temporality of the 30-year lease, is unlikely. Owners of the mostly minimal-size apartments are reduced to owning the ‘airspace’ of the unit and are compelled to pay escalating surcharges for maintenance and water. Given this situation, most of the complex is managed by an unofficial system of internal brokerage and subcontracting where flats are occupied according to every conceivable duration. The objective is to squeeze as much money out of the place as possible given the prevailing atmosphere of temporariness.

While Kalibata is perhaps the most cosmopolitan place in this vast urban region, it is impermeable to official scrutiny. Police, parliamentarians, ambulance drivers, firefighters must all defer to the developer’s security for any ‘official’ entry. Even when owners occupy their own units they have

no definitive rights over them. At the same time, the developer concedes to, ignores or cultivates intricate networks of local control that manage the apportionment of apartments and spaces to temporalities of tenancy, commercial interests, social types, licit and illicit trades. Allotment is not static or final, but a constantly oscillating process of ‘give and take’. Large measures of dissimulation are involved, as in the example of one broker constituting a fake outpost of the immigration department, replete with ‘officials in uniform’ and ‘real documentation’, in a move to clear out African migrants from three floors of one of the 22 buildings.

While local governance in Jakarta requires a democratically elected leader to represent 100 household units, the developer has basically made a deal with the district government staff to pay them to serve as the leaders, even though the developer then precludes them from entering the complex to perform official duties, which include the registration of births, deaths and marriages and voting registration. In part, these multiple sovereignties persist because there is no public overarching framework capable of coordinating these spatial economies and the power of developers is largely reproduced because they have become the primary funders of political competition, at both municipal and national levels.

The men huddled in the coffee shop exude a sense of defeat. They are the crews who have attempted to bring the conditions of owners and tenants to public attention, have attempted to craft local versions of class action suits and have attempted to deliver public letters to agency heads only to be blocked by security guards and municipal police in the interests of maintaining public order. Yet they are also reluctant to leave, to sell their non-asset homes. After all, larger volumes of a highly tentative middle class are being folded into these highly formatted, constrained and uncertain spaces. Their lure is based partly on locational advantages – proximity to trains, jobs and amenities – that are being diminished as each new

development haemorrhages increased volumes of automobiles on to already gridlocked traffic, rendering even the shortest commute sometimes a matter of hours. The lure is also based on the increasing labour intensity that characterises everyday management in the so-called ‘popular’ residential districts of the urban core and its near periphery.

The logistics of circulation – how to get from one place to another, how to order some commodity or service – are constant preoccupations and sources of income. In a region with too many cars, too few public transport options, people are investing in cars and motorbikes to earn extra income driving for application-based transport services. The demands of being at the right place at the right time – something discernible only through incessant circulation rather than rational planning – flood the available pathways, slowing movement and amplifying the urgency of speed.

The *rakyat* – the majority of poor, upper-poor, working- and lower-middle-class residents who have always lived in close spatial, if not cultural, proximity – in the past could largely be indifferent to the large-scale developments of the city. They felt secure in their porous enclosures that fostered heterogeneous economies and provisions of care, yet at the same time enabled large measures of household autonomy and privacy. Collective entanglements were less a matter of absolute survival than a means of keeping up with the volatilities of urban life, making them work as resources for new ways of building, exchanging and cooperating. For a long time they knew the official public realm and its institutions were not for them, even as they accorded them cursory respect and let them believe that they constituted effective authorities. With income streams that could be ploughed back into local districts to fund initiatives under the radar, residents could successfully create the impression that they were resource-scarce as a veil for uniquely localised practices of accumulation.

Of course dissimulation cuts both ways and is at the root of rampant contemporary deceptions. One of the primary deceptions operates under the rubric of ‘citizenship’ and ‘social inclusion’ as a means on the part of governing apparatuses and their machines of accumulation to more effectively control populations who have long had to ‘go their own way’, build their own infrastructures of everyday life to endure. Under the auspices of availing different scales of credit, enterprise development, job training and affordable housing, poor and working-class residents of Jakarta and many other cities in the Global South are not only being folded into long-term debt obligations, but their opportunities and capacities for managing street-level markets and businesses, as well as collaborative networks of various service provisions, are attenuated.

Experiments afloat

In the rush to become a modern Asian city and as an expression of the power that private real estate developers have long held in Jakarta, the massive roll-out of ‘affordable’ apartments was initially imagined by many across the city as a kind of destination, the spatial embodiment of new modes of being urban, of greater autonomy and individual initiative freed from the increasingly labour-intensive efforts needed to sustain neighbourhood collective life. For, this collective life was being made subject to increasing pressures from competing trajectories of interest, money and use. But these ‘destinations’ have proven only temporary.

For the reasons I have identified in my discussion of Kalibata City, they could never constitute more than a transitory vehicle.

For many young professionals, the wheeling and dealing of mega-apartment-complex life has served as a way to explore how to avoid the entrapment of regular wage labour, and has provided ways of earning money that allow them time and opportunities to participate more broadly in activist, sectoral and interest-based networks that may have little to do with each other, and where profession is not the coordinating mechanism of linkage. Even for working-class residents, needing multiple jobs in order to make ends meet, these apartment complexes have been domains from which to ‘spread out’ into the wider surrounds, as the complexes operate as repositories of information and contacts.

Yet these expenditures that risk dispossession, these proximities and feeling-out of attachments, the working-out of conditions to coexist, the obligations to extend one to another and to continuously invent new terms for collaboration, are the grounds of urban sociality. Part of the ways in which the majority will be able to re-institutionalise their own remaking is to occupy the variegated residual built environments of the urban core, the peripheral towns and the half-abandoned industrial estates. Almost everyone I know is looking for somewhere else to go. Somewhere a little more secure, with more space, that is affordable, and not a ‘million’ miles from the city. They are ‘bumping’ into each other all the time, and even though they work out their individuated ‘solutions’, along the way increasing numbers of them are considering how they might more collectively acquire or build something more representative of their needs and imaginations. Increasing numbers are studying land, real estate and building. More are looking into how to acquire old neighbourhoods in nearby cities connected by train lines in ‘bulk’, and how to think about high density in different ways.

For the blanketing of Jakarta’s region with mega towers, commercial storage spaces, industrial zones and shopping malls will never provide residents with a place to live, to inhabit. Jakarta is still replete with substantial zones of viable residential and commercial infrastructure that could be subject to the retrofitting, adaptations and employment generation necessary to manage volatile environments and climate.

The Indonesian state ambivalently pursues one of the costliest infrastructure projects ever – a gigantic sea wall viewed as the only means to rescue the northern half of the city. But this money could theoretically be converted into a wide range of socio-technical dispositions whose implications would themselves go a long way toward mitigating the envisioned disaster motivating such a massive project.

Meanwhile, everything is on hold, as are, seemingly, most residents’ lives. Not on hold in terms of their doing nothing, for they avidly pursue project after project. But, rather, on hold from either submitting themselves to a specific future or from resigning themselves to a debilitating cynicism. They are also on hold because they do not know what will constitute effective political vernaculars, or what kinds of mobilisations are possible.

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DATA

The following pages present new research undertaken by LSE Cities over the past two years on African cities and brings together comparative data and evidence collected since 2005 through the Urban Age research programme. The section provides a global overview of contemporary urbanisation, focusing on the demographic, economic and spatial development of cities worldwide. From an analysis of global trends, which highlights the unequal distribution of population and economic growth, the levels and patterns of urbanisation – covering Africa, Asia, Europe and the Americas – are compared. The changing connectivity between African cities and international centres is also explored. The section includes detailed city-specific analysis of selected sub-Saharan African cities – Addis Ababa, Accra, Cape Town, Dar es Salaam, Kampala, Lagos and Nairobi – comparing quantitative and spatial data with other cities of the developing and developed world. Patterns of urban expansion, form, density, mobility, social indicators and governance structures provide an objective account of the particular dynamics of urban growth in different parts of Africa.

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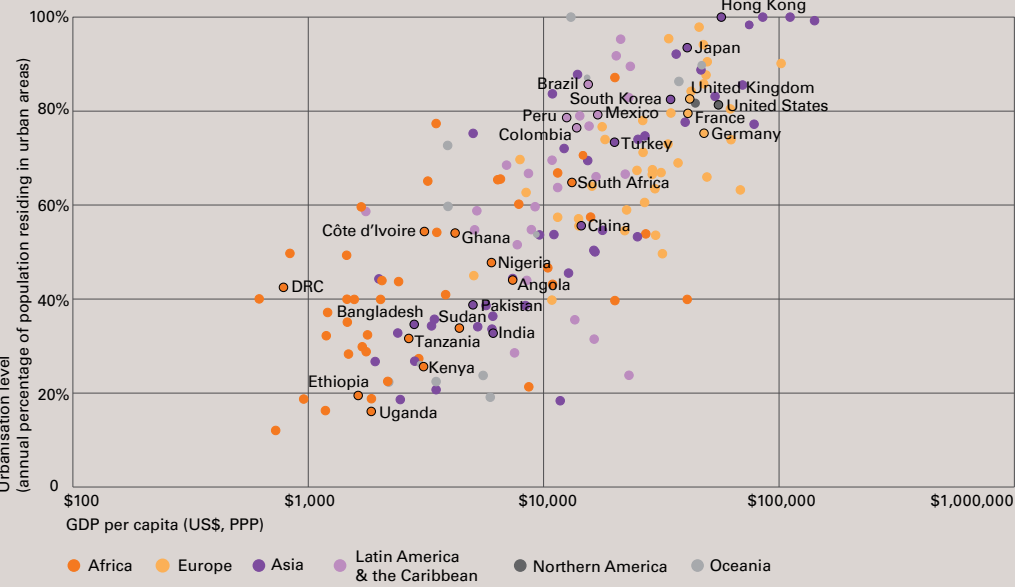
We would like to thank the following organisations for their assistance in obtaining data:

Addis Ababa Masterplan Project Office; Central Statistical Agency, Ethiopia (CSA); Centre for International Earth Science Information Network (CIESIN); CLUSTER – Cairo Lab for Urban Studies; City of Cape Town; DataFirst, University of Cape Town; Data For All; DigitalTransport 4 Africa; DLR – Earth Observation Center; East Carolina University; Ethiopian Railway Corporation; Ethiopian Institute of Architecture, Building Construction and City Development (EIABC); Addis Ababa University; European Commission, Joint Research Centre; Go-Metro; Nairobi City County Government; National Bureau of Statistics, Tanzania; Infrastructure Concession Regulatory Commission (Nigeria); International Growth Centre (IGC); Institute for Transportation and Development Policy (ITDP); Japan International Cooperation Agency (JICA); Kampala Capital City Authority (KCCA); Statistics South Africa (StatsSA); Takween Integrated Community Development; Tufts University; Uganda Bureau of Statistics (UBOS); University of Lagos; University of Nairobi; WhereIsMyTransport; World Bank; World Resources Institute (WRI).

HOW LARGE CITIES ARE GROWING

City, country	Projected average annual population growth % (2015–2030)		Average annual population growth % (1990–2015)	Population of urban agglomeration (2015)	Population of urban agglomeration (2030)	Projected average annual real GDP growth % (2012–2030)
Dar es Salaam, Tanzania	5.0	5.0	5,116,000	10,760,000	7.8	
Luanda, Angola	4.3	5.5	5,506,000	10,429,000	7.7	
Lagos, Nigeria	4.1	4.1	13,123,000	24,239,000	6.6	
Addis Ababa, Ethiopia	3.9	2.4	3,238,000	5,851,000	7.7	
Kinshasa, DRC	3.6	4.6	11,587,000	19,996,000	7.2	
Abidjan, Côte d'Ivoire	3.1	3.4	4,860,000	7,773,000	5.9	
Khartoum, Sudan	3.1	3.1	5,129,000	8,158,000	5.9	
Xiamen, China	3.0	7.7	4,430,000	6,911,000	7.3	
Dhaka, Bangladesh	2.9	3.9	17,598,000	27,374,000	6.9	
Surat, India	2.8	5.4	5,650,000	8,616,000	9.8	
Karachi, Pakistan	2.7	3.4	16,618,000	24,838,000	6.5	
Lahore, Pakistan	2.7	3.2	8,741,000	13,033,000	6.5	
Suzhou, China	2.6	6.5	5,472,000	8,098,000	6.6	
Chittagong, Bangladesh	2.6	3.2	4,539,000	6,719,000	6.6	
Delhi, India	2.3	3.9	25,703,000	36,060,000	7.0	
Mumbai, India	2.1	1.9	21,043,000	27,797,000	6.7	
Shanghai, China	1.7	4.4	23,741,000	30,751,000	6.8	
Lima, Peru	1.4	2.1	9,897,000	12,221,000	4.7	
Johannesburg, RSA	1.4	3.7	9,399,000	11,573,000	4.2	
Bogotá, Colombia	1.4	2.9	9,765,000	11,966,000	3.9	
Atlanta, United States	1.2	3.4	5,142,000	6,140,000	2.8	
Istanbul, Turkey	1.1	3.1	14,164,000	16,694,000	4.8	
Mexico City, Mexico	0.9	1.2	20,999,000	23,865,000	2.8	
São Paulo, Brazil	0.7	1.4	21,066,000	23,444,000	3.5	
London, United Kingdom	0.7	1.1	10,313,000	11,467,000	2.8	
Rio de Janeiro, Brazil	0.6	1.1	12,902,000	14,174,000	2.4	
Paris, France	0.6	0.6	10,843,000	11,803,000	1.5	
Hong Kong, SAR China	0.5	1.0	7,314,000	7,885,000	3.0	
New York, United States	0.4	0.6	18,593,000	19,885,000	2.9	
Berlin, Germany	0.2	0.2	3,563,000	3,658,000	1.3	

URBANISATION VS GDP



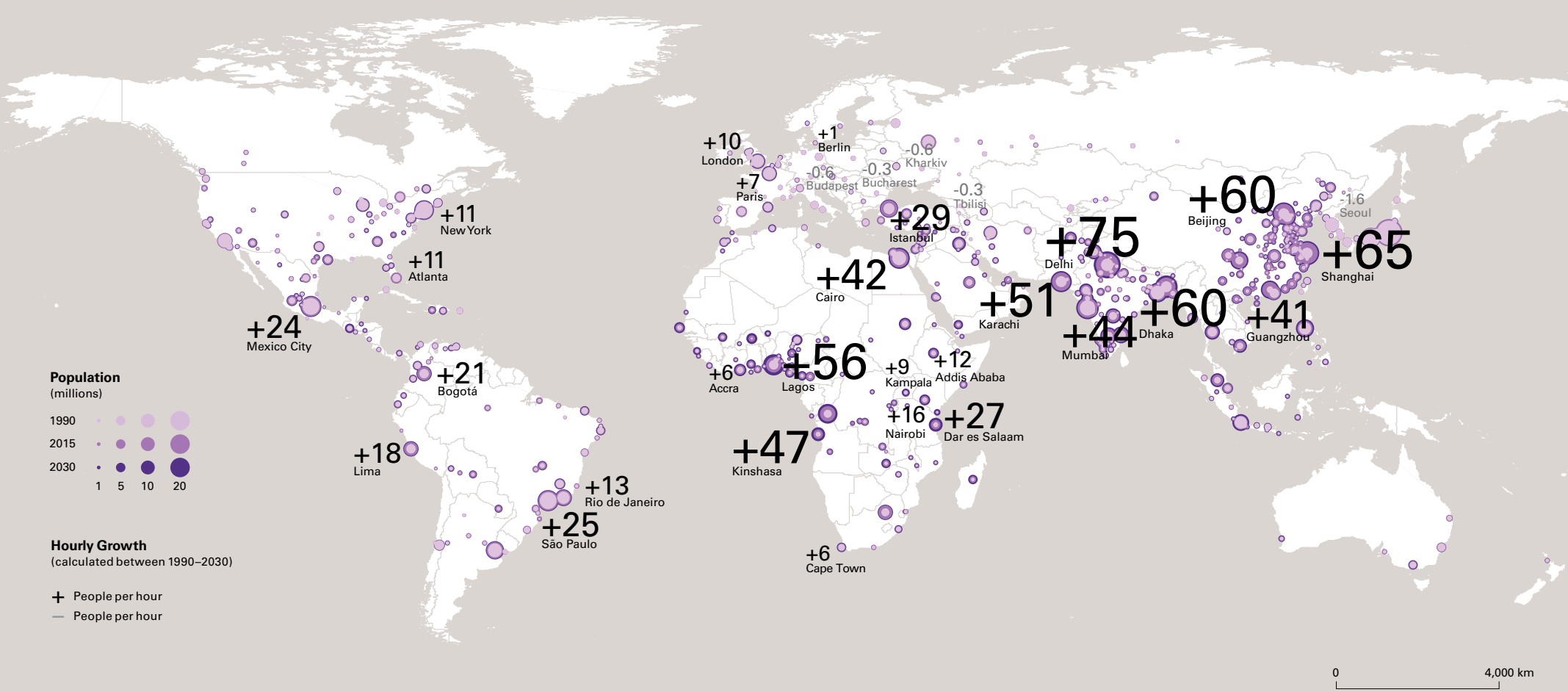
DYNAMICS OF URBAN GROWTH

The maps below chart the population and economic growth of a selection of world cities. Population size and growth for cities over 750,000 people is illustrated from 1990 to 2030. The dynamics of recent and future population and economic growth are unequally distributed across the globe, with steep increases forecast in parts of Africa and Asia and a levelling-out in other regions of the world. The numbers in the upper map indicate growth per hour driven by natural

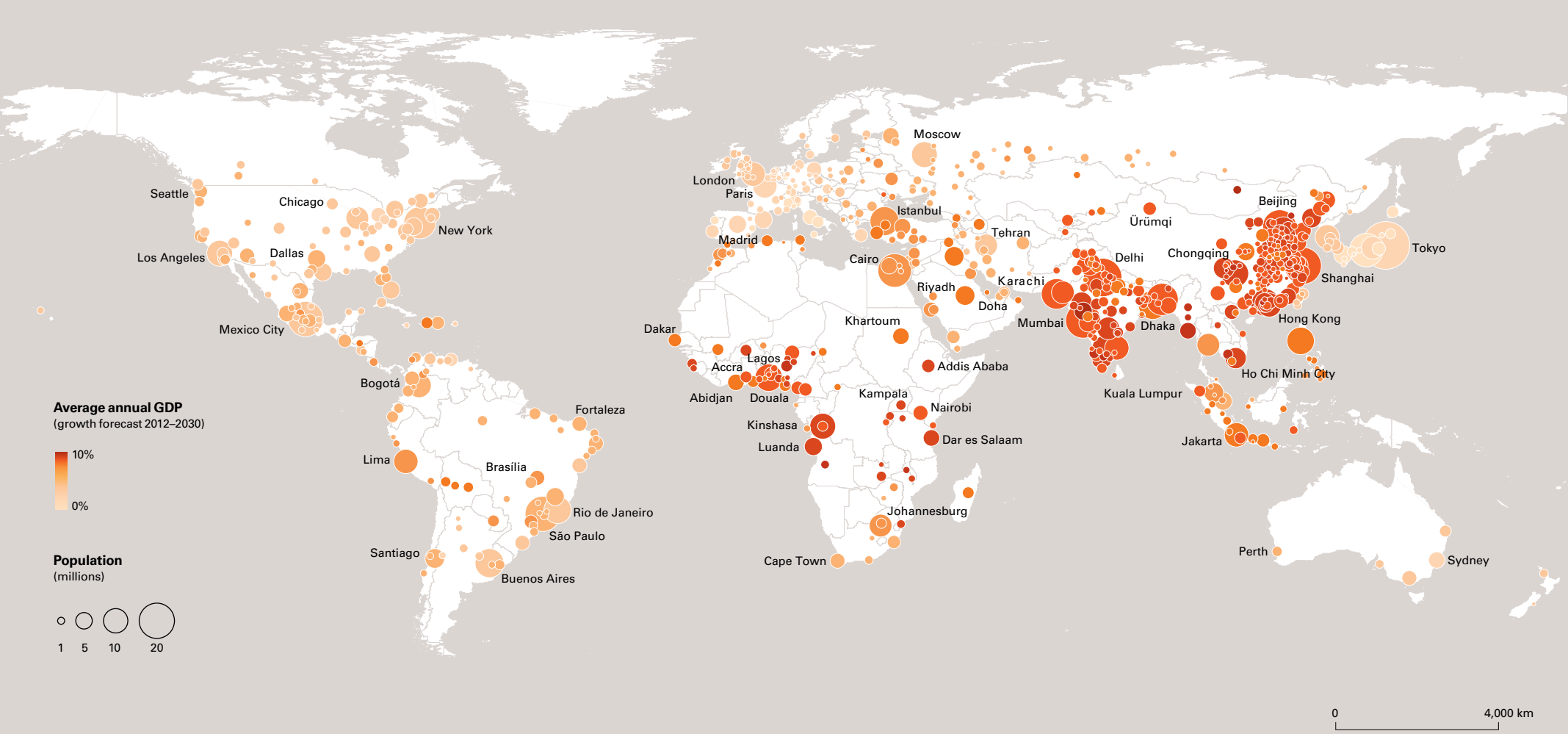
birth rates and migration. The map illustrates that some of the cities predicted to be among the largest in the world in 2030 were no more than villages and small towns in 1990, while a handful are expected to shrink. Patterns of economic growth, in the lower map, are shown for global cities between 2012 and 2030, with dark orange representing the highest GDP growth rates. There is significant overlap between cities and world regions experiencing rapid population and

projected economic growth, though population size and past economic performance are not the only drivers for the intense levels of projected GDP growth in rapidly urbanising regions. Income is dramatically enhanced as people live closer together, taking advantage of more efficient infrastructure and access to jobs and benefiting from shared resources and public services, including schools, hospitals and community facilities.

WHERE CITIES ARE GROWING



ECONOMIC GROWTH

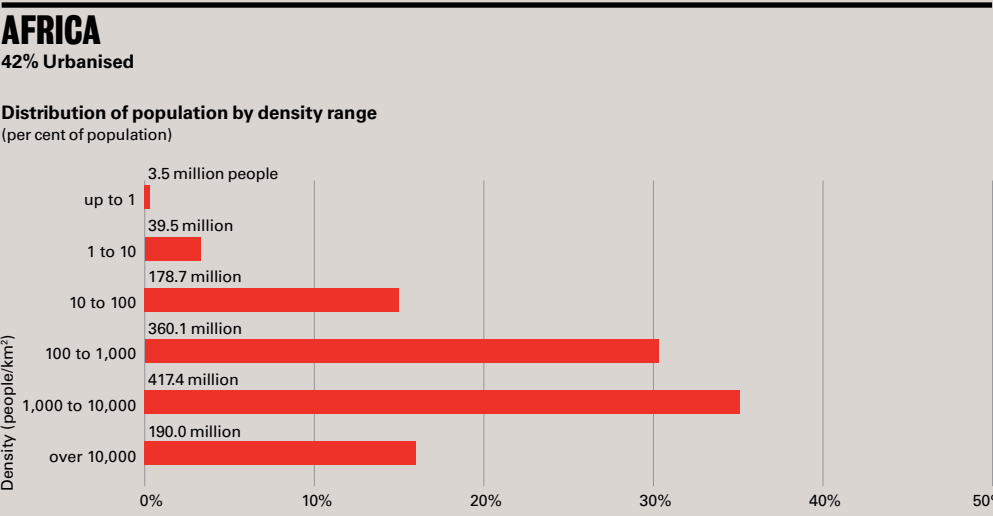


WHERE PEOPLE LIVE

Europe, North America and South America are the most urbanised continents on the globe, with 74 per cent, 82 per cent and 84 per cent of people respectively living in cities, towns and other urban settlements; while Africa is around 42 per cent and Asia 49 per cent urbanised. Each continent displays very different patterns of urbanisation, reflecting diverse histories, cultures and geographic constraints. However, these figures reflect differences in what types of settlements and density levels are considered urban by the public authorities in the different nations and regions of the world. For example, while the density threshold for urban areas in Europe is relatively low at 314 people per

square kilometre (pp/km²), in Africa the threshold is much higher at 1,019 pp/km². In rapidly urbanising countries in Asia, density thresholds are even higher: 1,433 pp/km² in China and 4,128 pp/km² in India.

To more accurately compare settlement structures globally, the following maps compare density levels between four regions – Africa, South and East Asia, Europe and South America – highlighting in red areas with densities over 1,000 pp/km², rather than applying regional thresholds. In these maps, land is coloured on a spectrum based on population density, where light grey represents areas of the lowest densities and red the highest, up to 170,000 pp/km².

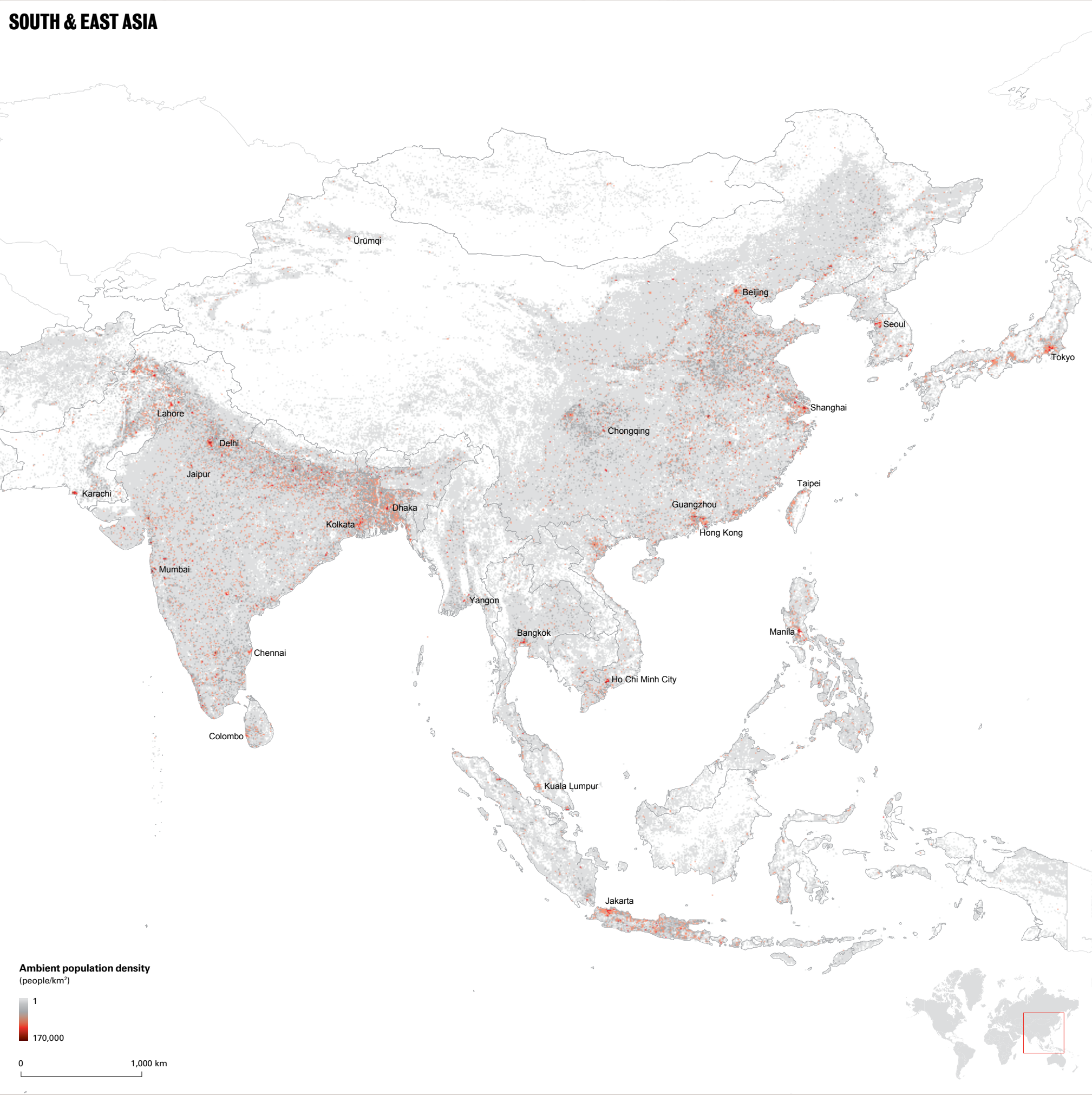
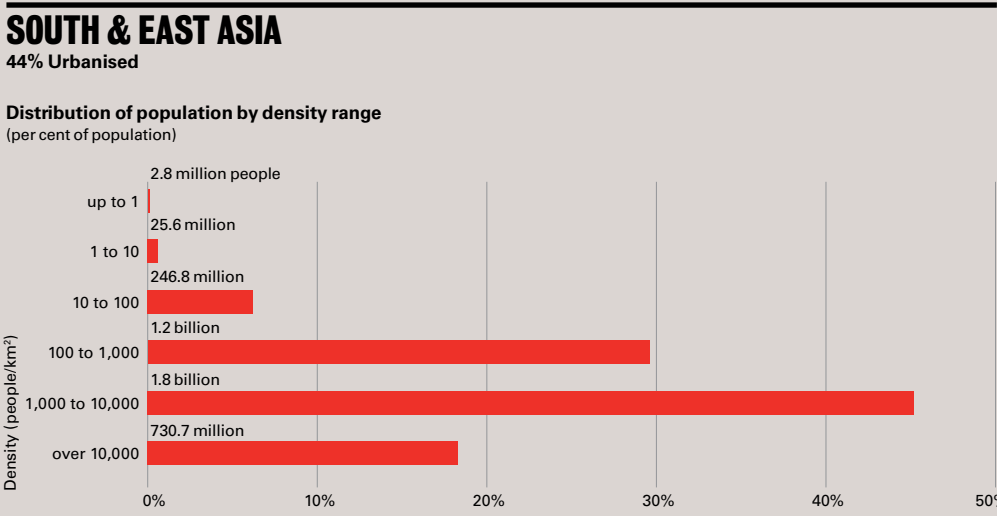


In addition to the maps, bar charts illustrate the density range inhabited by proportions of the population in each of the global regions.

Africa, the largest of the four regions, is experiencing a period of intense growth. While the urbanisation level is the lowest of the four at 42 per cent, this is set to rise dramatically. Despite low urbanisation levels, the percentage of the population living at the highest densities (over 10,000 pp/km²) is 16 per cent – not far behind South and East Asia (18.3 per cent) and over three times that of Europe (4.9 per cent). Though the largest share of the population in Africa lives at high density (35.1 per

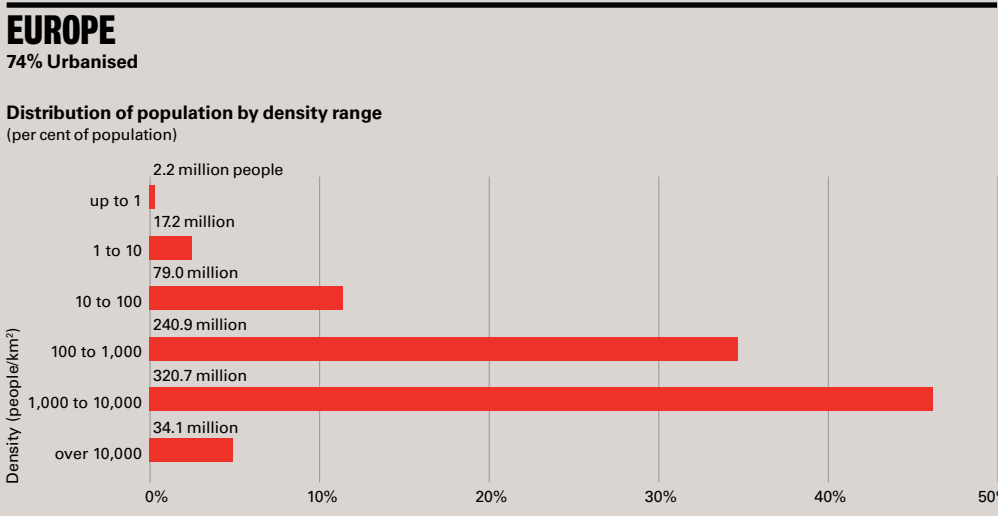
cent at 1,000–10,000 pp/km²), this is low in comparison to the other world regions, where nearly half of the population lives at an equivalent density (with South and East Asia at 45.2 per cent; Europe at 46.2 per cent; South America at 49.4 per cent). In Africa, there are fewer higher-density areas, with concentrations around major cities such as Lagos, Cairo, Johannesburg, Khartoum, Nairobi and Addis Ababa. The percentage of the population living at low densities is the highest in Africa, with 18.6 per cent living at levels under 100 pp/km², compared to 6.9 per cent in South and East Asia, 14.2 per cent in Europe and 13.8 per cent in South America.

South and East Asia feature far higher



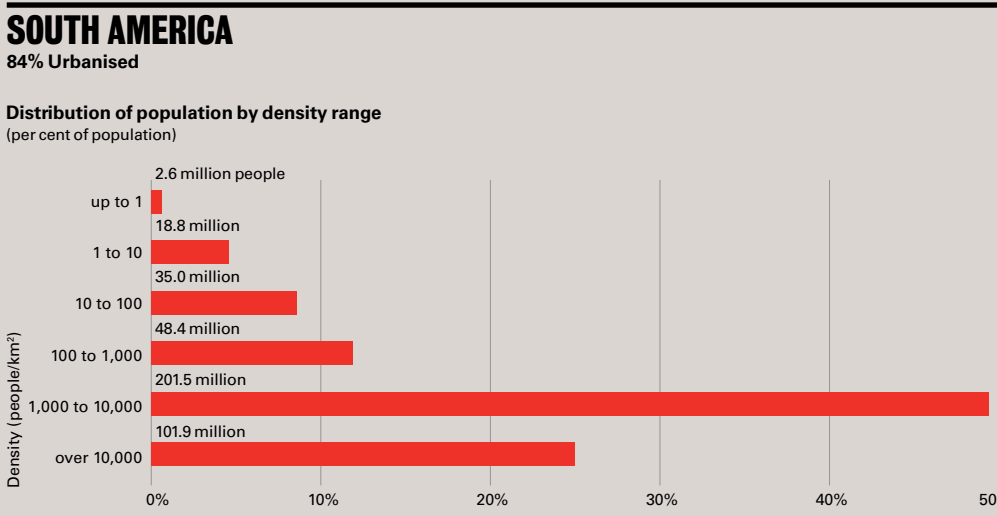
population densities across vast territories, as well as the emerging presence of large urban agglomerations such as Bangkok, Kuala Lumpur and Kolkata in addition to the established mega-cities of Tokyo, Shanghai, Jakarta, Delhi and Seoul. There are extensive concentrations of higher-density areas that are transforming from agricultural to urban economies in the regions stretching from Hong Kong to Guangzhou in the Pearl River Delta and along the River Ganges from Lahore in Pakistan to Dhaka in Bangladesh. Over 90 per cent of the population live above 100 pp/km², as indicated by dark grey areas. Rapid demographic and economic growth account for South and East Asia's

high density levels, with the smallest proportion of the population living at the lowest densities and less than half the share of the population than in Europe living at densities under 10 pp/km² (6.9 per cent vs 14.2 per cent). South and East Asia's urbanisation level of 44 per cent does not reflect the reality of high-density living in the region, as much of South and East Asia is considered rural where equivalent densities would be considered urban in Europe (314 pp/km²). In Europe, there is a more decentralised form of urbanisation, with over half (51.1 per cent) of Europe's residents occupying densities over 1,000 pp/km², but only 4.9 per cent of the population living at the highest



levels of density (over 10,000 pp/km²) – a third of that in Africa. Europe also contains a greater concentration of cities with over 500,000 people and a large number of highly connected smaller cities and towns across parts of western Europe, reflecting its unique history founded on the power and autonomy of relatively small city-states, regions and nations. South America features the largest proportion of the population at the highest density levels, with 74.4 per cent of the population living at densities over 1,000 pp/km², including the largest global share of densities over 10,000 pp/km² (25.0 per cent). High-density areas are clustered

around large cities such as São Paulo, Lima, Buenos Aires and Bogotá, located along continental edges known as the 'populated rim'. Though the Andes mountains and the Amazon in central parts of South America limit urbanisation, the expansion of slums into valleys and along steep slopes, followed by waves of incremental upgrading and formal service provision, has seen cities overcome topographic constraints. South America features significantly fewer people living at the mid-range density of 100–1,000 pp/km² (11.89 per cent), nearly a third of the proportion seen in the other world regions.



FLIGHT PATTERNS

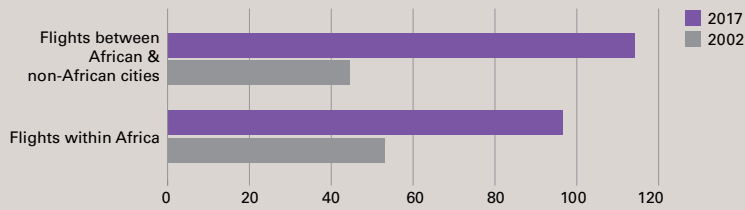
The map of African commercial aviation has been transformed beyond recognition since the turn of the millennium. From very few international flights within the continent, and routes beyond the continent restricted almost entirely to century-old paths of colonial influence to European metropolises, Africa has quickly become criss-crossed by intra-continental flights run by African airlines, and connected by a widening range of intercontinental routes served by African and other non-European airlines. Breaking from decades of strict regionalism, airlines now race with each other to open non-stop services from east Africa and a range of cities over the full spread of the continent. More airlines connect more cities across Africa, and across the oceans, than ever before.

Significant growth has occurred in Addis Ababa and Nairobi, alongside more established hubs in Johannesburg and Cairo, with growth in connections to Asia – particularly to China and India – and continued growth to state-sponsored hubs in the Middle East. Trade figures over a similar period mirror this trend, with export and import growth between Africa and China and India almost doubling. There are opportunities to reposition Africa more centrally in global trade networks by increasing connectivity with the Americas.

While Africa commands only 1 per cent of the global air travel market, Africa's busiest route between Cape Town and Johannesburg ranks in the top ten busiest routes globally. In the next 15 years, growing demand along this route will require an additional 970 new passenger aircraft. Government-supported airlines, often charged with expanding the brand profile of countries, have had mixed success. The growth of Ethiopian Airlines has benefited from its geographical positioning between African and Asian expansion, while South African Airways has required considerable public support and Nigeria's state carrier ceased operations in 2003.

PASSENGER TOTALS

(million passengers per year on non-stop routes)

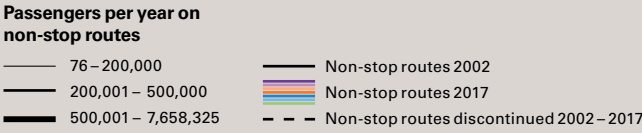


AFRICA'S MOST CONNECTED CITIES

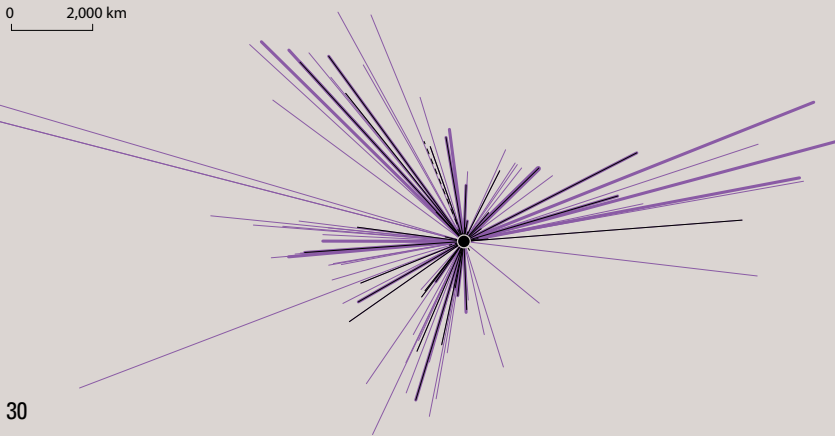
Rank by passenger totals	City	Passengers	Non-stop routes 2017	Regional distribution of non-stop routes 2017 (change since 2002)					
				Africa	Middle East	Asia (other than Middle East)	Europe	North & South America	Oceania
1	Johannesburg	31,785,959	93	71 (+5)	6 (+2)	4 (-2)	7 (-4)	3 (0)	2 (0)
2	Cairo	24,188,465	97	31 (+3)	30 (+5)	8 (+1)	26 (-5)	2 (+1)	0 (0)
3	Addis Ababa	14,573,658	108	69 (+38)	12 (+7)	11 (+8)	13 (+10)	3 (+3)	0 (0)
4	Cape Town	13,547,622	35	25 (+9)	2 (+2)	1 (+1)	7 (+4)	0 (-2)	0 (0)
5	Casablanca	12,965,183	113	53 (+28)	7 (-1)	2 (+2)	46 (+22)	5 (+3)	0 (0)
6	Algiers	11,942,586	94	43 (+3)	6 (+1)	4 (+3)	39 (+9)	2 (+2)	0 (0)
7	Nairobi	11,383,428	82	62 (+21)	10 (+4)	5 (+4)	5 (-1)	0 (0)	0 (0)
8	Lagos	8,767,772	43	31 (+2)	4 (+2)	1 (+1)	5 (-2)	2 (+1)	0 (0)
9	Tunis	7,669,908	82	34 (+22)	8 (+2)	2 (+1)	37 (-1)	1 (+1)	0 (0)
10	Durban	7,323,183	15	14 (+14)	1 (+1)	0 (0)	0 (0)	0 (-11)	0 (0)
15	Accra	4,530,734	36	24 (+9)	2 (+1)	1 (+1)	7 (+1)	2 (0)	0 (0)
16	Dar es Salaam	3,941,284	42	33 (+9)	5 (+1)	1 (+1)	3 (+1)	0 (0)	0 (0)
33	Kampala	2,412,841	27	21 (+3)	3 (+1)	1 (+1)	2 (0)	0 (0)	0 (0)

FLIGHT NETWORKS

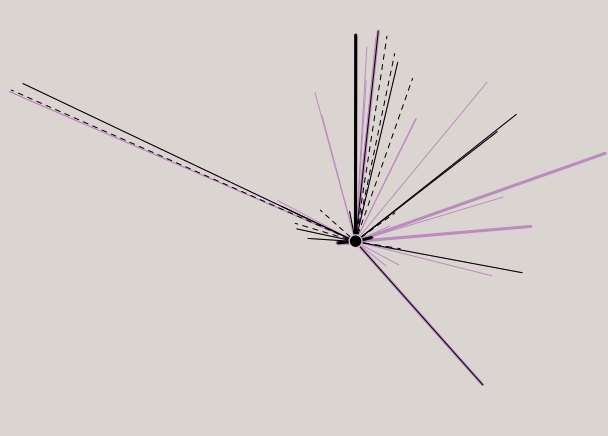
(2002-2017)



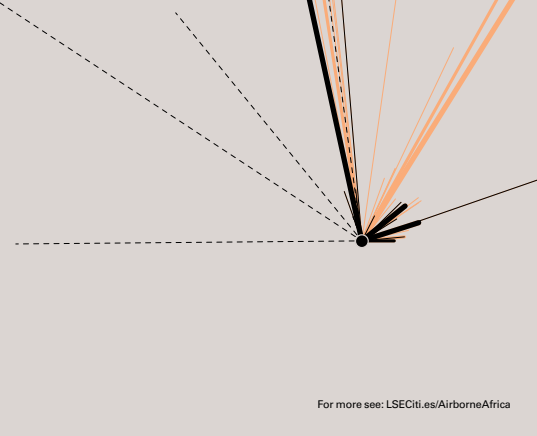
ADDIS ABABA
Non-stop routes: 42 (2002), 108 (2017)



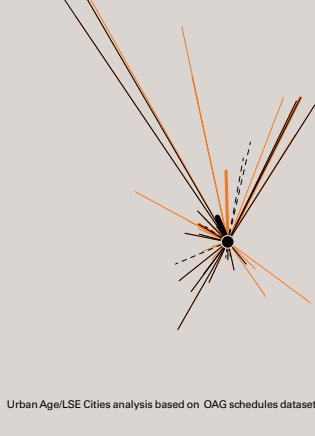
ACCRA
Non-stop routes: 24 (2002), 36 (2017)



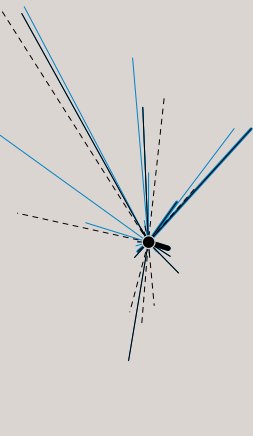
CAPE TOWN
Non-stop routes: 21 (2002), 35 (2017)



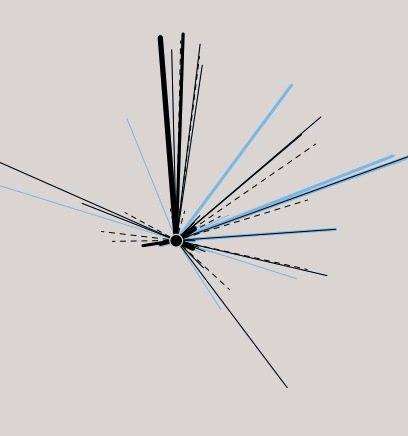
DAR ES SALAAM
Non-stop routes: 30 (2002), 42 (2017)



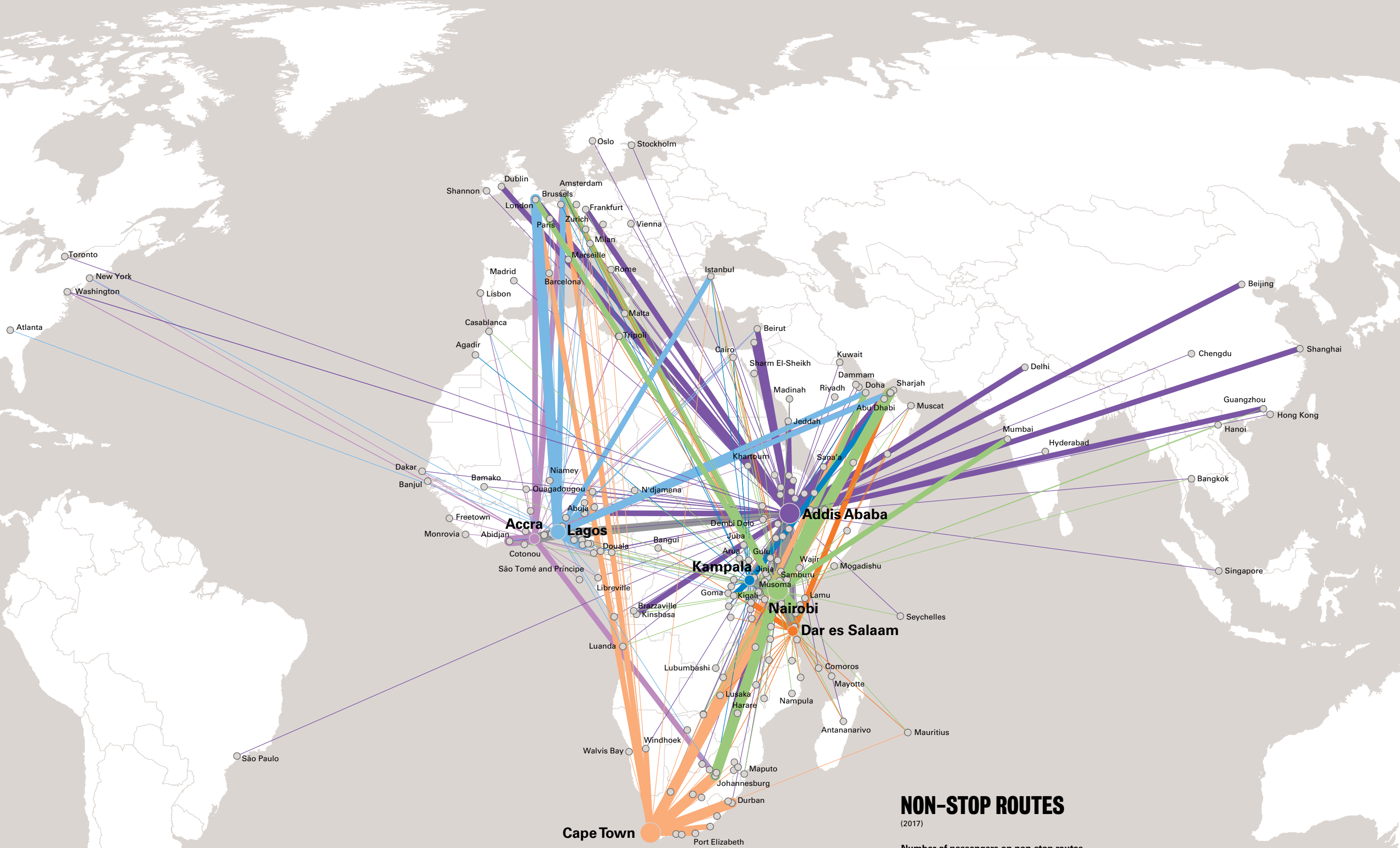
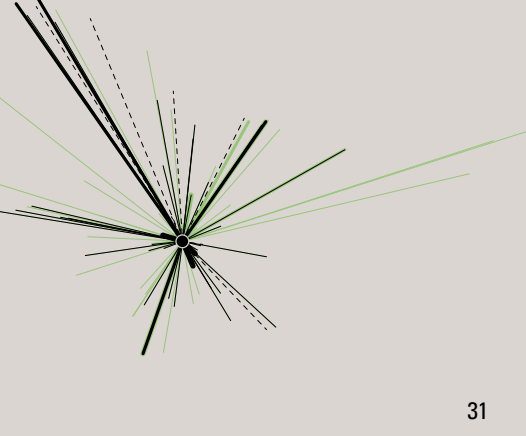
KAMPALA
Non-stop routes: 22 (2002), 27 (2017)



LAGOS
Non-stop routes: 39 (2002), 43 (2017)



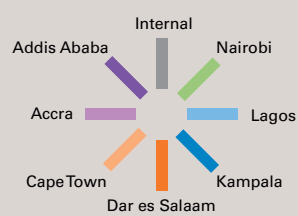
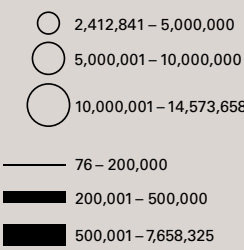
NAIROBI
Non-stop routes: 54 (2002), 82 (2017)



NON-STOP ROUTES

(2017)

Number of passengers on non-stop routes



COMPARING CITIES

The Urban Age has collected data on major urban centres since 2005, creating a comparative framework to better understand how different cities across the globe perform against a range of social, demographic, economic, spatial and environmental parameters. Over the last two years, the Urban Age lens has focused on a number of African cities – Accra, Addis Ababa, Cape Town, Dar es Salaam, Kampala, Lagos and Nairobi – in an effort to capture some of the characteristics of the continent’s new phase of urban development. The new data presented below alongside comparative cases from Asia, the Americas and Europe provides a quantitative and objective overview – not a ranking – of the complex dynamics of 16 cities from highly diverse political, economic and demographic contexts.

The development trajectories of these cities highlight some striking differences – especially when it comes to population growth (combining natural birth rates and

migration) for 2015–2030. Dar es Salaam leads the African cities with 48 people/hour, while Delhi will add 74 additional residents every hour, followed by Shanghai at 50. Growth rates have slowed in many European and North American cities, even though New York and London both have a reasonable growth rate of 8–9 people/hour after an extended period of decline. Seoul, reflecting South Korea’s very low birth rate level, is only anticipating one person/hour in future years.

Today, around 40 per cent of Africans are urban dwellers – about 500 million people. The urban agglomeration of Lagos alone accommodates 21.5 million people, compared to 5.6 million in Singapore and 14.2 million in Istanbul. Increases in the urban population have varying implications for the urban form, density and lived experience in each of these cities. In Kampala, the population of the urban agglomeration has tripled to 2.1 million and density

has doubled to 12,605 people/km² since 1990, with many living in low-rise, overcrowded informal settlements as in many other African cities. However, overall levels of density remain low compared to many Asian cities like Delhi (32,078 people/km²) or Seoul (22,925 people/km²).

Many African cities will experience unprecedented economic growth in the coming decades. Ethiopia is moving at a fast pace from a predominantly rural economy to an urban one, though Addis Ababa still features the lowest GDP per capita of the 16 cities (US\$1,427) – approximately half that of Accra, Dar es Salaam and Nairobi. In comparison, New York (US\$69,915) and Singapore (US\$66,864) top the list, followed by London (US\$57,157). People living in these three cities are many times wealthier, on average, than in other world cities such as Istanbul (US\$24,867) and Mexico City (US\$19,239), who in turn are significantly wealthier than the average resident of Cape Town (US\$14,086).

Though Cape Town boasts a significantly higher GDP per capita than the other African cities, its level of income inequality – indicated by the Gini coefficient – is approximately twice that of Dar es Salaam and nearly equal to Lagos, the most unequal of the 16 cities. Cape Town is followed closely by Addis Ababa, São Paulo and Delhi, with Shanghai and London featuring the most equitable income distribution of the sample.

Unemployment rate is a key indicator of how economic growth impacts on society. Nairobi, Dar es Salaam and Addis Ababa feature some of the highest unemployment rates – between 21 per cent and 26 per cent – aligning with fast hourly regional growth rates. Much of the unemployment is associated with a lack of formal jobs, particularly for the 12 million young people entering the labour market across Africa every year. In Kampala nearly half of the population (46.3 per cent) is under the age of 20, which could

put pressure on the unemployment rate (13 per cent) as more young people seek work. In the nine cities outside of Africa, residents now expect to live to at least the age of 72, with people in London, New York, Shanghai, Seoul and Singapore enjoying a life expectancy of 80 years or above (even though there are significant variations within cities themselves). Life expectancies in the African cities are lower, with Lagos representing the lowest life expectancy at 55 years.

African cities are only beginning to invest in public transport development, with most urban mobility dependent on unplanned, informal transport and walking. Kampala features the highest percentage of trips made by walking and cycling (70 per cent) and the lowest modal share for public transport (15 per cent), due to minimal transport infrastructure. Dar es Salaam and Addis Ababa have implemented mass transit infrastructure, with the addition of Bus Rapid Transit and Light Rail Transit contributing to high public

transport modal shares at 57 per cent and 31 per cent respectively. In comparison, São Paulo, at 465 cars/1,000 inhabitants, has the highest car ownership rate of the 16 cities, leading to a high level of traffic congestion and long average daily commutes.

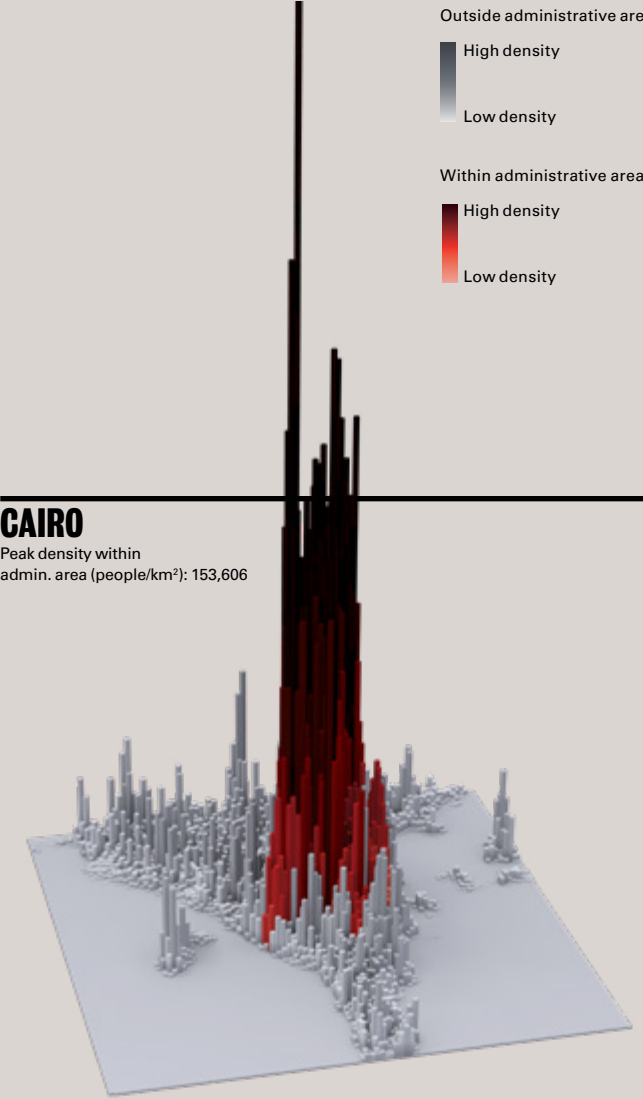
Motorisation rates also contribute to severe air pollution in Delhi, where a car ownership rate of 140 cars/1,000 inhabitants adds to the highest PM10 level of the sixteen cities at 229 µg/m³. Annual PM10 levels skew higher in African cities on average (Lagos 122, Cape Town 98). Per capita CO₂ emissions are the highest in Shanghai (13.1), followed by Singapore (9.3). Though Asian cities increasingly account for a higher share of per capita carbon emissions, urban dwellers in the Global North still pollute approximately five times more than their counterparts in the South, with the lowest per capita emissions shown in Lagos (0.04) and Accra (0.05).

	 Current population in the administrative city (millions)	 Current population in the urban agglomeration (millions)	 Average hourly population growth of urban agglomeration 2015 to 2030 (people/hour)	 Administrative city area (km²)	 Average density of built-up administrative area (people/km²)	 GDP per capita in urban area (\$, PPP)	 Percentage of country's GDP produced by the metro region	 Unemployment rate (%)	 City income inequality (GINI index) UN international alert level: 0.40	 Population under 20 (%)	 Life expectancy (average)	 Murder rate (homicides per 100,000 inhabitants)	 Percentage of daily trips made by public transport	 Percentage of daily trips made by walking & cycling	 Car ownership rate (per 1,000 inhabitants)	 Annual mean PM10 levels (µg/m³) WHO PM 10 guideline level: 20 µg/m³	 CO₂ Emissions (tonnes per capita)
ADDIS ABABA	3.3 2015	3.4 2017	23 2014	520 GIS	15,574 GIS	1,427 2013	44 2014	21.2 2015	0.61 2011	38.1 2007	63 2012	5.5 2000	31 2010	54 2010	40 2012	66 2005	1.17 2010
ACCRA	2.1 2010	2.4 2017	9 2014	143 GIS	9,665 GIS	3,141 2014	17 2014	7.2 2014	0.41 2006	38.5 2010	62 URBAN AREAS, GHANA 2010	1.3 2009	73 2006	13 2006	71 2010	98 2015	0.05 2009
CAPE TOWN	4.0 2017	3.7 2017	6 2014	2,461 GIS	8,277 GIS	14,086 2014	26 2014	24.9 2013	0.61 2013	37.2 2011	67 2016	65.5 2015	37 2015	21 2015	205 2011	30 2015	7.8 2007
DAR ES SALAAM	4.4 2012	5.7 2017	48 2014	1,631 GIS	14,233 GIS	2,915 2014	31 2014	21.5 2014	0.34 2007	42.8 2012	62 2012	12.8 2005	57 2010	28 2010	73 2010	64 2006	0.06 2009
KAMPALA	1.5 2015	2.1 2017	17 2014	194 GIS	12,605 GIS	1,735 2014	49 2014	13.0 2009	0.39 2006	46.3 2014	59 2012	12.0 2010	15 2010	70 2010	25 2010	170 2013	0.40 2012
LAGOS	7.9 2015	21.5 2017	26 2014	3,449 GIS	8,131 GIS	2,058 2014	28 2014	8.3 2011	0.64 2016	41.9 2006	55 2008	1.3 2009	58 2014	27 2014	88 2011	122 2006	0.04 2009
NAIROBI	3.1 2009	4.2 2017	28 2014	718 GIS	22,204 GIS	2,591 2014	25 2014	26.0 2010	0.59 1999	39.0 2009	63 2009	6.1 2012	40 2013	47 2013	110 2010	33 2009	0.18 2008
LONDON	8.7 2016	12.3 2015	8 2014	1,595 GIS	6,586 GIS	57,157 2014	23 2014	6.3 2015	0.34 2010	24.5 2011	82 2014	1.1 2014	29 2014	32 2014	303 2014	22 2013	4.8 2011
ISTANBUL	14.9 2016	14.2 2015	18 2014	5,469 GIS	17,193 GIS	24,867 2014	57 2014	15.5 2016	0.39 2010	31.3 2011	77 2013	4.7 2008	35 2011	48 2011	145 2012	53 2012	3.3 2008
NEW YORK	8.5 2015	18.6 2015	9 2014	787 GIS	20,713 GIS	69,915 2014	6 2014	4.2 2018	0.55 2014	24.4 2010	81 2012	3.9 2014	60 2014	11 2014	215 2013	16 2014	5.5 2011
MEXICO CITY	8.9 2010	20.8 2015	20 2014	1,483 GIS	14,006 GIS	19,239 2014	39 2014	5.8 2015	0.44 2010	34.6 2010	76 2014	8.8 2011	50 2011	31 2011	294 2011	42 2014	2.8 2012
SÃO PAULO	11.9 2014	20.8 2015	17 2014	1,523 GIS	13,994 GIS	20,650 2014	36 2014	9.3 2016	0.60 2010	29.5 2010	76 2010	14.2 2012	43 2012	29 2012	465 2011	35 2014	1.4 2009
DELHI	18.6 2017	25.0 2015	74 2014	1,465 GIS	32,078 GIS	12,747 2014	17 2014	3.7 2012	0.60 2012	37.1 2011	72 2010	2.7 2012	49 2013	32 2013	140 2011	229 2012	1.1 2008
SEOUL	10.3 2015	25.3 2015	1 2014	606 GIS	22,925 GIS	34,355 2014	47 2014	4.2 2017	0.41 2003	18.0 2015	84 2014	0.8 2012	66 2016	N/A 2016	222 2013	46 2014	3.7 2008
SHANGHAI	20.0 2013	23.0 2015	50 2014	6,249 GIS	7,852 GIS	24,065 2014	4 2014	4.1 2014	0.32 2005	16.0 2005	83 2013	0.7 2013	25 2009	40 2009	69 2013	84 2013	13.1 2011
SINGAPORE	5.6 2016	5.6 2015	7 2014	719 GIS	15,866 GIS	66,864 2014	100 2014	2.1 2018	0.43 2015	21.7 2012	83 2015	0.3 2014	61 2012	9 2012	170 2015	30 2013	9.3 2013

RESIDENTIAL DENSITY

Residential density is a fundamental measure of urban structure and determines the efficiency of a city’s urban footprint, underpinning economic productivity, environmental sustainably and social inclusion. Higher urban densities can improve service delivery efficiency, promote urban vitality and facilitate more sustainable public transport, walking and cycling. Where residential and employment densities converge, the competitiveness offered by high-density environments is maximised. These advantages depend, however, on effective city management and urban design that minimises the negative costs of overcrowding and pollution.

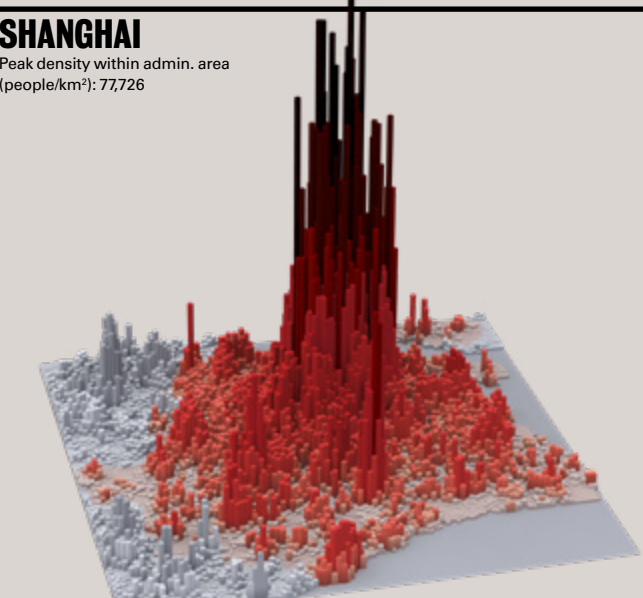
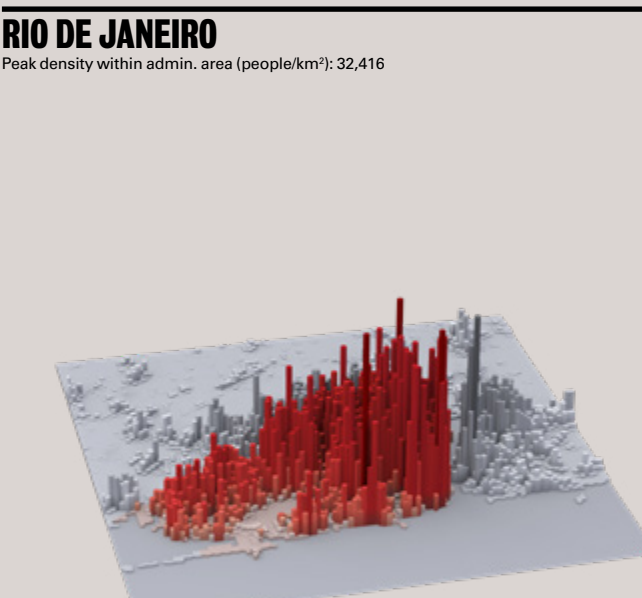
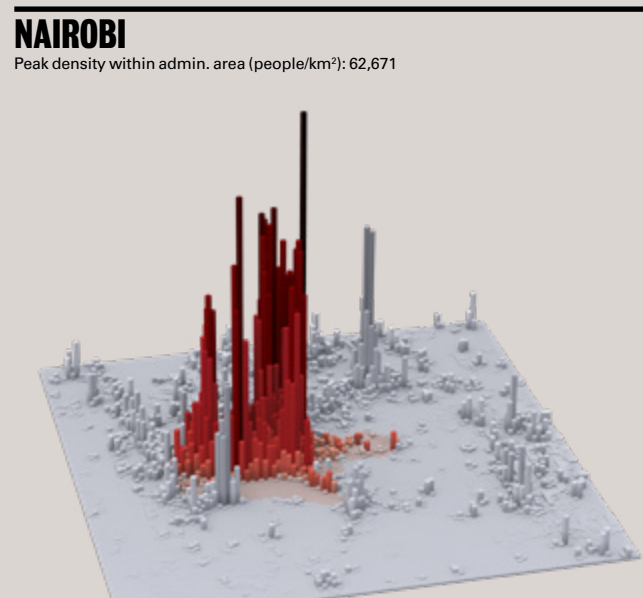
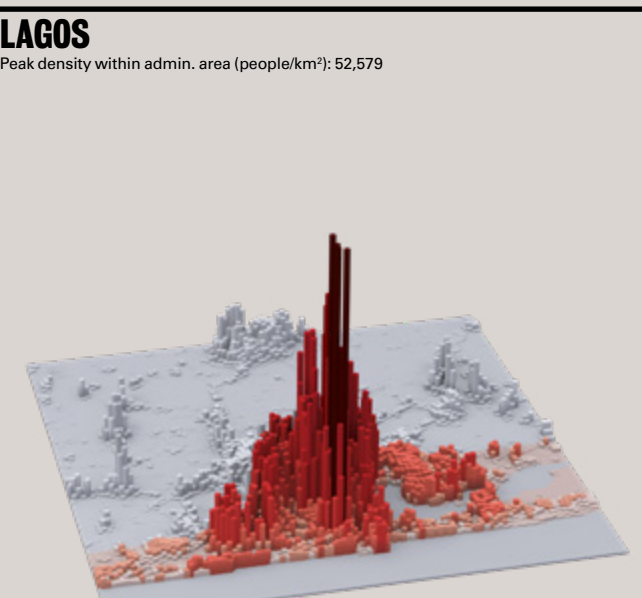
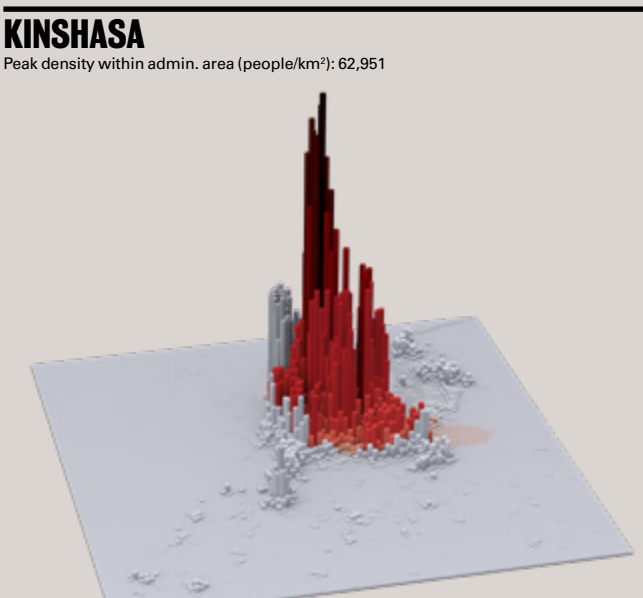
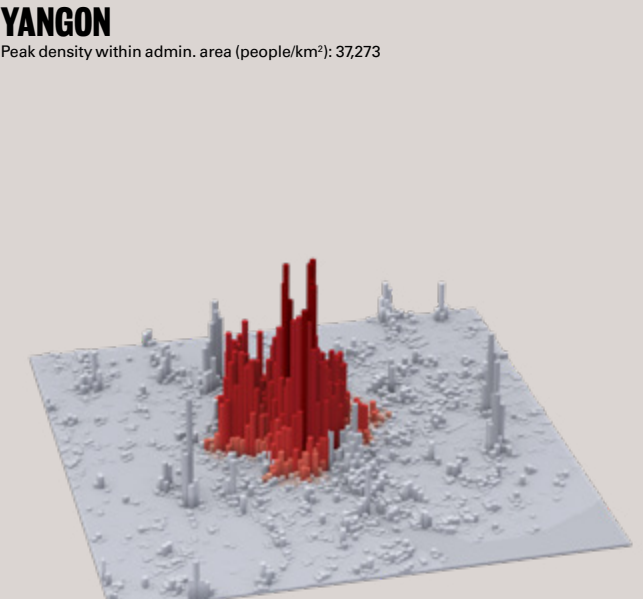
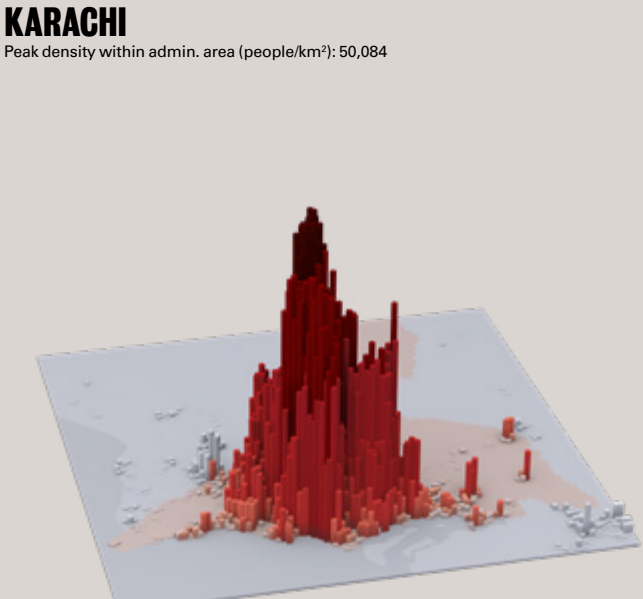
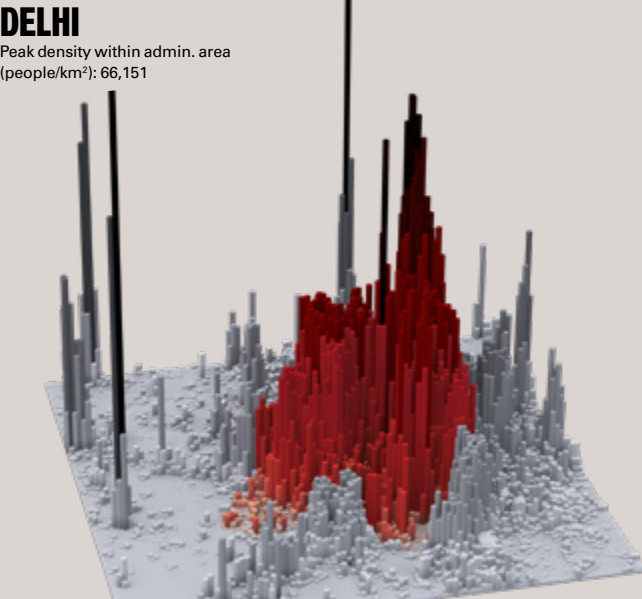
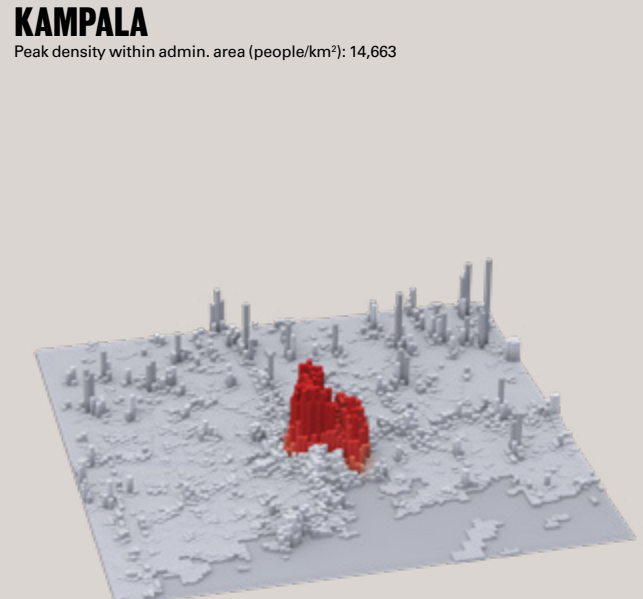
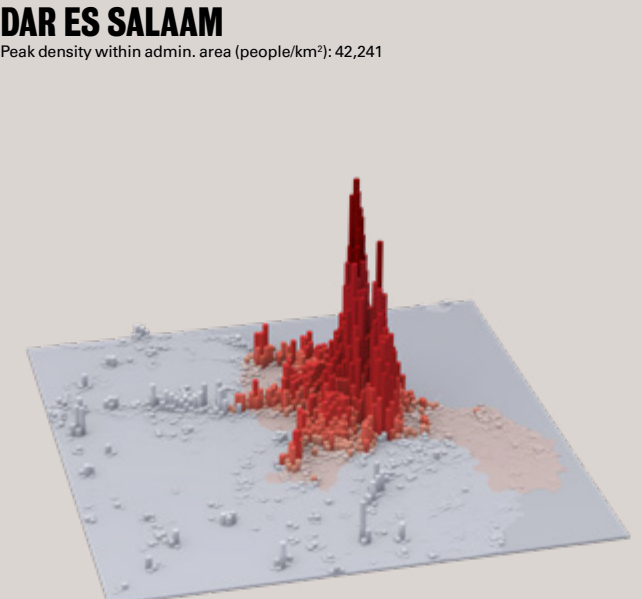
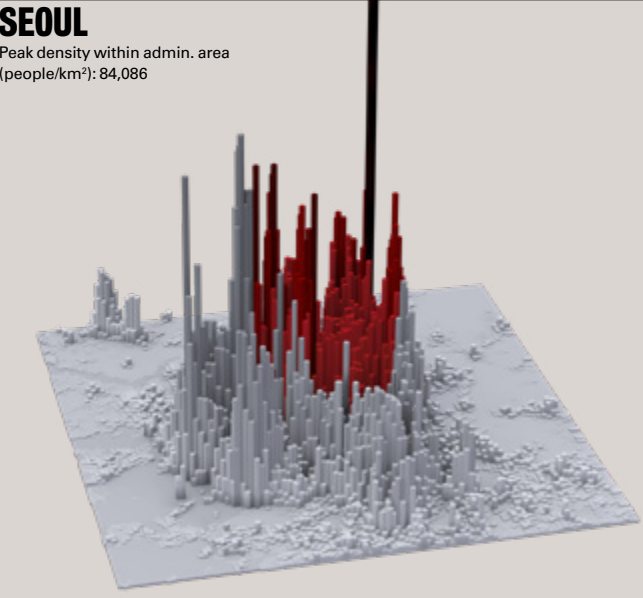
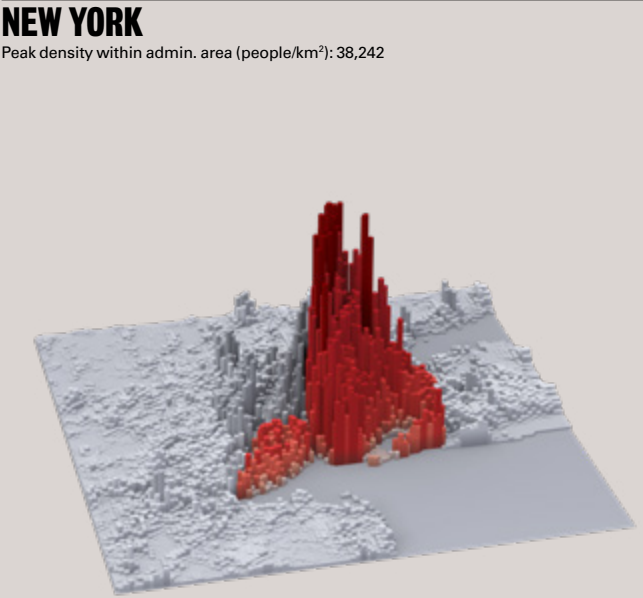
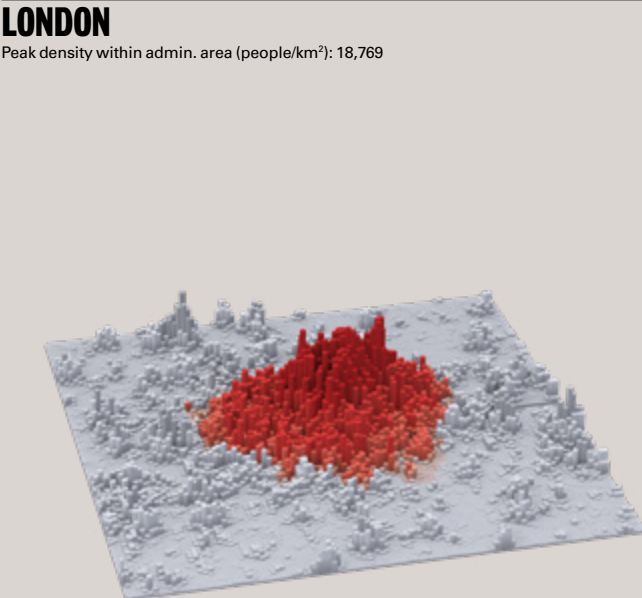
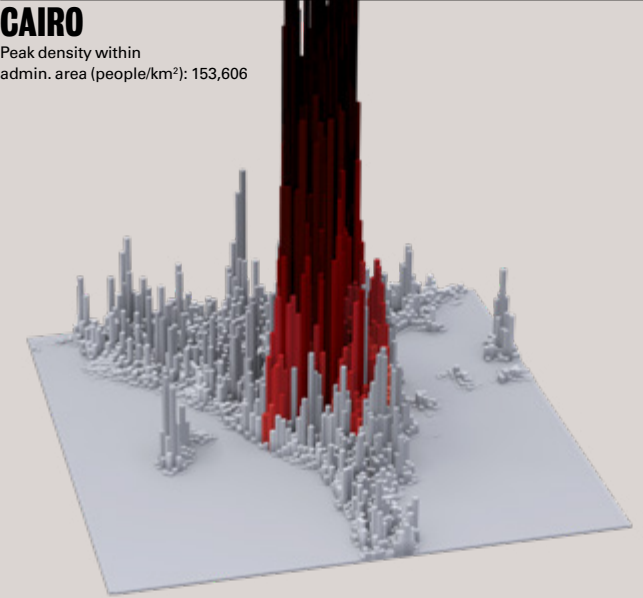
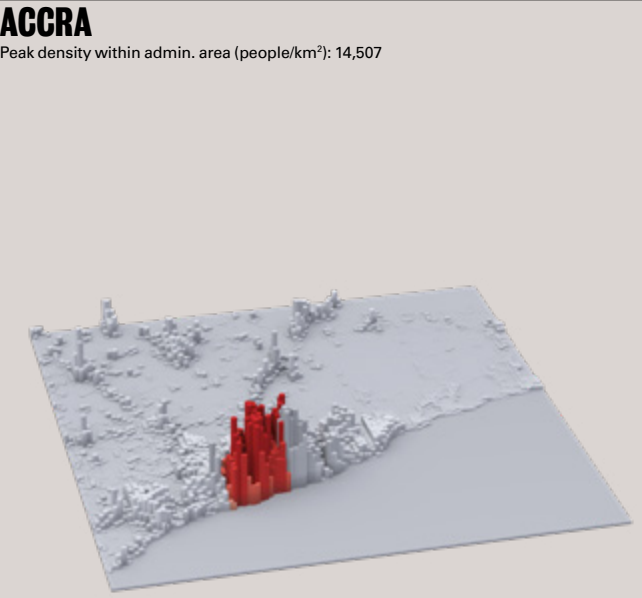
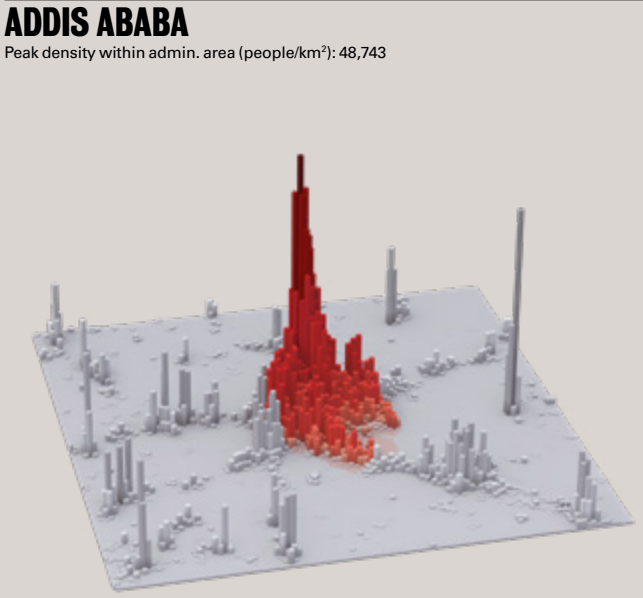
Density, shown below by the number of people living in each square kilometre of a 100 x 100 kilometres urban region, is driven by topographical or land constraints, the provision of infrastructure and by inherited traditions of urban development. Density differs widely, from the high densities in central parts of Cairo, Seoul and Kinshasa to the relatively low densities in Accra, Kampala and London. London’s low residential density requires an extensive and capital-intensive public transport network to enable millions of employees to flow efficiently in and out of central business districts on a daily basis. London’s Metropolitan Green Belt has restricted the city’s outward expansion and promoted



intensification, whereas Accra, like many other cities, has sprawled significantly, taking up five times more space than in 1990. Suburbanisation and sprawl result in far lower densities in most cities, with unbuilt or protected green space also a contributor. Lagos is unusual in that the mega-city has not only sprawled substantially, but also seen an increase in density in recent years. The planned implementation of Bus Rapid Transit along Dar es Salaam’s growth corridors, with regionally coordinated policies to coordinate growth, may help reduce sprawl. Regional coordination is critical; however, cities unable to maintain resident populations

centrally or within administrative boundaries have an increased challenge of managing and financing urban facilities and infrastructure. While most cities have higher central densities, Cape Town’s inner-city densities are unusually low despite the city’s major transport infrastructure converging centrally. Yangon, New York City, Dar es Salaam and Karachi show how topographical constraints drive densities, with the cities expanding around historic port activities. The similarity between the density profile of Mexico City’s consistently low-rise typologies and Rio de Janeiro, whose skyline is peppered with towers, shows how high-rise

building does not necessarily create higher density, especially when individual towers are surrounded by large areas of unused space. Similarly, Delhi’s remarkable residential density – it is composed principally of three- to four-storey buildings and one-floor shacks – is far higher than New York’s, whose tall apartment blocks are often over 20 storeys high. Cairo stands out as one of the densest urban environments on the globe, with low levels of open space for many of its residents living in at times overcrowded conditions.



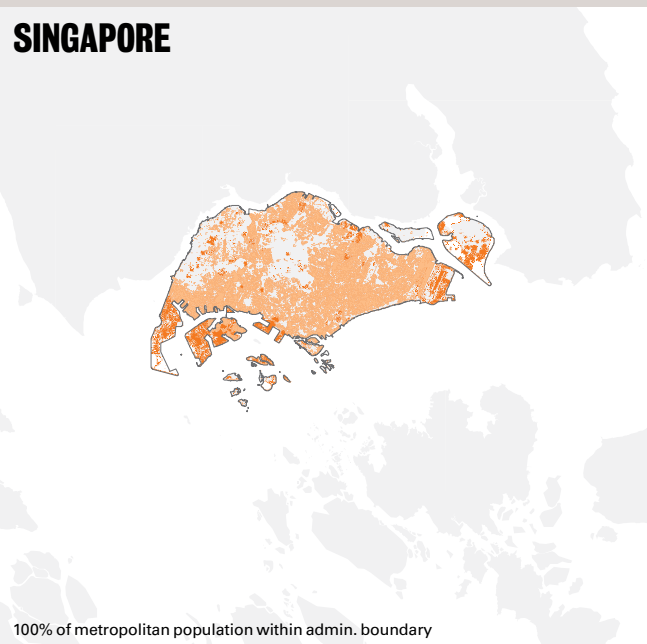
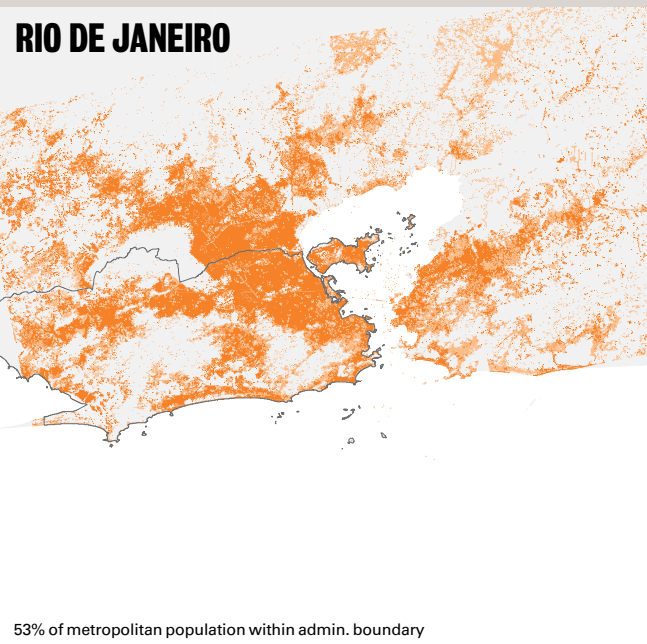
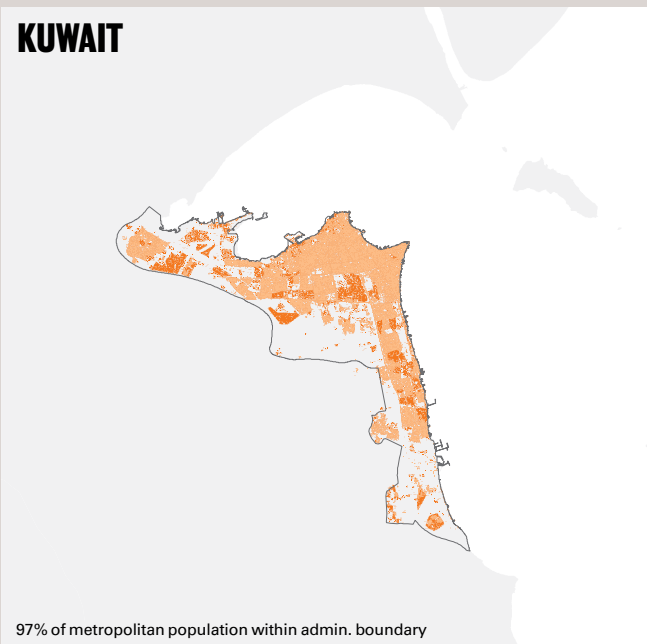
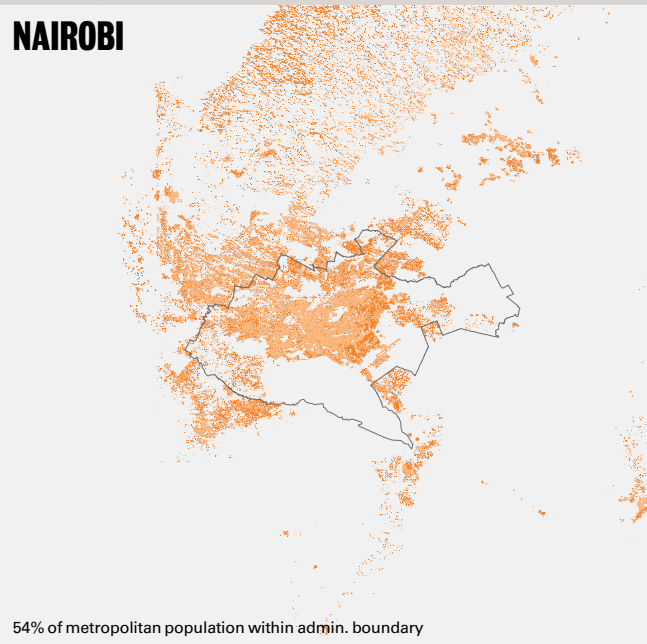
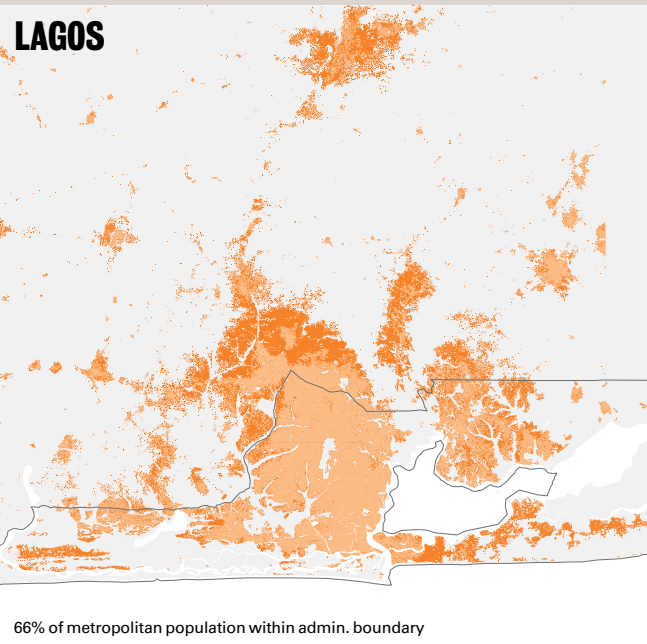
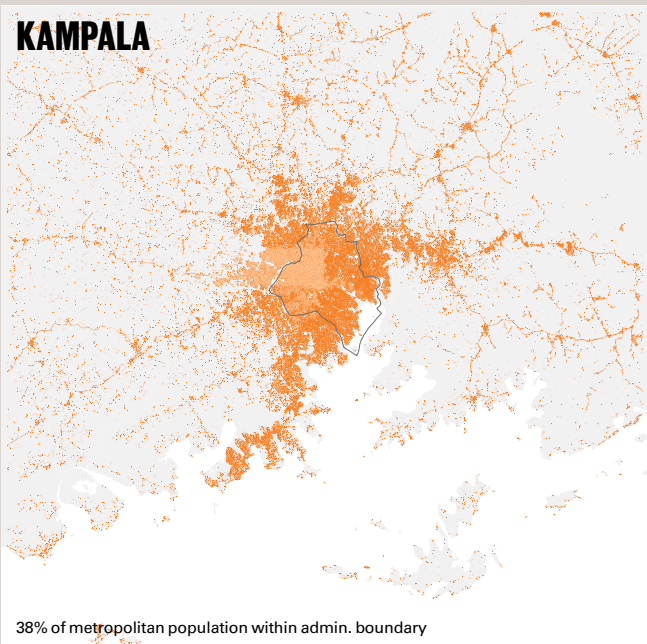
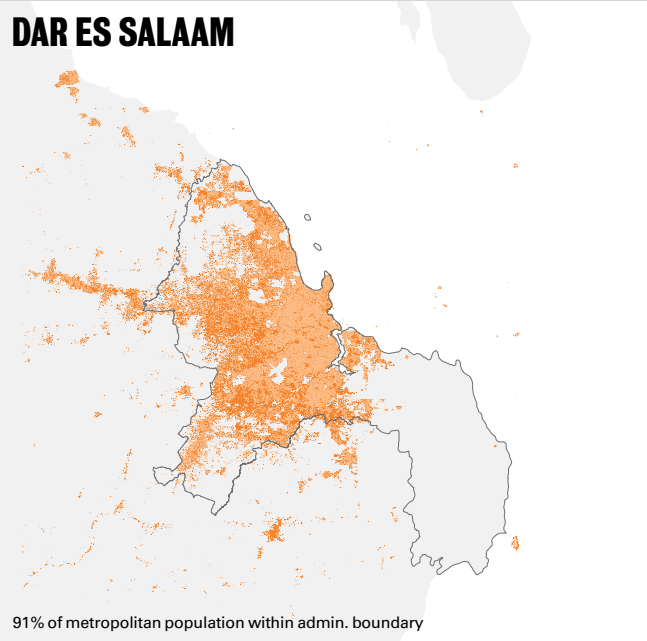
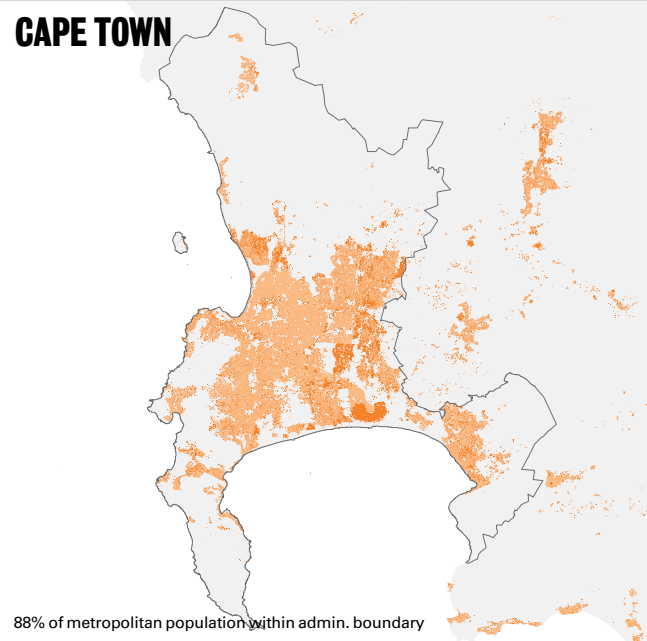
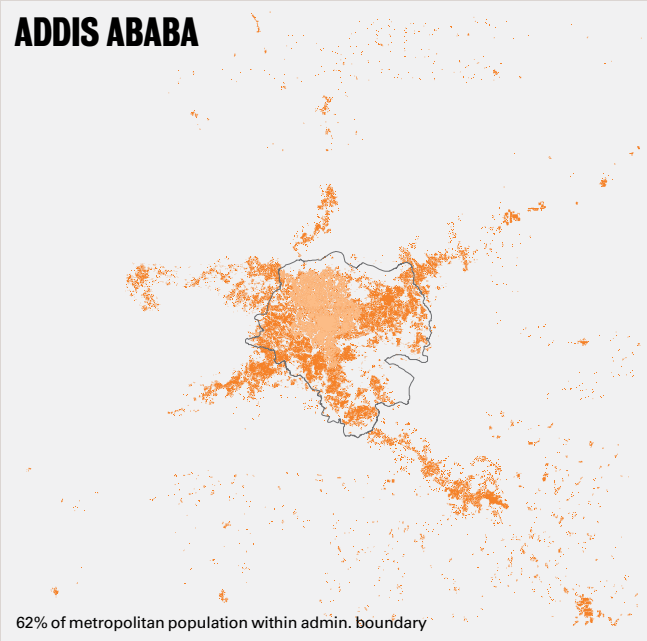
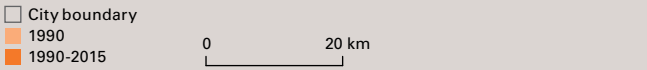
URBAN EXPANSION

These maps illustrate the horizontal growth of cities since the early 1990s (also see page 20). They also document the relationship between the city’s administrative boundary and the built-up area in which people live. The darker orange areas highlight the variety of ways cities have expanded since 1990 in response to diverse planning regimes, geographic constraints, competing economic drivers and traditions of building form and culture. As cities grow, governing them becomes more complex and less efficient when their administrations have limited power and where urban footprints extend beyond administrative boundaries.

Kampala represents an extreme case, with a significant proportion of its predominantly informal growth occurring outside the official city limits – though this misalignment

already existed in 1990. In Cape Town, the municipal boundary extends far beyond the built-up area, ensuring areas of growth are maintained within the administrative area, while mountains further limit growth. In Nairobi, a shift towards car-based transportation with heavy investment in highway development has contributed to outward expansion far beyond the city’s administrative borders, though protected green areas have limited southward expansion. Similarly, urban growth in Dar es Salaam has occurred primarily along four arterial roads that lead from the city centre to the peripheries. Mass transit improvements such as new Bus Rapid Transit routes are being developed along these arterial pathways, designed to control sprawl and promote intensification of inner urban areas.

In Rio de Janeiro, natural barriers constrain urban growth, but a large proportion of the residents are under the control of the regional state, rather than the city. The city-state of Singapore has remained more compact due to sustainable policies that have promoted building on reclaimed land, a reduced dependency on private car use and the integration of public transport with high-density, mixed-use development. Though Kuwait’s planned expansion has remained within city limits, the low-density and low-rise pattern of growth, based on cheap oil and private cars with no investment in mass transit infrastructure, causes significant congestion.



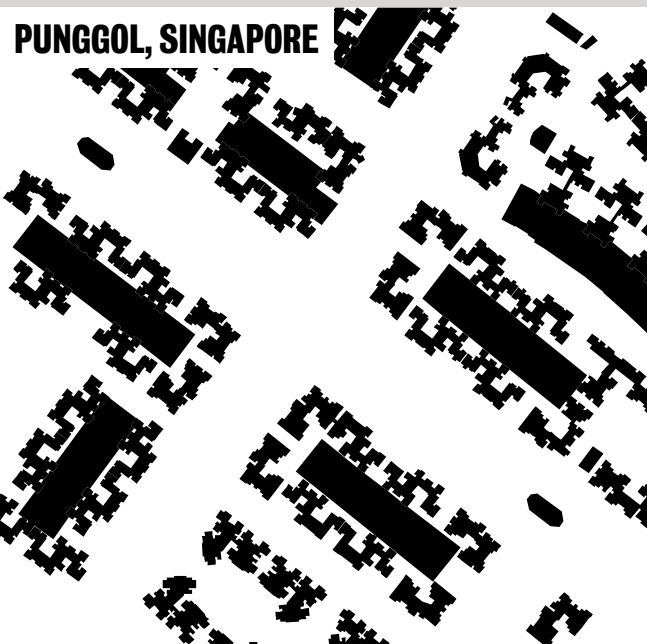
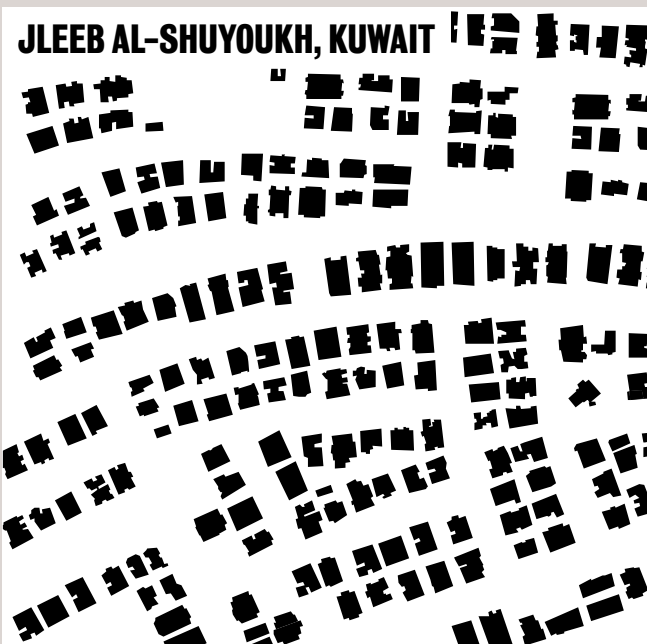
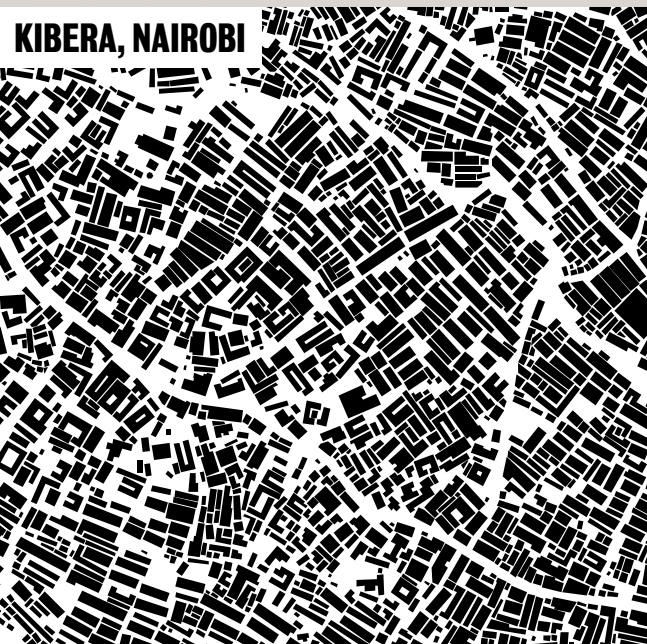
BUILT FORM

Comparing the form of building footprints at street level (shown in black) across different neighbourhoods gives an indication of how the design of housing impacts on the quality of the public realm (shown in white) and sense of place. By mapping a number of lower- and middle-income housing areas in African, Asian and Latin American cities, the diagrams reveal stark differences in the way urban society can be organised on the ground in response to different cultural, environmental and regional contexts.

In Addis Ababa, a large number of mid-rise condominiums have been built on the edges of the city. The higher density and unit size of these apartment buildings in the Lege T’afu district contrast with the typical low-density sprawl found on the outskirts of many sub-Saharan African cities,

such as Chanika in Dar es Salaam. In Kampala, the dense, low-rise, informal developments in Kitintale have sprawled towards the more affluent, single-family homes on large plots of land in Bugolobi. As it expands, Kitintale encroaches on a marsh, exacerbating health risks to residents, undermining urban agriculture and increasing flood risk. In contrast to Bugolobi, one of Lagos’ wealthier neighbourhoods, Lagos Island, is characterised by high-density, compact and organic urban form. In Kibera – Africa’s biggest urban informal settlement – many of the low-density, low-rise homes are constructed from temporary materials (by tribal decree) and located on steep slopes, adding to the precarious living conditions. Cape Town’s Khayelitsha features a range of quite formalised, regular apartheid-era and more

recent low-rise public housing that has been incrementally expanded, in addition to areas of organic and informal infill. Unlike Kibera, its peripheral location limits access to central jobs. Rio de Janeiro’s organic neighbourhoods in pacified favelas such as Jacarepaguá are tightly packed with few open spaces, but remain highly connected and integrated with their surroundings. In Singapore’s planned social housing developments, such as Punggol, high densities are achieved with tower and residential block typologies surrounded by less defined open spaces and a looser urban grain. In Kuwait, the district Jleeb Al-Shuyoukh comprises medium-rise apartment block housing for non-Kuwaiti low-income workers, who live at much higher densities than the typical villa-style typologies occupied by Kuwaiti residents.



MASS TRANSIT

Public transport has become a major policy agenda for established and emerging cities worldwide. The need for greater access to employment, reduced commuting times and congestion and better control of carbon emissions has informed the ways in which cities have either consolidated or initiated investment in high-capacity transport.

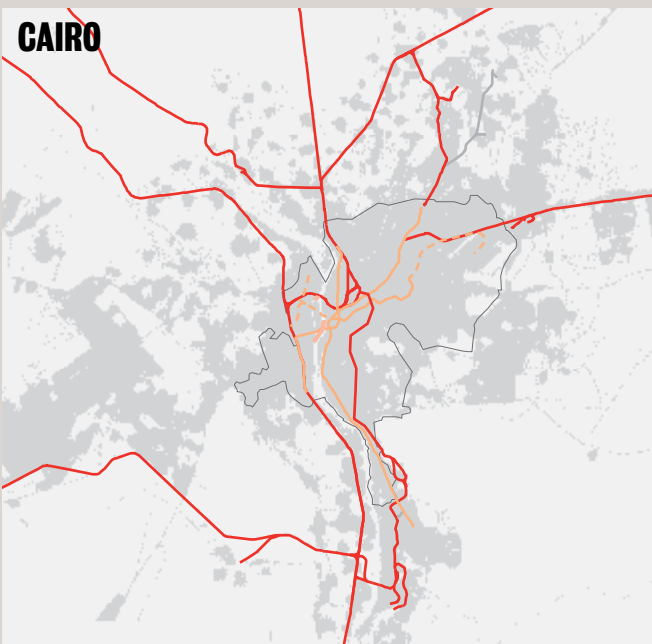
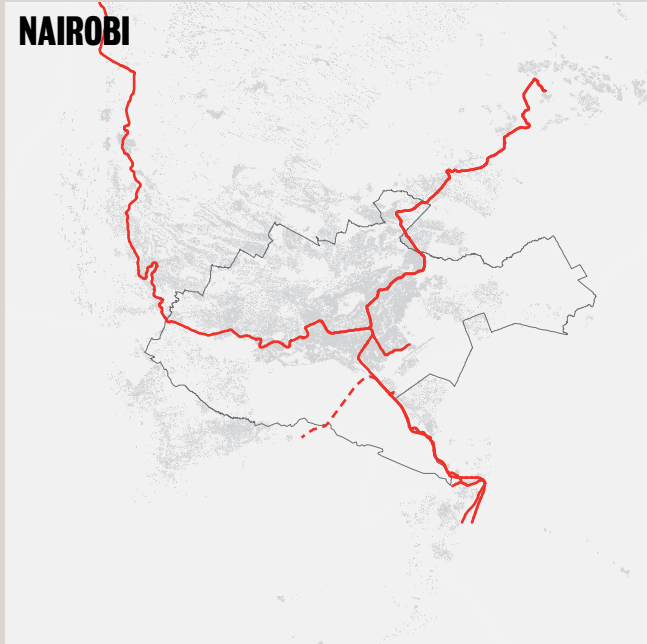
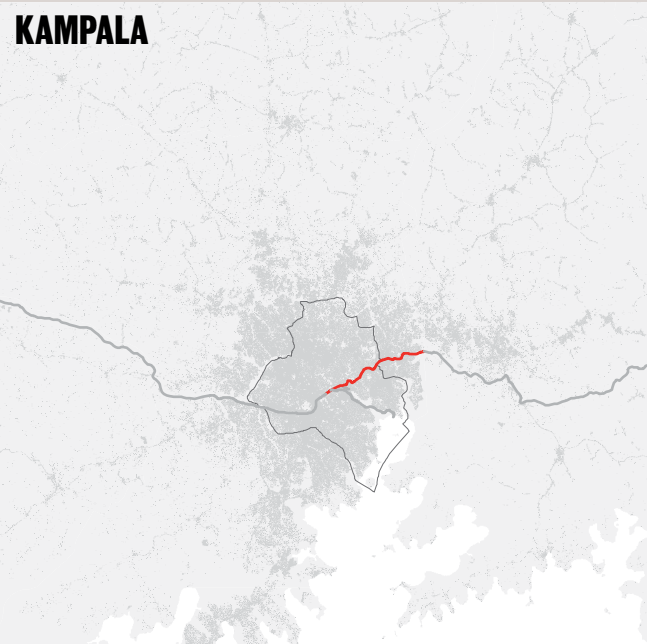
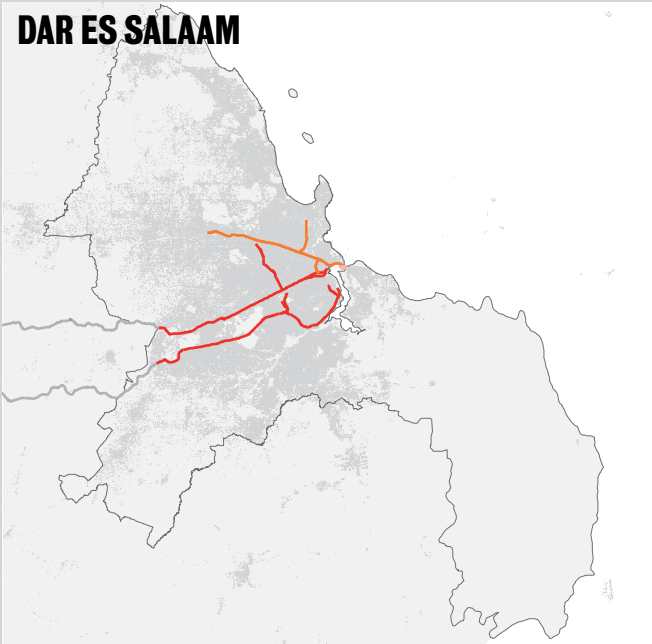
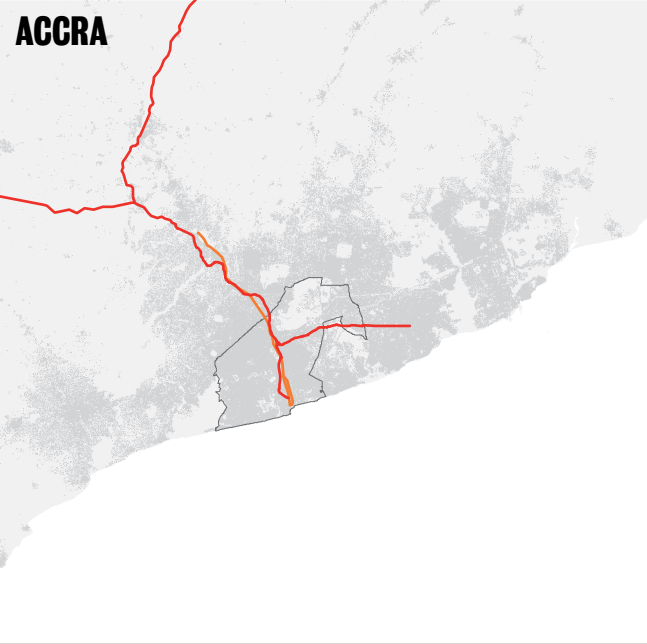
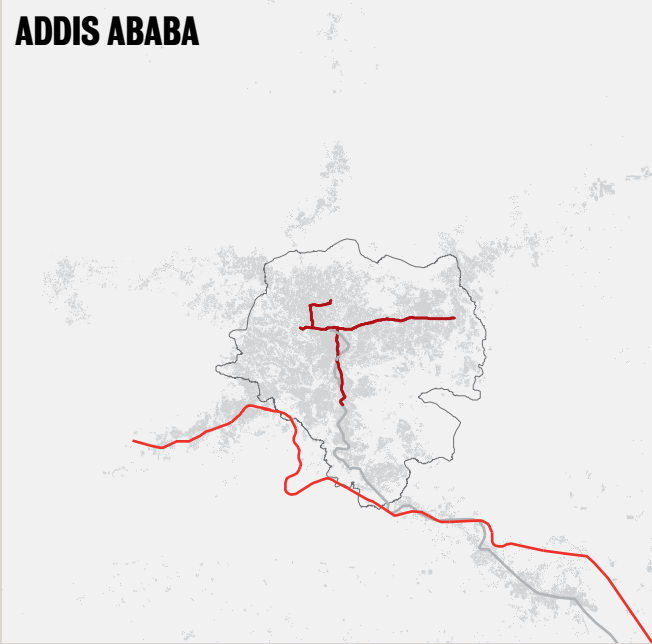
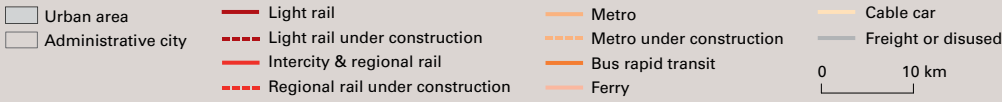
Cairo built Africa’s first metro system, now carrying almost 4 million passengers daily and under expansion. Lagos is currently constructing its first Light Rail Transit (LRT) line, while Addis Ababa is only the second sub-Saharan African city to launch a LRT system, which has the potential to reduce commuting times and reverse a growing share of private modes of transport in a city that will

experience some of the fastest growth worldwide over the coming decades.

Cities like Cape Town and Mexico City are advanced in their implementation of dedicated Bus Rapid Transit routes, while Dar es Salaam, Lagos and Accra are at early stages of planning and rolling out citywide networks. The former Addis Ababa–Djibouti Railway has been decommissioned and replaced with a line that doesn’t terminate centrally, encouraging an urban growth corridor to the west and south-east of the city. Nairobi’s recently opened Mombasa–Nairobi Standard Gauge Railway and Lagos’ new link to Abuja both offer regional connections and run alongside older rail lines. Cape Town’s extensive rail network has

benefited from station and rolling stock upgrades, but safety and performance issues have led to reductions in ridership.

Freight or disused rail lines offer an opportunity to implement public transport with existing infrastructure. Nairobi, Kampala and Dar es Salaam are experimenting with using such rail lines to provide infrequent commuter services. This could be further expanded in cities where substantial urban populations live beyond administrative boundaries, like Accra, where intercity rail is underutilised. Cities like London offer a glimpse into what can be achieved with sustained investment in mass transit, with an extensive urban and suburban rail network that connects 8.6 million inhabitants to centrally located jobs.

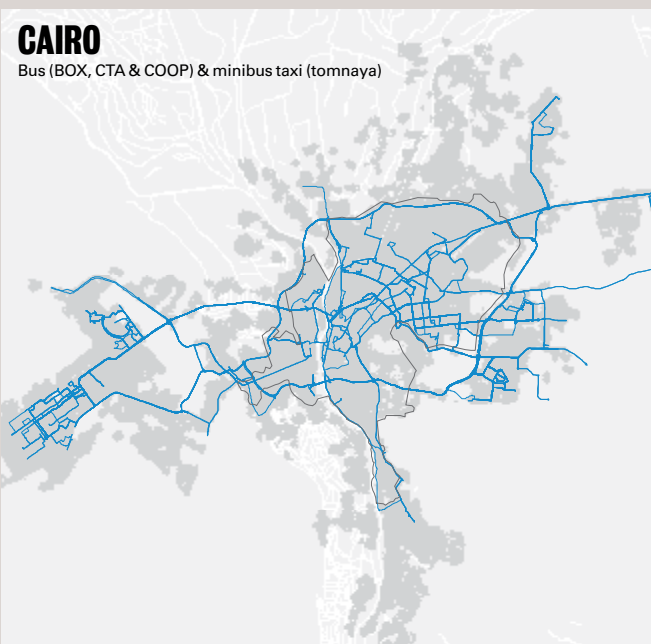
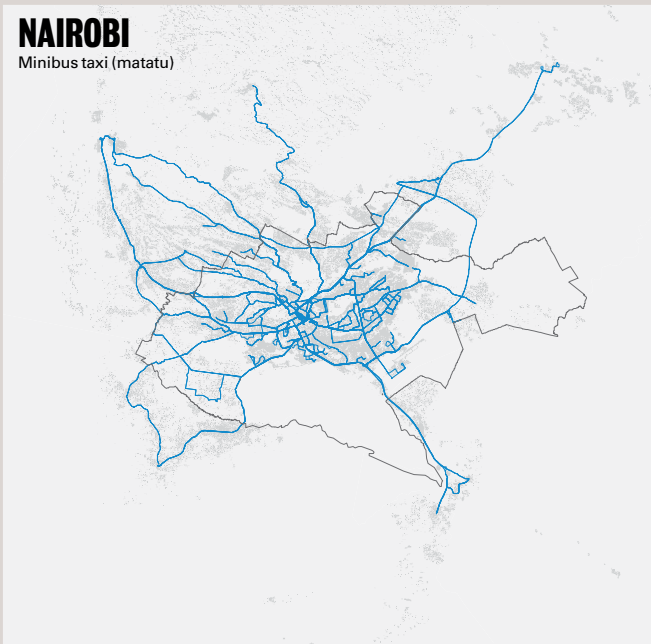
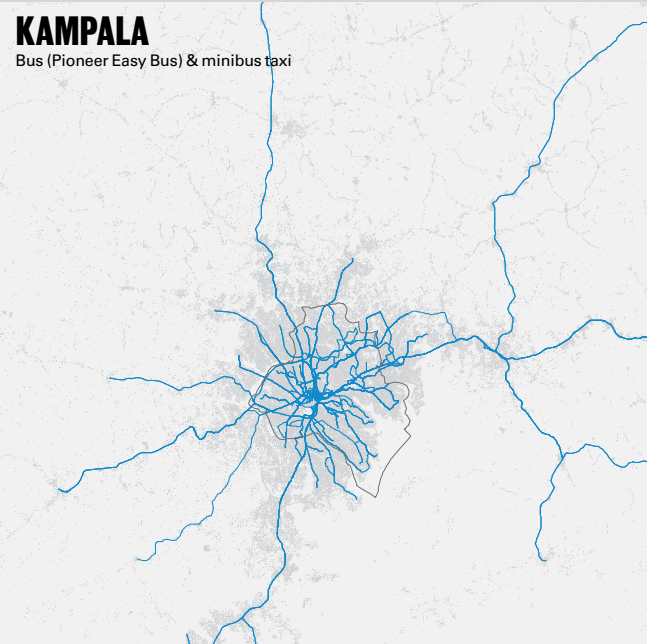
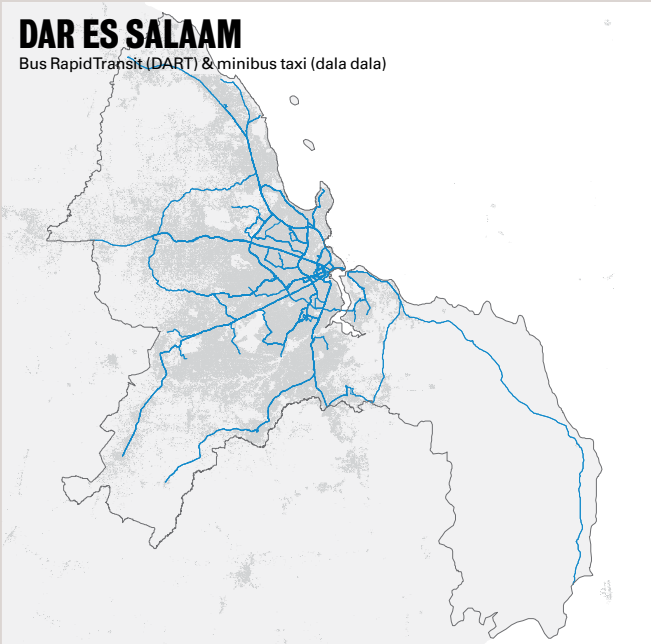
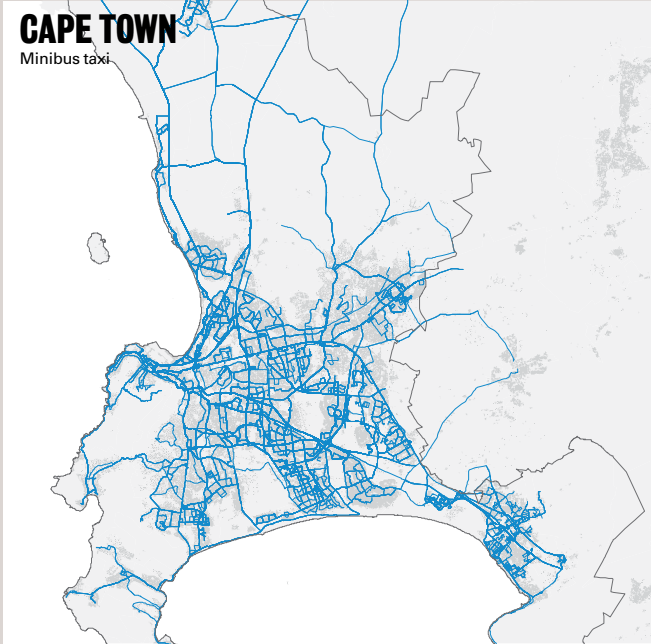
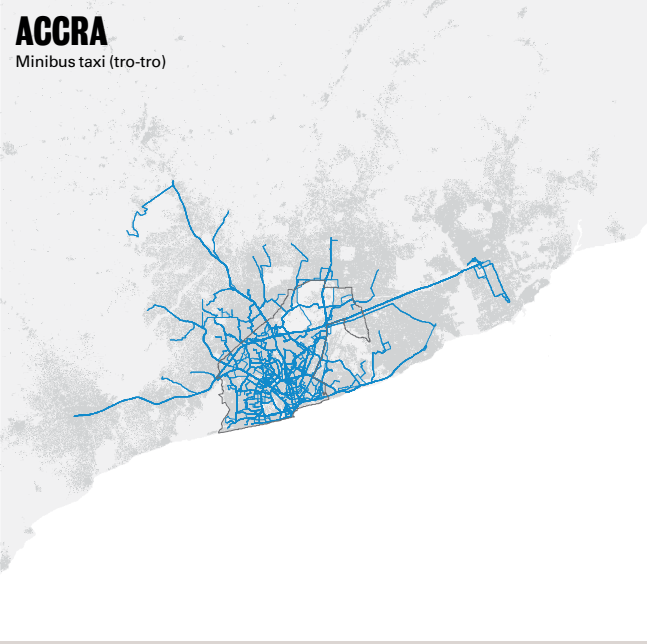
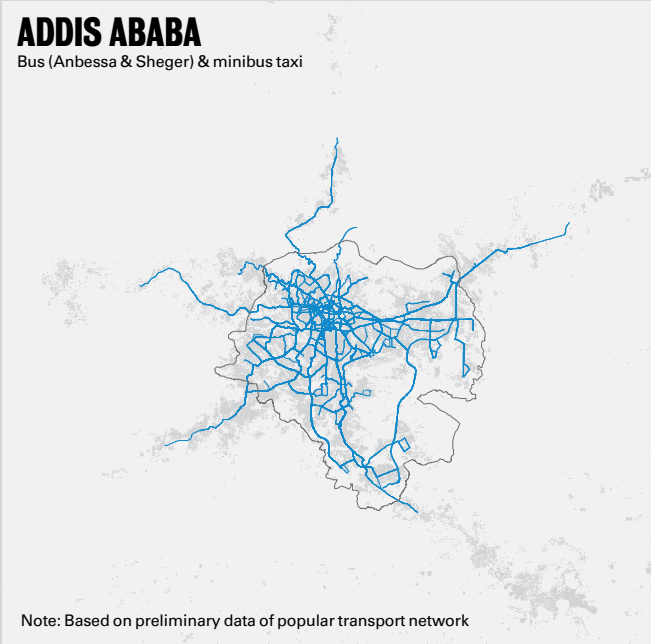
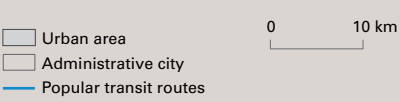


POPULAR TRANSIT

A mix of informal, semi-formal and regulated popular transit systems exist in cities across the world, increasing accessibility to jobs, services and amenities where mass transit systems don’t reach. Popular transport networks often include a mix of modes, including formalised buses, shared minibuses taxis and motorcycle taxis, with many providers – often operating fleets of fewer than three vehicles – leading to fragmented routes and schedules. Through advances in digital technology, popular transit information has been collected and distributed to make routes more transparent and accessible. In Nairobi, digital crowdsourcing of minibuses *matatu* taxi routes has led to the first informal transit system to be integrated into Google Maps (see page 14).

In Accra and Kampala, popular transit – along with walking – provides the only option for reaching most of the city without a private car, and in Cairo the expanded rail and metro network doesn’t cover many of the new towns constructed in recent decades to decongest the city centre. Though less formal forms of transport are often more expensive, cities like Cape Town have found it difficult to shift mode choice towards publically provisioned transport, despite the negotiated replacement of minibus taxis with Bus Rapid Transit (BRT). Similarly, despite substantial investments in more formalised transport in Lagos and Addis Ababa, popular transport remains an important aspect of daily mobility.

Though less formal transport options are agile, have relatively low acquisition costs and are viable without subsidies, road congestion – especially in cities with low road density and in city centres where routes converge – safety, comfort and emissions associated with paratransit frequently challenge transport planners. In some cases, municipalities are aiming to integrate paratransit with formal transport to address these concerns and create more efficient transit systems. In Addis Ababa, city officials are working alongside researchers to map city buses and paratransit, envisioning a coherent transport network where paratransit feeds into formal bus corridors.



HOW PEOPLE MOVE

Modal split pie charts provide a snapshot of the daily transport choices made by urban residents, showing the ways in which people choose to move around their cities, whether by private car, public transport or more active means such as walking and cycling. The percentage of people who use public transport varies considerably, ranging from Hong Kong (81 per cent), which has made substantial investments in efficient public transport tightly integrated with the city-state’s urban development, to Addis Ababa (31 per cent), which is only now starting to reap the benefits of investing

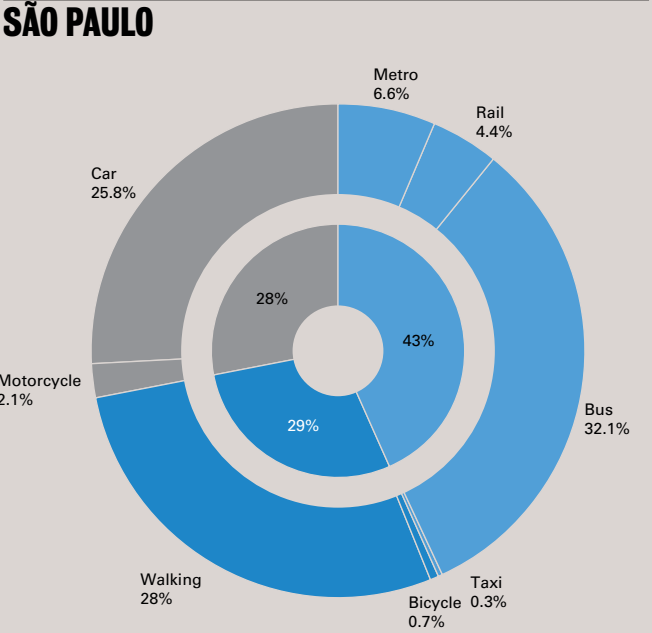
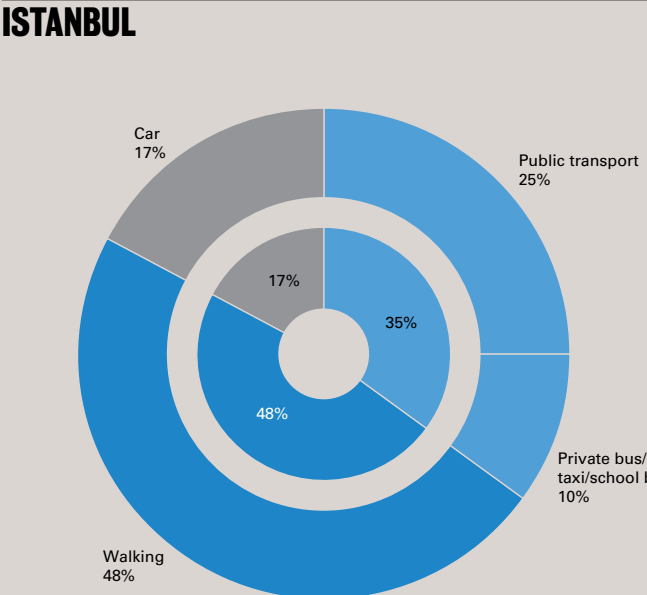
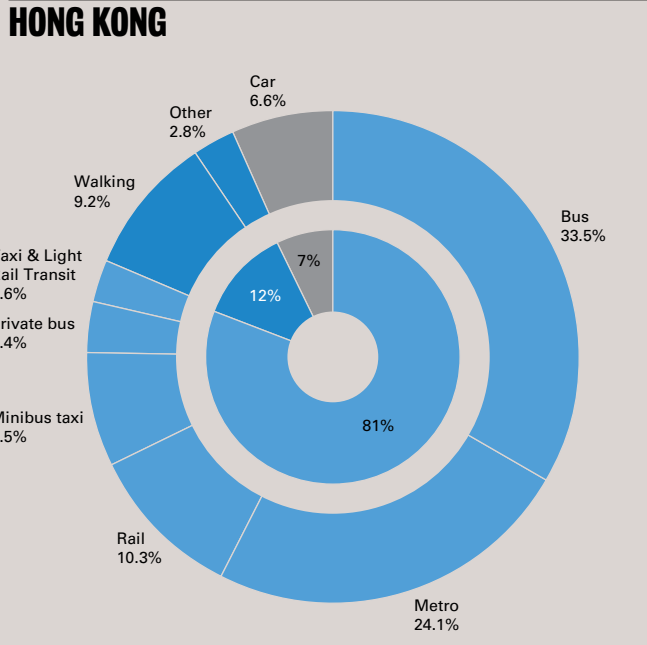
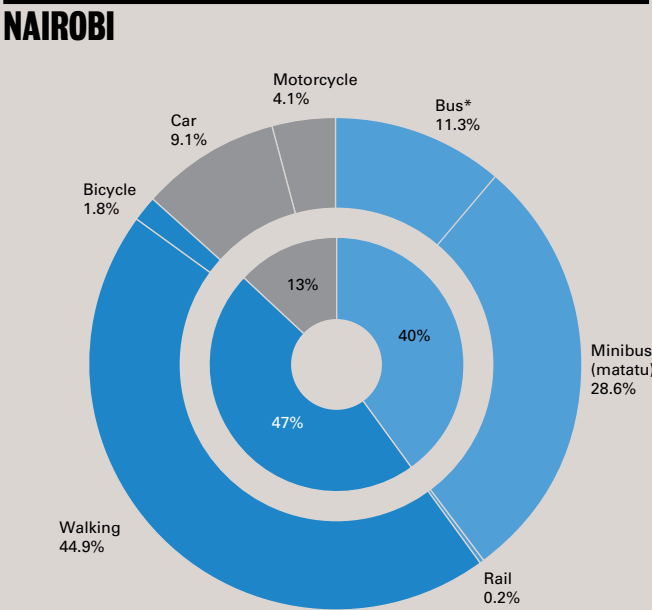
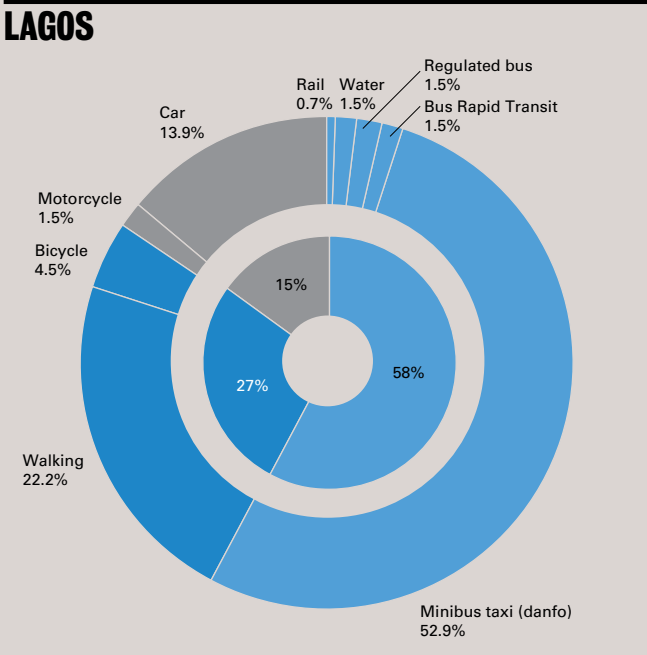
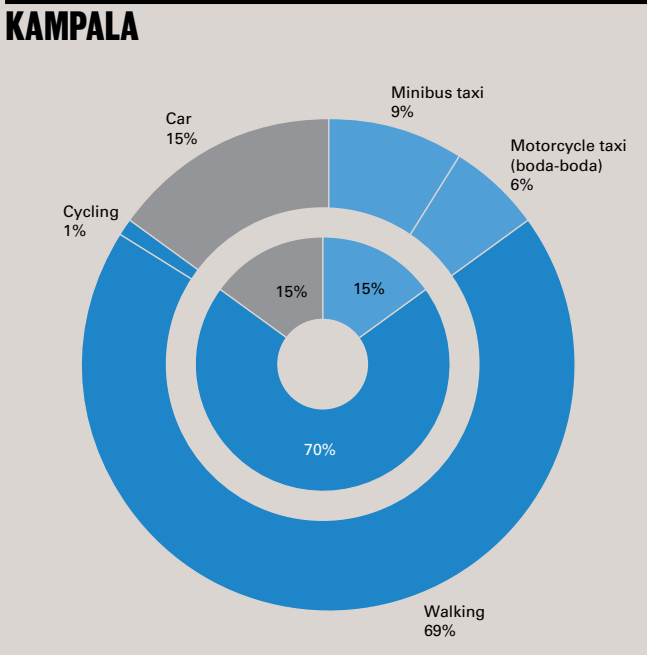
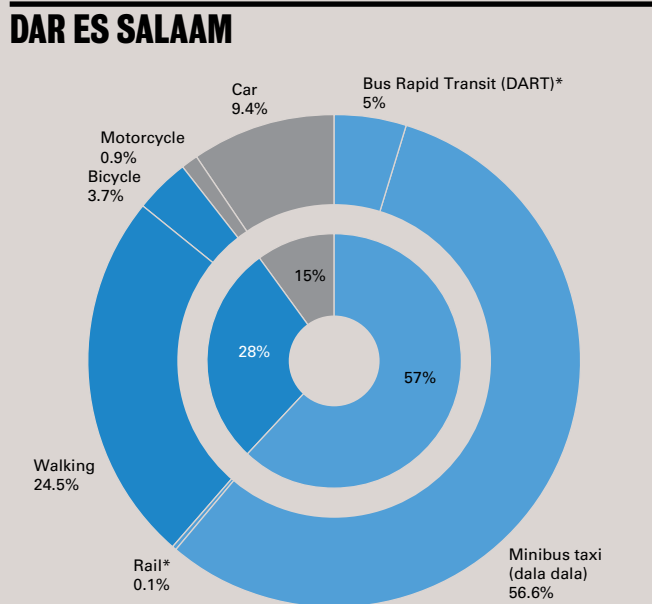
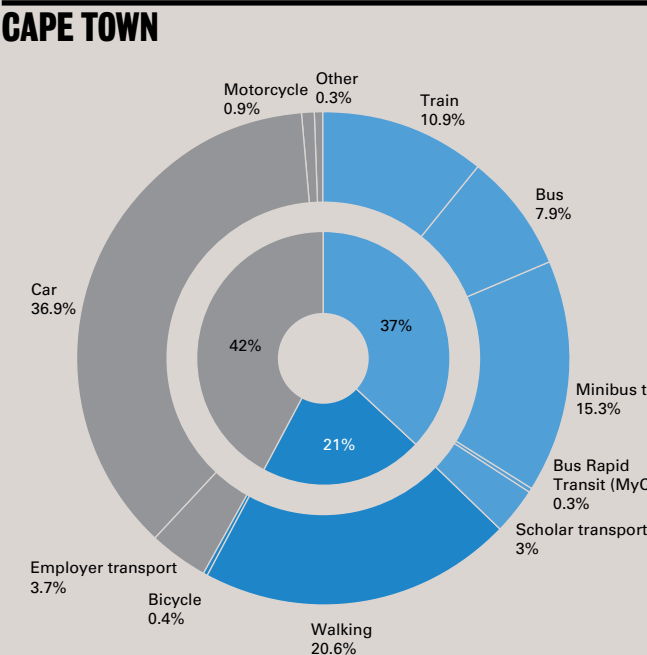
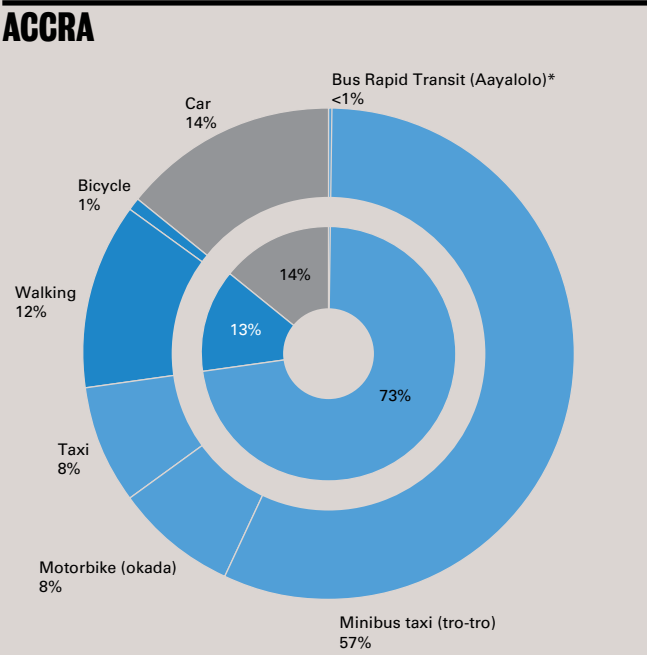
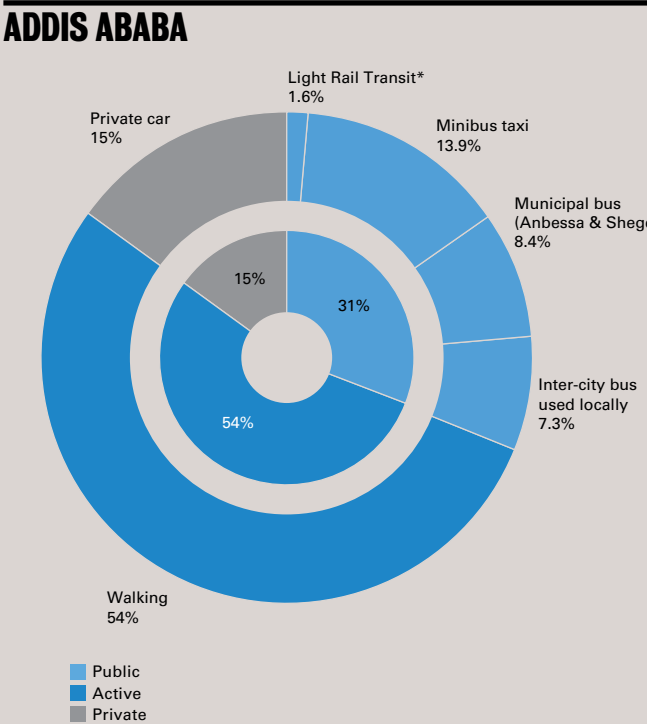
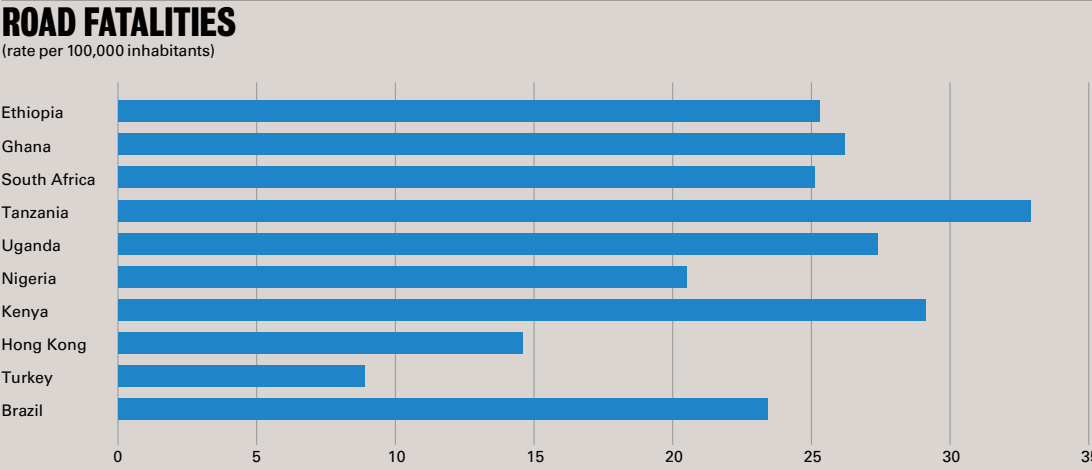
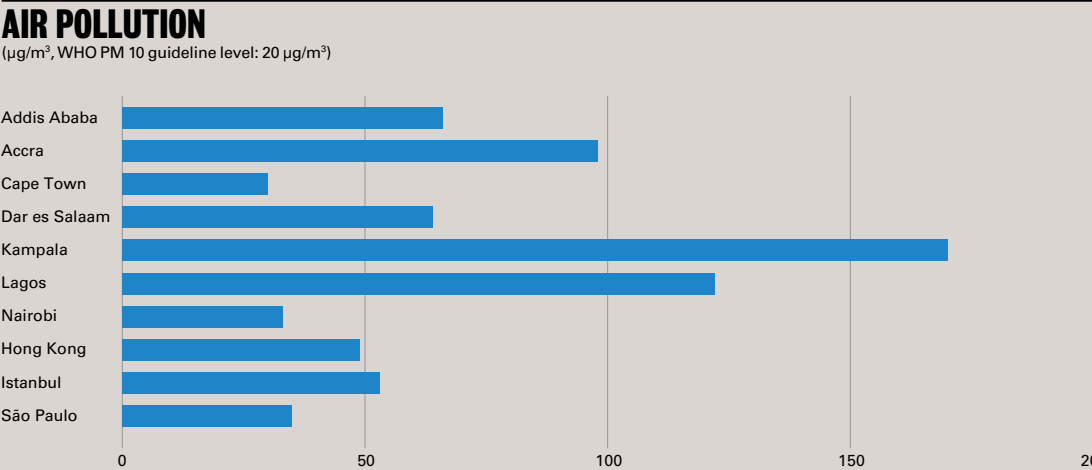
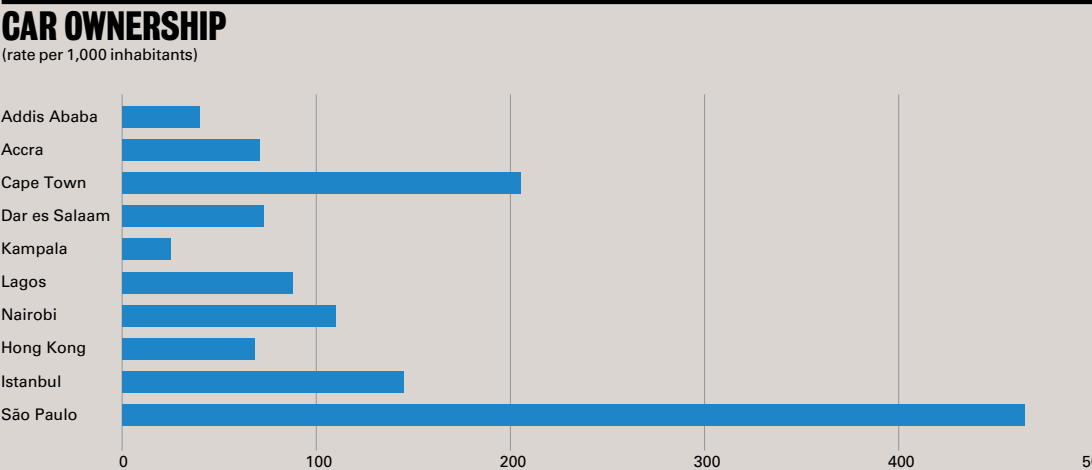
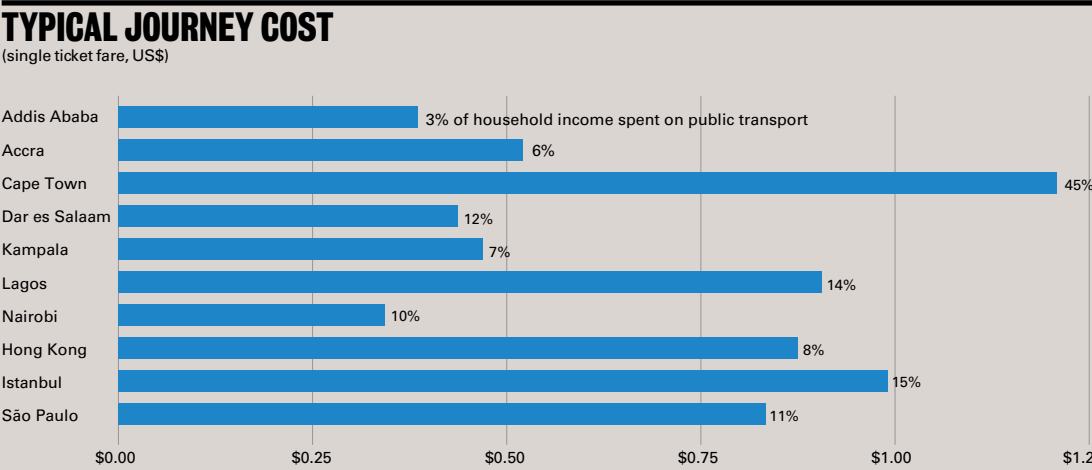
in light rail mass transit. Many African cities have remarkably sustainable modal shares, with high rates of walking and public transport use. High walking rates in Kampala (69 per cent) and Addis Ababa (54 per cent) are influenced by a lack of affordable alternatives, while Istanbul (48 per cent) benefits from density and mixed use, which limits the need to travel far in the hilly city. Typical journey costs range from a partly subsidised US\$0.37 in Addis Ababa to US\$1.16 in Cape Town, where a history of promoting suburbanisation and racial segregation

results in longer journeys. This is even higher than in Hong Kong, where a typical bus fare costs US\$0.84, or Istanbul at US\$0.99. However, these numbers mask relative affordability – most public transport users in Cape Town spend 45 per cent of their monthly household income on public transport. If the bottom ten per cent of earners in São Paulo used public transport every day, it would cost 107 per cent of household income, compared to the internationally accepted norm of between five and ten per cent. Substantial public transport use in Accra (73 per cent),

Lagos (58 per cent) and Dar es Salaam (57 per cent) is largely supported by a network of minibus taxis and motorcycles; however, investments are being made in public transport in all these cities – particularly Bus Rapid Transit (BRT) – in an attempt to reduce the shift to private modes as these cities become wealthier. Cape Town (36.9 per cent) and São Paulo’s (25.8 per cent) high car dependency highlights the risks of state-led industrialisation policies favouring motorisation over continuously investing in urban public transport, increasing air pollution, congestion and road fatalities.

Tanzania (32.9 deaths per 100,000 people) has one of the highest road-death rates globally, significantly higher than Hong Kong (14.6) and Turkey (8.9). Air pollution, with transportation a significant contributor, also kills over four million people annually. All the cities in this sample are above WHO guidelines for PM10 pollution, with Lagos and Kampala being at more than six times recommended levels. In Hong Kong, which has one of the lowest car ownership rates for a wealthy city (68 cars per 1,000 inhabitants and GPD per capita US\$46,194), policies

make parking anywhere in the city expensive to limit driving and reduce pollution. As African cities – with relatively low rates of car ownership – develop, methods of restraining car use through congestion charges, parking restrictions or taxes become increasingly important, especially in cities like Nairobi, Kampala and Accra where investment in public transport remains limited.



LIVING IN THE CITY

No other global region is younger than Africa. Of the world's 30 youngest countries, by average age, all but two are in Africa, and of the nine countries where half of the world's population growth is expected between 2015 and 2050, four are African.

The age profiles of these ten cities reveal significant structural demographic differences. Lagos, Dar es Salaam and Accra have very young populations, reflecting high birth rates among new urban families. Generally, a number of factors, including access to health services, nutrition,

education and economic opportunity, and exposure to risk, as well as gender equity bias, have seen fertility rates drop in cities in comparison to rural populations. Lagos, which has the highest percentage of people (43 per cent) under 20 years old, is the only city where fertility rates are higher than in the country.

In all contexts, cities have struggled to absorb youth cohorts into their economies. In Dar es Salaam, where 42 per cent of the population is under 20 years old, youth unemployment is nearly double the rate of overall unemploy-

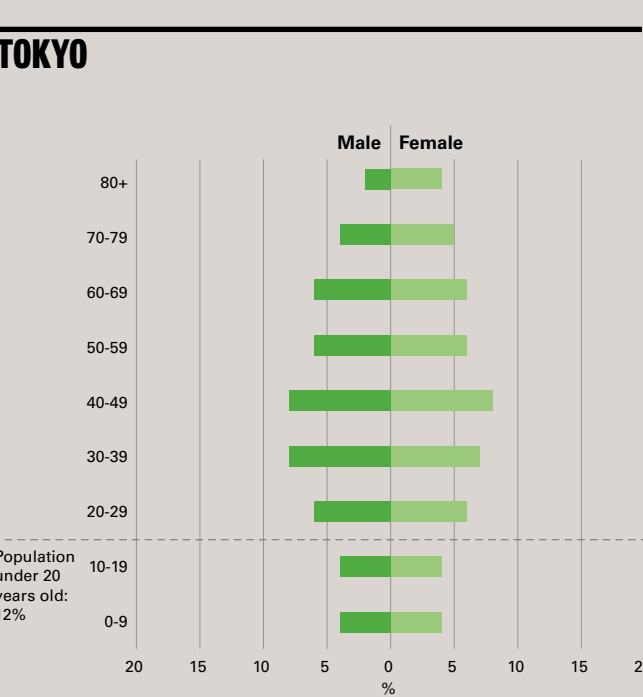
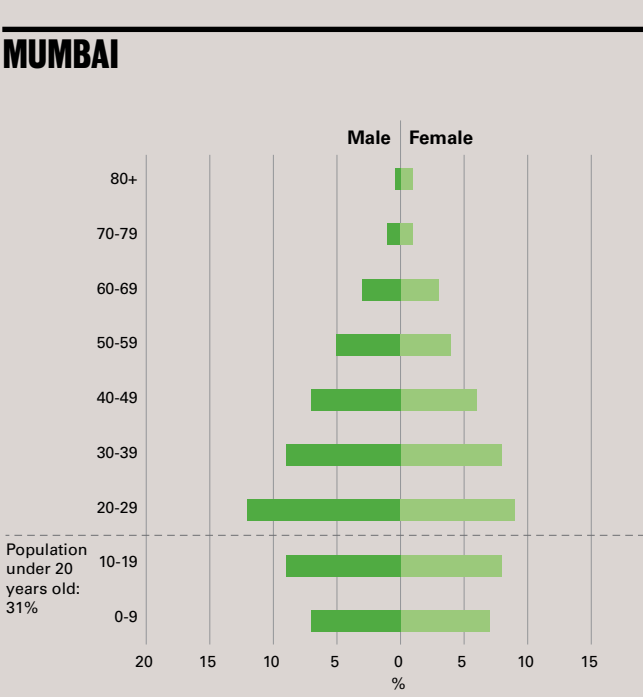
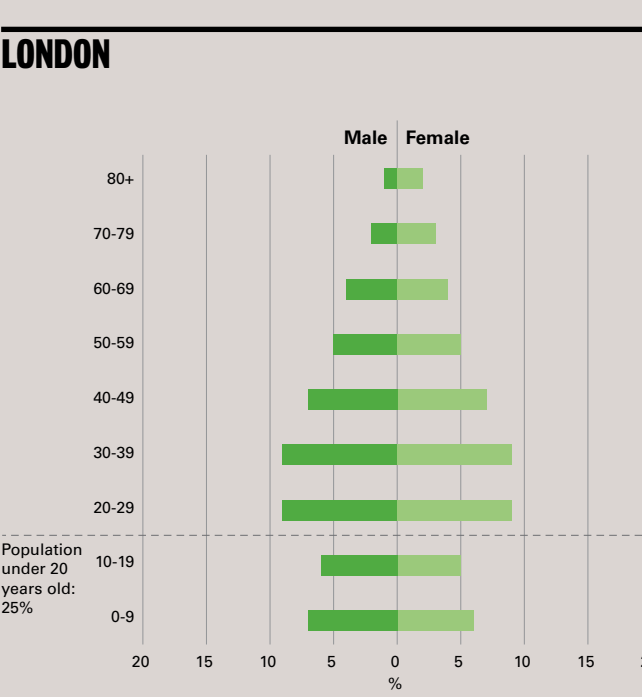
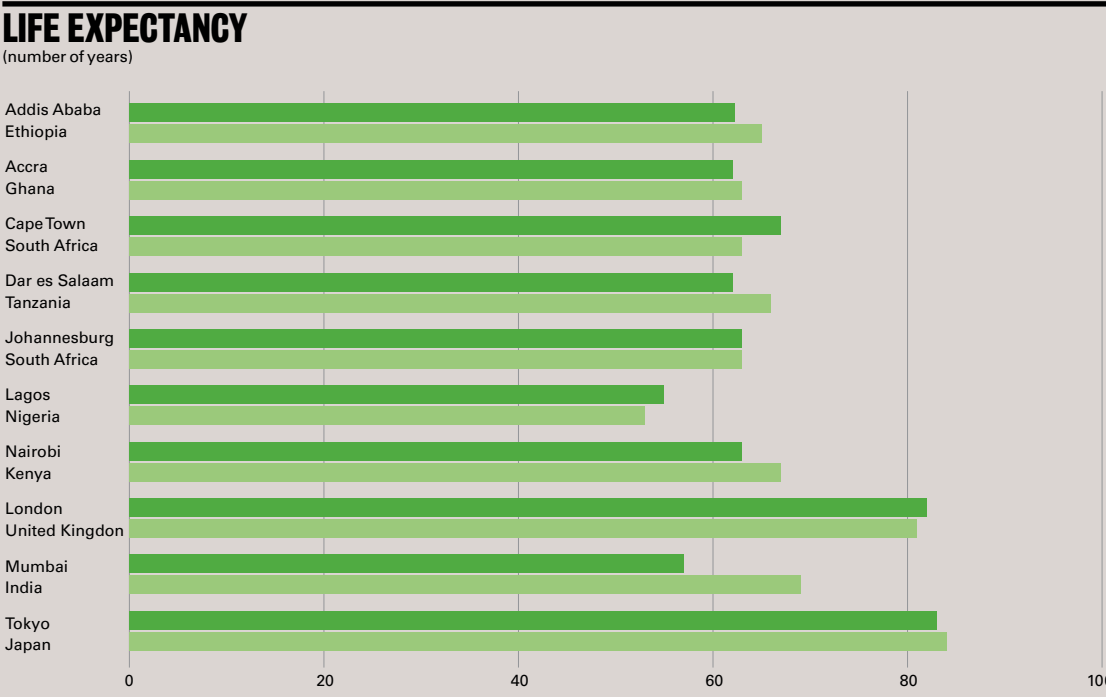
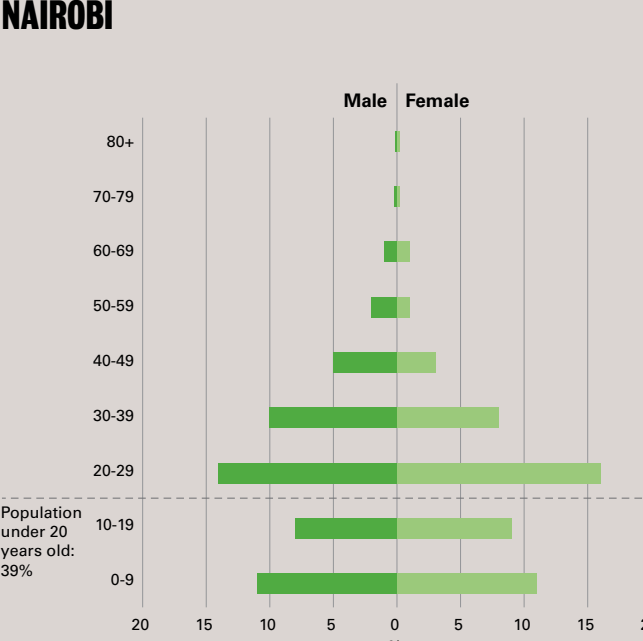
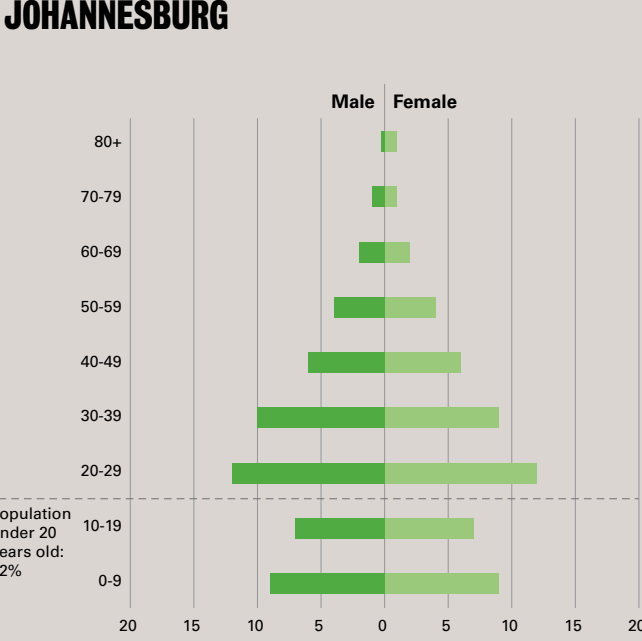
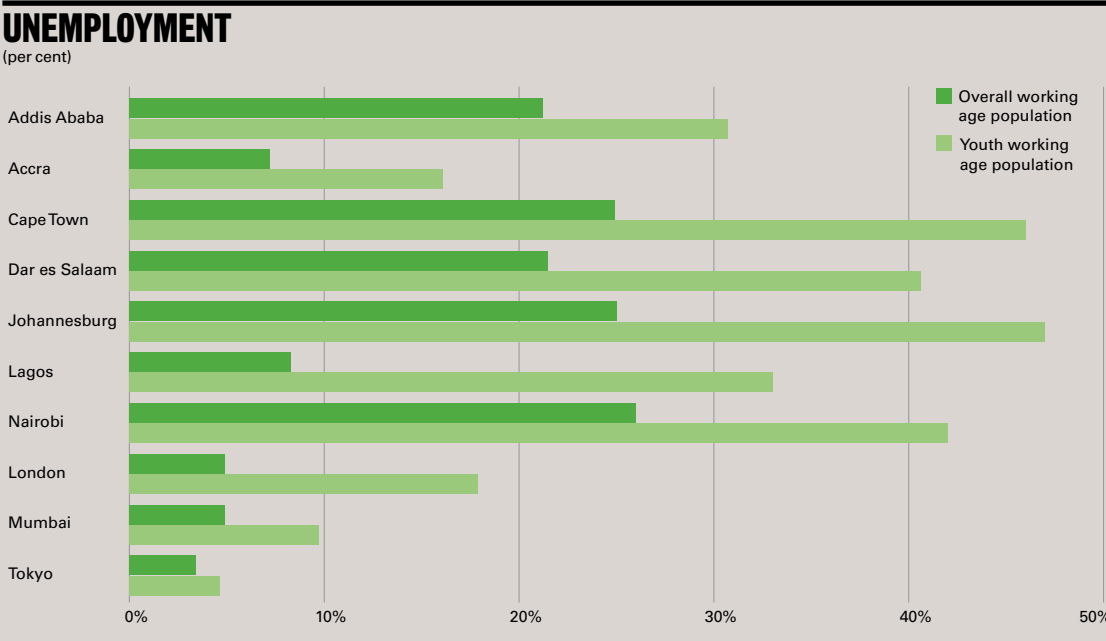
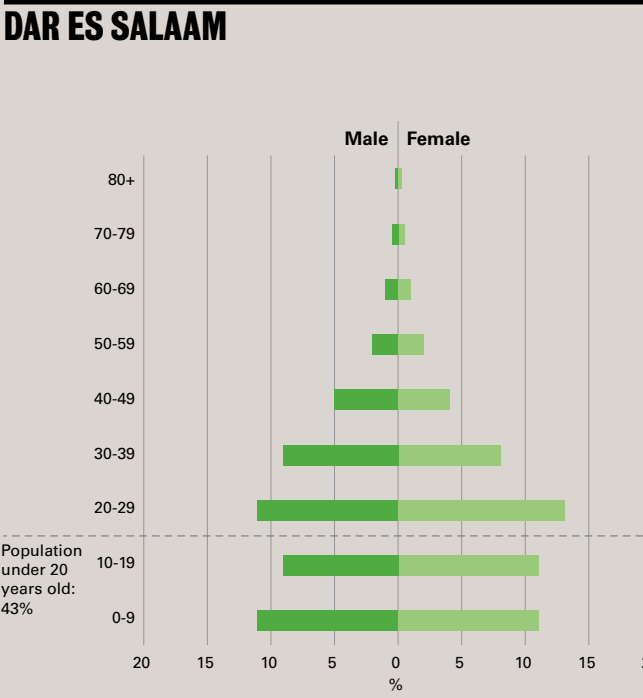
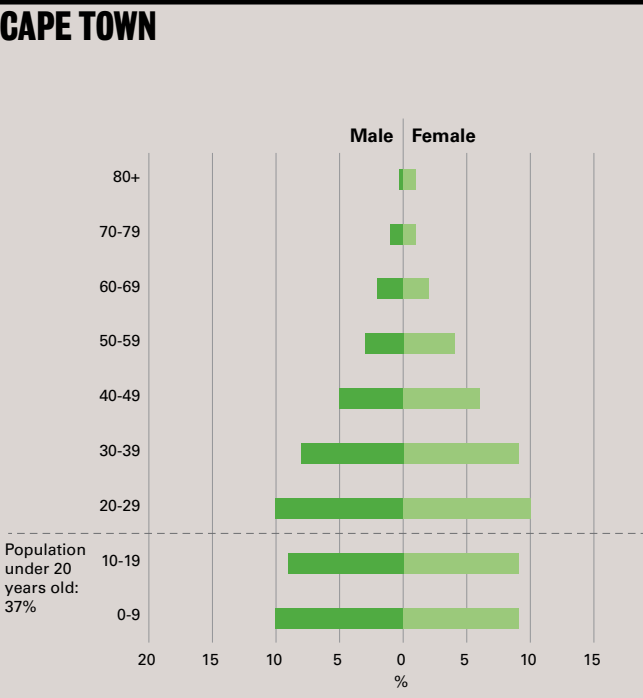
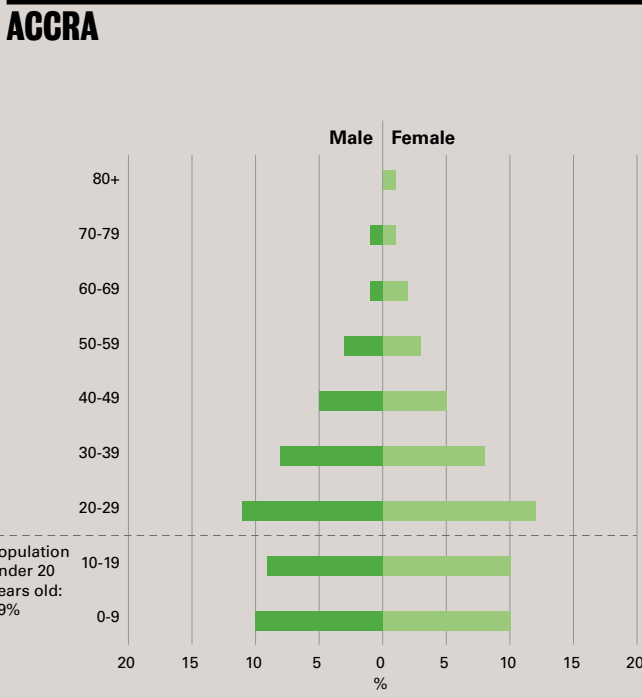
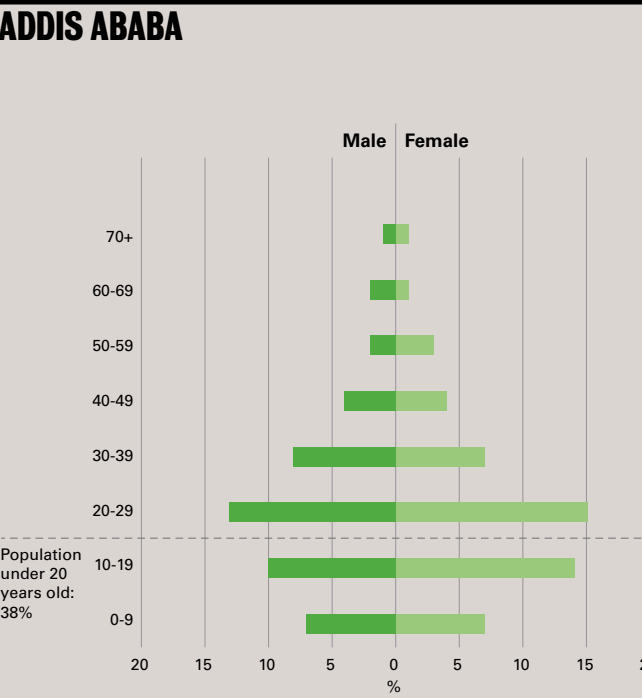
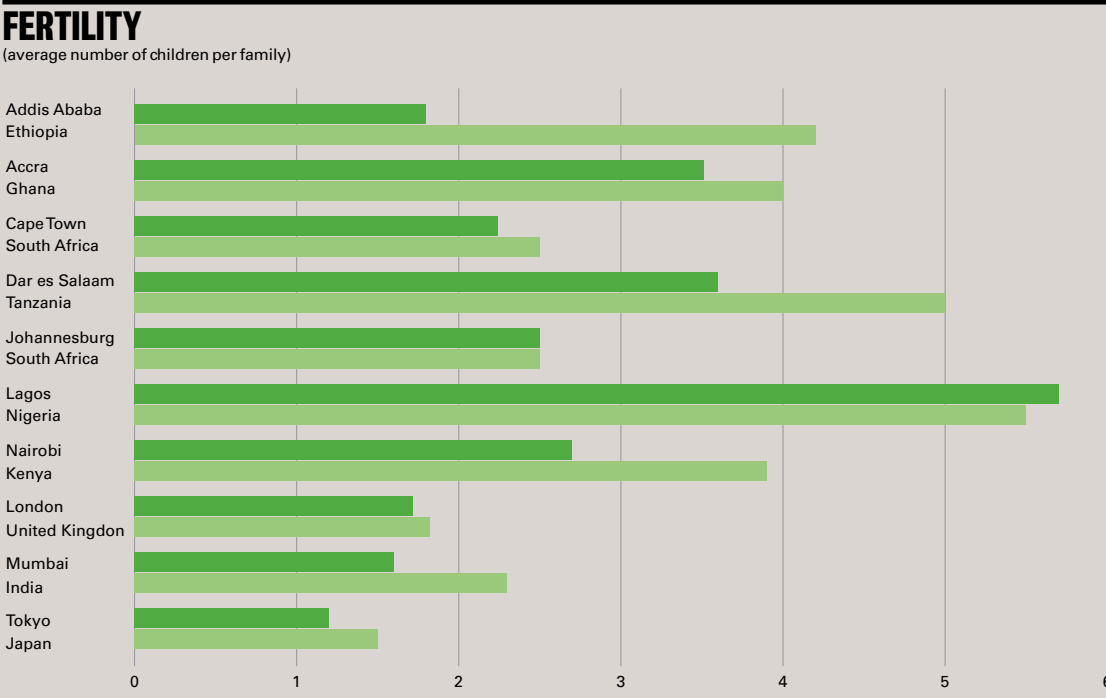
ment. In cities like Cape Town, Johannesburg and Nairobi, youth unemployment is over 40 per cent, and in London, it is three times higher than overall unemployment. High levels of youth unemployment not only negatively impacts on social inclusion, but further creates a high number of dependents compared to working age adults.

An increasing dependency ratio can also result from a rapidly ageing society, rather than a particularly young one. In Tokyo, average life expectancy has reached beyond 80 years – among the highest in the world – and the whole of

Japan is classed as a 'super-ageing' country. Such a change in demographics puts a strain on public services as health-care costs increase and there are fewer working-age adults contributing to the economy. While London's age profile is comparatively young for Europe, in a global context it is older.

Though typically urban areas outperform rural areas in measures of wellbeing such as life expectancy, limited access to healthcare, high levels of poverty and poor environmental quality means in some cities we see the inverse of this trend.

In Mumbai, for example, residents can expect to live 12 years less than the average Indian. Nairobi, which is also home to one of the world's largest urban slums, also underperforms in this area, with a life expectancy four years less than the national average. Cape Town has one of the highest life expectancies for a city in sub-Saharan Africa, at 67 years.



GOVERNANCE STRUCTURES

ADDIS ABABA

GOVERNANCE STRUCTURE

ECONOMY	ENVIRONMENT & PLANNING	INFRASTRUCTURE & TRANSPORT	EDUCATION & CULTURE	HEALTH & SOCIAL SERVICES	SECURITY	OTHER
FEDERAL GOVERNMENT OF ETHIOPIA 21 Ministries & 19 of 37 Agencies						
FINANCE & ECONOMIC COOPERATION	AGRICULTURE & NATURAL RESOURCE	COMMUNICATION & INFORMATION TECHNOLOGY	EDUCATION	HEALTH	DEFENCE	FOREIGN AFFAIRS
INDUSTRY	LIVESTOCK & FISHERIES	TRANSPORT	SCIENCE & TECHNOLOGY	PUBLIC SERVICE & HUMAN RESOURCE DEVELOPMENT	FEDERAL POLICE COMMISSION	FEDERAL & PASTORALISTS AFFAIRS
TRADE	MINES, PETROLEUM & NATURAL GAS	WATER, IRRIGATION & ELECTRICITY	SPACE SCIENCE & TECHNOLOGY INSTITUTE	LABOUR & SOCIAL AFFAIRS		ETHIOPIAN EVISA PORTAL
CULTURE & TOURISM	ENVIRONMENT PROTECTION AUTHORITY	URBAN DEVELOPMENT & HOUSING		WOMEN & CHILDREN AFFAIRS		
REVENUES & CUSTOMS AUTHORITY	CENTRAL STATISTICAL AGENCY	CONSTRUCTION		HIV/AIDS PREVENTION & CONTROL OFFICE		
INVESTMENT COMMISSION	MAPPING AGENCY	ROADS AUTHORITY		PUBLIC HEALTH INSTITUTE		
NATIONAL BANK OF ETHIOPIA	GREAT ETHIOPIA RENAISSANCE DAM PROJECT	TRANSPORT AUTHORITY				
COMMERCIAL BANK OF ETHIOPIA		SHIPPING & LOGISTICS SERVICES ENTERPRISE				
DEVELOPMENT BANK OF ETHIOPIA		ETHIO TELECOM				
		ETHIOPIAN AIRLINES				
ADDIS ABABA CITY ADMINISTRATION 25 Bureaus, Offices & Agencies with Subordinate Offices						
TRADE	LAND DEVELOPMENT & MANAGEMENT	HOUSING DEVELOPMENT	CULTURE & TOURISM	CHILDREN & WOMEN AFFAIRS	JUSTICE	COMMUNICATIONS AFFAIRS
INDUSTRY DEVELOPMENT	PLANNING COMMISSION	CONSTRUCTION	SPORTS & YOUTH AFFAIRS	HEALTH	POLICE COMMISSION	CITY MANAGER'S OFFICE
BUREAU SMALL & MICRO-ENTERPRISES DEVELOPMENT	ENVIRONMENTAL PROTECTION AGENCY	ROAD & TRANSPORT	EDUCATION	LABOUR & SOCIAL AFFAIRS		MAYOR'S OFFICE
FINANCE & ECONOMIC DEVELOPMENT			TECHNICAL & VOCATIONAL EDUCATION & TRAINING	PUBLIC SERVICE & HUMAN RESOURCE DEVELOPMENT		MASS MEDIA AGENCY
REVENUE AUTHORITY						
10 SUB-CITY COUNCILS 28 Woredas with 328 Kebeles						
LOCAL ECONOMIC PLANNING	LOCAL DEVELOPMENT PLANS		PRIMARY & SECONDARY SCHOOLS	HEALTH CENTRES & STATIONS	LOCAL LAW ENFORCEMENT	
LOCAL TAXATION	UTILITIES & WASTE			POPULATION REGISTRAR		
	PUBLIC HOUSING ADMINISTRATION					

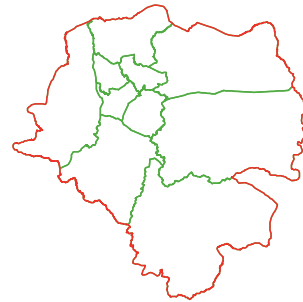
KAMPALA

GOVERNANCE STRUCTURE

ECONOMY	ENVIRONMENT & PLANNING	INFRASTRUCTURE & TRANSPORT	EDUCATION & CULTURE	HEALTH & SOCIAL SERVICES	SECURITY	OTHER
		GOVERNMENT OF UGANDA 18 Ministries				
FINANCE, PLANNING & ECONOMIC DEVELOPMENT	WATER & ENVIRONMENT	WORKS & TRANSPORT	TOURISM, WILDLIFE & ANTIQUITIES	HEALTH	JUSTICE & CONSTITUTIONAL AFFAIRS	PUBLIC SERVICE
AGRICULTURE, ANIMAL INDUSTRY & FISHERIES	LANDS, HOUSING & URBAN DEVELOPMENT	INFORMATION & COMMUNICATIONS TECHNOLOGY	EDUCATION & SPORTS	GENDER LABOUR & SOCIAL DEVELOPMENT	DEFENCE	LOCAL GOVERNMENT
TRADE, INDUSTRY & COOPERATIVES	ENERGY & MINERAL DEVELOPMENT					INTERNAL AFFAIRS
						EAST AFRICAN COMMUNITY AFFAIRS
KAMPALA CAPITAL CITY AUTHORITY 10 Directorates						
TREASURY SERVICES	PHYSICAL PLANNING		EDUCATION & SOCIAL SERVICES	PUBLIC HEALTH SERVICES & ENVIRONMENT	LEGAL AFFAIRS	ADMINISTRATION & HUMAN RESOURCE MANAGEMENT
REVENUE COLLECTION	ENGINEERING & TECHNICAL SERVICES			GENDER & COMMUNITY SERVICES & PRODUCTION	METROPOLITAN POLICE	INTERNAL AUDIT
5 DIVISIONAL URBAN COUNCILS						
	NEIGHBOURHOOD PLANNING		AIDS EDUCATION PUBLIC SPACES & LIBRARIES	HEALTH & EDUCATION	LOCAL LAW ENFORCEMENT	
	SANITATION & WASTE		RECREATIONAL FACILITIES	FOOD & DRUG INSPECTION		
				WELFARE & COMMUNITY SERVICES		

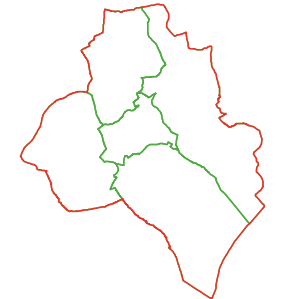
Ethiopia is divided into nine ethnolinguistically based federal states and two, ethnically diverse, chartered cities, the capital Addis Ababa and smaller Dire Dawa. Prior to 1995, Addis Ababa enjoyed statehood status, but it still maintains significant planning and tax raising powers. Among other initiatives, including improving pavements and street surfaces, the city has been responsible for delivering one of Africa's most ambitious public housing programmes. Members of the city council are directly elected, with the mayor elected by the council. Sub-city government is comprised of ten sub-cities, which oversee 28 lower-level woredas, made up of a further 328 neighbourhood units (kebeles), which administer some local planning and social services.

ADMINISTRATIVE BOUNDARY



Uganda has seen the number of districts expand in an effort to devolve power. The Kampala Capital City Authority (KCCA), with a centrally appointed executive director, was established in 2011, replacing the elected Kampala City Council and centralising the supervision of Uganda's biggest city. Kampala elects a mayor at the city level, as well as five sub-city mayors who report to the citywide mayor; however, ambiguity around the mayor's authority has reduced the effectiveness of these positions. The KCCA has significant powers over physical planning, health, education and revenue collection reform, as well as some authority over the centrally administered police. The KCCA's administrative boundary covers only a fraction of the urban area, with the city's population swelling threefold during the day as commuters access centrally located jobs. This misalignment makes it more difficult to manage the urban population, and means that populations entering the city are not represented by the city government, so they cannot vote locally and don't contribute residents' taxes, which finance urban facilities and infrastructure.

ADMINISTRATIVE BOUNDARY



LAGOS

GOVERNANCE STRUCTURE

ECONOMY	ENVIRONMENT & PLANNING	INFRASTRUCTURE & TRANSPORT	EDUCATION & CULTURE	HEALTH & SOCIAL SERVICES	SECURITY	OTHER
NIGERIAN FEDERAL GOVERNMENT						
FINANCE	AGRICULTURE & RURAL DEVELOPMENT	NIGER DELTA AFFAIRS	EDUCATION	HEALTH	DEFENCE	FOREIGN AFFAIRS
MINES & STEEL DEVELOPMENT	ENVIRONMENT	POWER, WORKS & HOUSING	SCIENCE & TECHNOLOGY	WOMEN AFFAIRS	INTERIOR	
PETROLEUM RESOURCES	WATER RESOURCES	TRANSPORTATION	INFORMATION & CULTURE	YOUTH & SPORTS DEVELOPMENT	JUSTICE	
INDUSTRY, TRADE & INVESTMENT		COMMUNICATION		LABOUR & EMPLOYMENT		
BUDGET & NATIONAL PLANNING						
LAGOS STATE GOVERNMENT 20 of 24 Ministries & 2 of 79 Parastatals						
COMMERCE, INDUSTRY & COOPERATIVES	PHYSICAL PLANNING & URBAN DEVELOPMENT	HOUSING	EDUCATION	HEALTH	JUSTICE	HOME AFFAIRS
ECONOMIC PLANNING & BUDGET	ENVIRONMENT	TRANSPORTATION	SCIENCE & TECHNOLOGY	YOUTH & SOCIAL DEVELOPMENT	LAGOS STATE POLICE COMMAND	LOCAL GOVERNMENT & COMMUNITY AFFAIRS
ENERGY & MINERAL RESOURCES	NEW TOWNS DEVELOPMENT AUTHORITY	WATERFRONT INFRASTRUCTURE DEVELOPMENT	TOURISM, ARTS & CULTURE	WOMEN AFFAIRS & POVERTY ALLEVIATION		
FINANCE	AGRICULTURE	WORKS & INFRASTRUCTURE				
		LAGOS METROPOLITAN AREA TRANSPORT AUTHORITY				
20 LOCAL GOVERNMENT AREAS & 37 LOCAL COUNCIL DEVELOPMENT AREAS						
LOCAL ECONOMIC DEVELOPMENT	PARKS & PUBLIC SPACES	VEHICLES, LICENSING & LOCAL TRANSPORT	VOCATIONAL EDUCATION	HEALTH SERVICES	BIRTH, DEATH & MARRIAGE REGISTRATION	
RATES & REGULATIONS	SANITATION	ROADS & STREET LIGHTING				

NAIROBI

GOVERNANCE STRUCTURE

ECONOMY	ENVIRONMENT & PLANNING	INFRASTRUCTURE & TRANSPORT	EDUCATION & CULTURE	HEALTH & SOCIAL SERVICES	SECURITY	OTHER
GOVERNMENT OF KENYA						
21 Ministries						
NATIONAL TREASURY	LANDS	TRANSPORT & INFRASTRUCTURE DEVELOPMENT	EDUCATION, SCIENCE & TECHNOLOGY	HEALTH	DEFENCE	DEVOLUTION & ARID & SEMI-ARID LANDS
FOREIGN AFFAIRS & INTERNATIONAL TRADE	ENVIRONMENT & FORESTRY		SPORTS & HERITAGE	LABOUR & SOCIAL PROTECTION		INTERIOR & COORDINATION OF NATIONAL GOVERNMENT
INDUSTRIALISATION & ENTERPRISE DEVELOPMENT	MINING & PETROLEUM AGRICULTURE & IRRIGATION	EAST AFRICAN COMMUNITY & NORTHERN CORRIDOR DEVELOPMENT		PUBLIC SERVICE, YOUTH & GENDER AFFAIRS		
	TOURISM & WILDLIFE	WATER & SANITATION				
		ENERGY				
		INFORMATION, COMMUNICATION & TECHNOLOGY				
NAIROBI CITY COUNTY						
11 Sectors						
PUBLIC WORKS	ENVIRONMENTAL MANAGEMENT	HOUSING & SOCIAL SERVICES	PRIMARY EDUCATION	PUBLIC HEALTH		INSPECTORATE SERVICES
TRADE & INDUSTRIALISATION		INFRASTRUCTURE	TOURISM & WILDLIFE			PUBLIC SERVICE MANAGEMENT CORPORATE DEVELOPMENT
9 SUB-COUNTIES						
17 Constituencies & 85 Wards						
LOCAL DEVELOPMENT						GENERAL ADMINISTRATIVE FUNCTIONS
						LOCAL IMPLEMENTATION OF COUNTY POLICIES

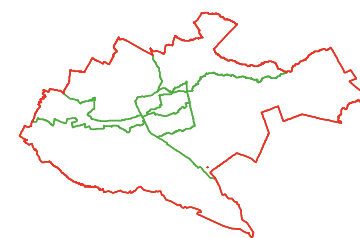
Lagos, the most populous of 36 states within the Federal Republic of Nigeria, does not have a conventional city-level government, but is administered by a powerful state governor. Lagos has 20 Local Government Areas (LGAs). Under the Nigerian Constitution, the names and numbers of the LGAs are fixed and have been rendered largely administrative, with minimal influence as local government entities. Instead, many local services are delivered by the state government, which also has substantial powers over planning, taxation and delivering social services in the city. Various state governments have created 37 Local Council Development Areas (LGAs) for administrative convenience, to pursue developmental objectives.

ADMINISTRATIVE BOUNDARY



The Nairobi City County is one of 47 counties, each with a semi-autonomous government, as part of a devolution project that began with Kenya returning to multiparty rule in 1992. In 2013, the local city government was merged with the county, expanding Nairobi's geographic boundary and political authority, while replacing the city mayor with a directly elected county governor. Nairobi is responsible for a range of portfolios often coordinated at national level like health, education and major transport infrastructure, but also for local government tasks like refuse removal and licensing. Sub-county government is made up of nine sub-counties, divided into 17 constituencies and a further 85 wards with locally elected leaders who form part of the County Assembly. These sub-city divisions participate in coordination, management and supervision of general administrative functions at various local levels, participating in the development of policies and plans and coordinating development activities to empower communities.

ADMINISTRATIVE BOUNDARY



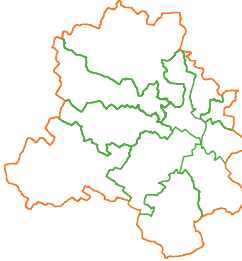
DELHI

GOVERNANCE STRUCTURE

ECONOMY	ENVIRONMENT & PLANNING	INFRASTRUCTURE & TRANSPORT	EDUCATION & CULTURE	HEALTH & SOCIAL SERVICES	SECURITY	OTHER
INDIAN CENTRAL GOVERNMENT 26 of 51 Departments						
COMMERCE & INDUSTRY	ENVIRONMENT & FORESTS	ROAD TRANSPORT & HIGHWAYS	EDUCATION	HEALTH & FAMILY WELFARE	HOME AFFAIRS	FINANCE
CORPORATE AFFAIRS	AGRICULTURE	RAILWAYS	CULTURE	CHILD DEVELOPMENT & WOMEN	DEFENCE	EXTERNAL AFFAIRS
LABOUR & EMPLOYMENT	WATER RESOURCES	SCIENCE & TECHNOLOGY	YOUTH AFFAIRS & SPORT	SOCIAL JUSTICE & EMPOWERMENT		
PETROLEUM & NATIONAL GAS	EARTH SCIENCES	DRINKING WATER & SANITATION	HUMAN RESOURCE DEVELOPMENT	MINORITY AFFAIRS		
	URBAN DEVELOPMENT	POWER				
DELHI STATE (NCT) GOVERNMENT 27 of 39 Departments & 2 Centrally Supervised Bodies						
ECONOMICS & STATISTICS	DELHI DEVELOPMENT AUTHORITY	TRANSPORT SERVICES	HIGHER EDUCATION	HEALTH & FAMILY WELFARE	DELHI POLICE	FINANCE & PLANNING
INDUSTRIES	ENVIRONMENT	LAND & BUILDING	ART, CULTURE & LANGUAGES	FOOD, CIVIL SUPPLIES & CONSUMERS	HOME	REVENUE
TOURISM	FOREST & WILDLIFE	PUBLIC WORKS	TRAINING & TECHNICAL EDUCATION	WELFARE OF MINORITIES	IRRIGATION & FLOOD CONTROL	ADMINISTRATIVE REFORMS
TRADE & TAXES	URBAN DEVELOPMENT			CHILD DEVELOPMENT & WOMEN		ELECTION
				SOCIAL WELFARE		LAW, JUSTICE & LEGISLATIVE AFFAIRS
4 MUNICIPAL CORPORATIONS						
	ENVIRONMENT	TRANSPORT UTILITIES	EDUCATION	HEALTH	EMERGENCY	

The National Capital Territory (NCT) of Delhi is one of India's 29 states, with an estimated population of 18.6 million. Its powers are closely dependent on the Indian national government. At the state level, powerful bodies like the Delhi Development Authority and the Delhi Police are centrally supervised. Executive power is exerted through the chief minister of Delhi, who is elected by 70 members of the Delhi Legislative Assembly. The central government appoints the lieutenant governor. At the local level, there are 11 districts administered through four municipal corporations and, partly, by the Delhi Cantonment Board. The executives within these institutions are appointed by national ministries. In 2012, a change in legislation saw the Delhi Municipal Corporation split into three separate corporations: the East, South and North Delhi Corporations, each with their own commissioner and mayor.

ADMINISTRATIVE BOUNDARY



HONG KONG

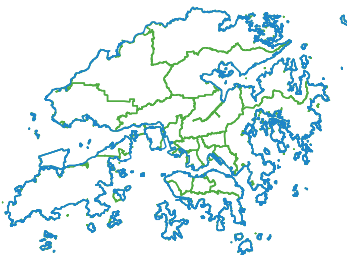
GOVERNANCE STRUCTURE

ECONOMY	ENVIRONMENT & PLANNING	INFRASTRUCTURE & TRANSPORT	EDUCATION & CULTURE	HEALTH & SOCIAL SERVICES	SECURITY	OTHER
HONG KONG SPECIAL ADMINISTRATIVE REGION 60 of 76 Administrative Bodies						
MONETARY AUTHORITY	CIVIL SERVICE	TRANSPORT & HOUSING	EDUCATION	FOOD & HEALTH	DEFENCE	FOREIGN POLICY
ECONOMIC ANALYSIS & BUSINESS FACILITATION	ENVIRONMENT	CIVIL AVIATION	UNIVERSITY GRANTS COMMITTEE	FOOD & ENVIRONMENTAL HYGIENE	SECURITY	PUBLIC SERVICE
LABOUR & WELFARE	CIVIL SERVICE & JUDICIAL SALARIES & CONDITIONS OF SERVICE	HIGHWAYS	WORKING FAMILY & STUDENT FINANCIAL ASSISTANCE	SOCIAL WELFARE	AUXILIARY MEDICAL SERVICE	AUDIT COMMISSION
COMMERCE & ECONOMIC DEVELOPMENT	ENVIRONMENTAL PROTECTION	MARINE	LEISURE & CULTURE		CIVIL AID	JUSTICE
FINANCIAL SERVICES & TREASURY	AGRICULTURE, FISHERIES, & CONSERVATION	TRANSPORT	INNOVATION & TECHNOLOGY		CORRECTIONAL SERVICES	POLICY & PROJECT COORDINATION
TRADE & INDUSTRY	LANDS	ARCHITECTURAL SERVICES	COMMUNICATIONS AUTHORITY		CUSTOMS & EXCISE	ADMINISTRATION
INLAND REVENUE	PLANNING	BUILDINGS			FIRE SERVICES	CENTRAL POLICY
RATING & VALUATION	WATER SUPPLIES	CIVIL ENGINEERING & DEVELOPMENT			GOVERNMENT FLYING SERVICE	CONSTITUTIONAL & MAINLAND AFFAIRS
TREASURY		DRAINAGE SERVICES			HONG KONG POLICE FORCE	HOME AFFAIRS
		ELECTRICAL & MECHANICAL SERVICES			IMMIGRATION	REGISTRATION & ELECTORAL OFFICE
18 DISTRICT COUNCILS						
ADVISORY TO HONG KONG ADMINISTRATIVE DEPARTMENTS						

Note: Hong Kong Defence and Foreign Policy coordinated by PRC

The arrangement of ‘one country, two systems’ after the transfer of sovereignty over Hong Kong from the United Kingdom to China in 1997 means there is no explicit central government level in the Special Administrative Region, although obtaining a Hong Kong passport requires Chinese citizenship. The extension of Chinese high-speed rail and increasing integration in the Pearl River Delta will, however, see a centrally administered immigration checkpoint inside Hong Kong’s West Kowloon district. While the Region is financially independent, China is responsible for defence and foreign policy. Hong Kong’s multiparty system is elected by a mix of public (70 seats) and smaller closed elections within business sectors (35 seats), headed by a non-partisan chief executive of Hong Kong who is expected to form a coalition government with several parties. Tight coordination between various environment, planning and development departments has supported one of the world’s most efficient urban systems, with unusually low travel times, while safeguarding 21 parks that cover 40 per cent of Hong Kong’s total area.

ADMINISTRATIVE BOUNDARY



LONDON

GOVERNANCE STRUCTURE

ECONOMY	ENVIRONMENT & PLANNING	INFRASTRUCTURE & TRANSPORT	EDUCATION & CULTURE	HEALTH & SOCIAL SERVICES	SECURITY	OTHER
UK CENTRAL GOVERNMENT 16 of 25 Departments						
BUSINESS, ENERGY & INDUSTRIAL STRATEGY	ENVIRONMENT, FOOD & RURAL AFFAIRS	TRANSPORT	EDUCATION	HEALTH & SOCIAL CARE	DEFENCE	HM TREASURY
WORK & PENSIONS			DIGITAL, CULTURE MEDIA & SPORT		HOME OFFICE	EXITING THE EUROPEAN UNION
UK EXPORT FINANCE					JUSTICE	HOUSING, COMMUNITIES & LOCAL GOVERNMENT
INTERNATIONAL TRADE						FOREIGN & COMMONWEALTH OFFICE
GREATER LONDON AUTHORITY						
BUSINESS & ECONOMY	ENVIRONMENT PLANNING	TRANSPORT FOR LONDON	CULTURE	HEALTH & SPORT REGENERATION HOUSING	MAYOR'S OFFICE FOR POLICING & CRIME LONDON FIRE BRIGADE	
33 LONDON BOROUGHGS						
BUSINESS & ECONOMY	ENVIRONMENT PLANNING	LOCAL TRANSPORT	EDUCATION	HOUSING SOCIAL SERVICES		LOCAL SERVICES

London’s government operates within a relatively centralised, unitary state. Since 2000, 8.6 million residents of London have been governed by a directly elected mayor and the Greater London Authority. The mayor sets the strategic framework for all of London’s 33 boroughs and has executive powers over a number of citywide areas, including transport, policing, fire and emergency services, inward investment and, to a degree, regeneration and housing. Other areas like education and health are controlled by central or local government. Central government also has a number of regulatory powers over the mayor and the city’s boroughs. Unlike in other nations, there is no state or regional level of governance in the UK. The mayor has the largest electorate in the UK, with 5.8 million voters (including EU and Commonwealth citizens living in London) entitled to take part in elections every four years. The 25 directly elected members of the London Assembly have the responsibility of scrutinising the Mayor’s Office. Local boroughs are responsible for most other services including schools, social services planning, environment and waste collection. Twenty-eight of the 33 borough leaders are indirectly elected through the borough councils, with four borough-level mayors directly elected.

ADMINISTRATIVE BOUNDARY



ISTANBUL

GOVERNANCE STRUCTURE

ECONOMY	ENVIRONMENT & PLANNING	INFRASTRUCTURE & TRANSPORT	EDUCATION & CULTURE	HEALTH & SOCIAL SERVICES	SECURITY	OTHER
TURKISH CENTRAL GOVERNMENT 21 Ministries						
CUSTOMS & TRADE	ENERGY & NATURAL RESOURCES	TRANSPORT, MARITIME AFFAIRS & COMMUNICATIONS	CULTURE & TOURISM	FAMILY & SOCIAL POLICY	FOREIGN AFFAIRS	PRIME MINISTRY
DEVELOPMENT	ENVIRONMENT & URBAN PLANNING		SCIENCE, INDUSTRY & TECHNOLOGY	FOOD, AGRICULTURE & LIVESTOCK	NATIONAL DEFENCE	EUROPEAN UNION AFFAIRS
ECONOMY			NATIONAL EDUCATION	HEALTH		INTERIOR
FINANCE	FOREST & WATER MANAGEMENT		YOUTH & SPORTS			JUSTICE
LABOUR & SOCIAL SECURITY						
ISTANBUL PROVINCE 19 of 22 Departments						
TAX OFFICE	ENVIRONMENT & URBANISATION		NATIONAL EDUCATION	DISASTER & EMERGENCY	ISTANBUL PROVINCE SECURITY	POPULATION & CITIZENSHIP
MONITORING & COORDINATION OF PROVINCE FINANCE			CULTURE & TOURISM	FAMILY & SOCIAL POLICIES		PRESS & INFORMATION
INVESTMENT MONITORING			YOUTH SERVICES & SPORTS	SOCIAL SECURITY		CIVIL SOCIETY ORGANISATIONS
CUSTOMS & TRADE			SCIENCE, INDUSTRY & TECHNOLOGY	HEALTH		MIGRATION ADMINISTRATION
			HUMAN RESOURCES & EDUCATION			
ISTANBUL METROPOLITAN MUNICIPALITY 14 of 22 Director Generals & 2 Departments						
	PARKS, GARDENS & GREEN AREAS	TRANSPORTATION	CULTURE	HEALTH SOCIAL SERVICES	MUNICIPAL POLICE DEPARTMENT	INFORMATION PROCESSING
	ENVIRONMENTAL PROTECTION & CONTROL	ROAD MAINTENANCE & INFRASTRUCTURE	CULTURAL PROPERTIES DIRECTORATE GENERAL			FIRE DEPARTMENT
		BUILDING & URBANISATION	SUPPORT SERVICES (INCLUDING YOUTH & SPORTS SERVICES DEPARTMENT)			
39 İLÇE						
	LOCAL URBAN DEVELOPMENT			CULTURAL & SOCIAL AFFAIRS		
	LAND REGISTRY			HEALTH & SUPPORT SERVICES		

Istanbul’s government functions within a unitary national framework with federal ministries providing healthcare, primary education, policing, some housing and transport, among other services, in the city. Some central governmental bodies such as the Mass Housing Administration have direct links to the prime minister, while the Transport Ministry’s involvement in Istanbul is coordinated by the centrally appointed governor of Istanbul. The Istanbul Metropolitan Municipality (IMM), with an elected mayor, enjoys extensive powers and a significant budget for citywide planning, transport, housing and environmental services, among others. Though there are provincial authorities for each of Turkey’s cities, which have significant areas of responsibility, including master-planning, in Istanbul this responsibility has been transferred to the IMM. In 2004, the IMM’s administrative boundaries were extended to coincide with the larger provincial boundary, resulting in a threefold increase in municipal administrative area. At the local level a single level of subdivisions, districts (ilçe) provide local development and social services.

ADMINISTRATIVE BOUNDARY

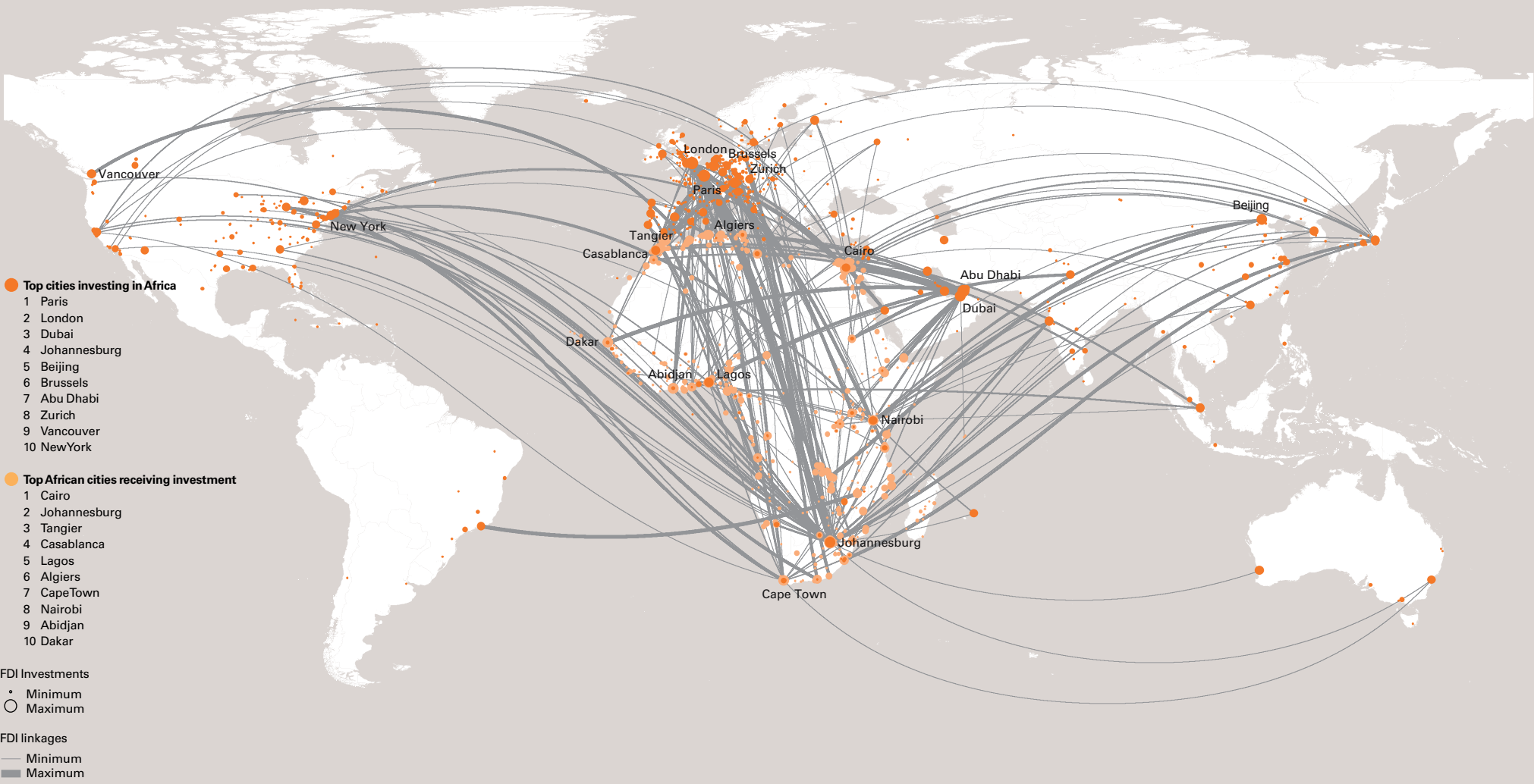


AFRICAN URBAN DYNAMICS

The asymmetric distribution of economic power in the world is changing, highlighted by the flows of foreign direct investment (FDI) in and out of Africa as well as between African cities. Johannesburg and Cairo outpace other African cities in terms of strategic links into global FDI flows, with Johannesburg highly connected to the world economic system and Cairo strongly connected with cities in the Middle East. The prime investment source region for Africa is Western Europe, followed by North America and Asia, with only one of the top ten source cities from within Africa.

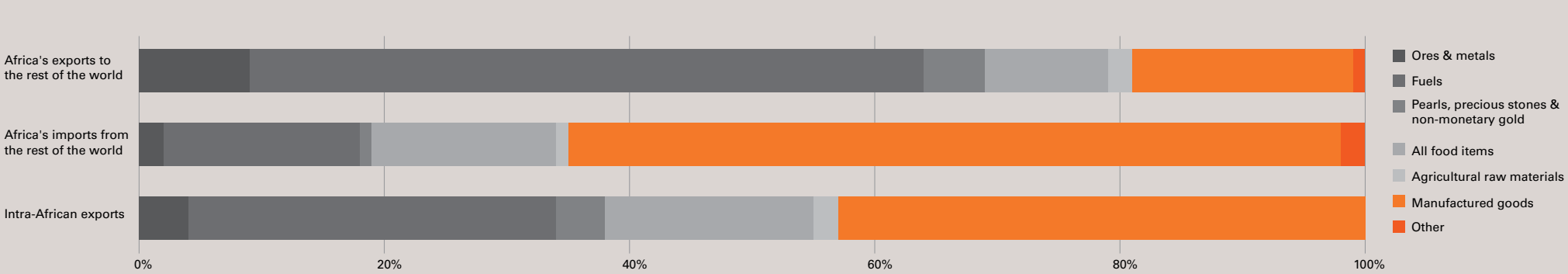
FOREIGN DIRECT INVESTMENT

(FDI into African cities, 2003-2016)

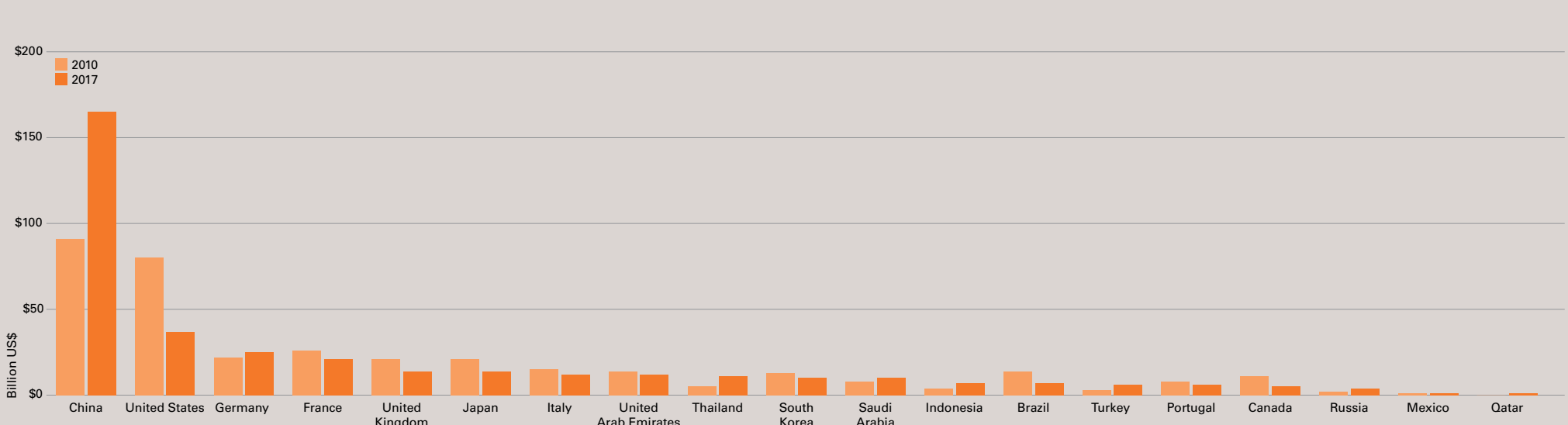


AFRICA'S TRADE BY MAIN SECTOR

(per cent average 2010-2015)



SHIFTS IN TRADE WITH KEY FOREIGN PARTNERS



goods for export suggests urbanisation is weaning Africa off extraction-based wealth, though industry only employs about 9 per cent of the female and 16 per cent of the male workforce, with approximately half of Africa's workforce employed in agriculture. African countries have experienced significant poverty reduction, with the fastest reductions in urban areas. Poverty reduction isn't necessarily being driven by formal jobs, as illustrated by the ratio of urban to rural wages in formal and informal sectors. Though formal sector wages are generally

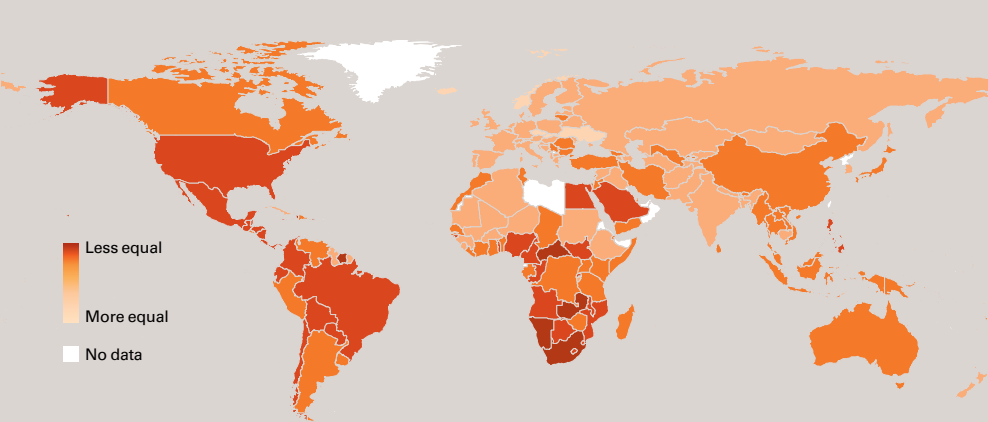
higher on average in urban areas than in rural areas, the informal sector differential is often far greater, providing significant incentive for workers with informal jobs to relocate to cities. In half of the countries shown, urban-informal wages are more than twice that of rural-informal wages, with urban wages exceeding rural wages in both formal and informal sectors for all but one country. Though recent growth in African cities has led to increases in per capita incomes, reduced poverty and improved living standards, many African countries experi-

ence high levels of income inequality. While inequality (measured by the GINI coefficient) in Africa has declined steadily since the early 1990s, many African countries are still among the most unequal countries in the world. However, on global scale, patterns in the GINI coefficient show that economic growth isn't necessarily a path to equality, with many of Africa's wealthier nations mirroring the United States and Brazil with high rates of inequality. Firms generally identify fewer constraints in larger cities where infrastructure and amenities tend to exist in higher

concentrations, with only corruption featuring as a more significant barrier in larger cities. The percentage of informal settlements between country and city does not highlight a clear pattern, suggesting urbanisation does not necessarily drive informal settlement patterns.

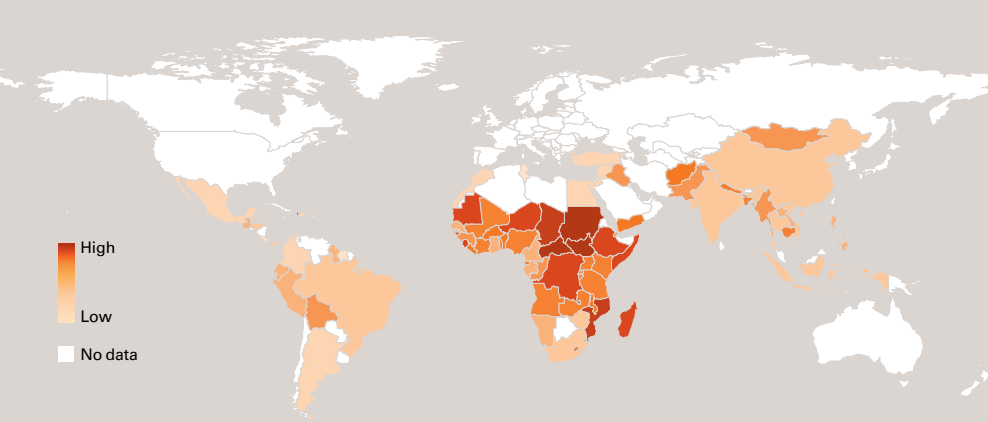
INCOME INEQUALITY

(GINI coefficient)



URBAN INFORMALITY

(per cent of urban population living in informal settlements, 2010)



WEALTHIEST CITIES

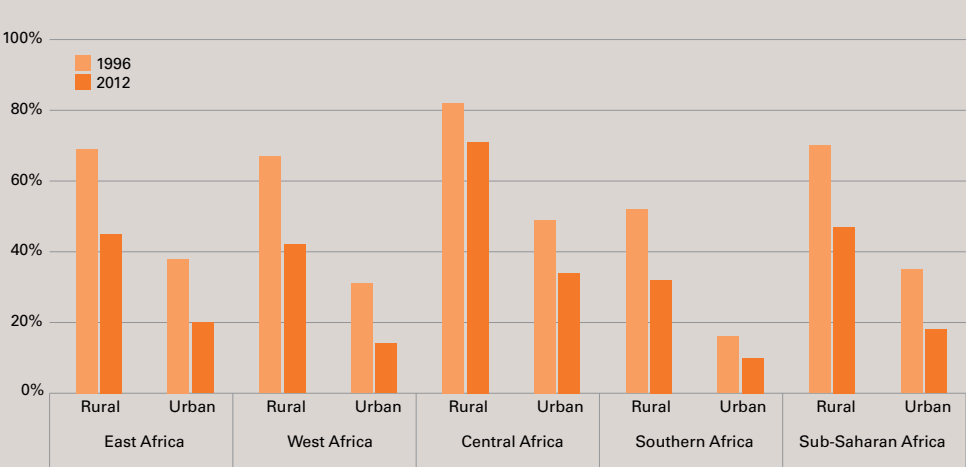
(by total wealth held, 2017)

1	JOHANNESBURG	\$276 bn
2	CAPE TOWN	\$155 bn
3	CAIRO	\$140 bn
4	LAGOS	\$108 bn
5	DURBAN	\$55 bn
6	NAIROBI	\$54 bn
7	LUANDA	\$49 bn
8	PRETORIA	\$48 bn
9	CASABLANCA	\$42 bn
10	ACCRA	\$38 bn
11	ABIDJAN	\$27 bn
12	DAR ES SALAAM	\$25 bn
13	ALEXANDRIA	\$25 bn
14	KAMPALA	\$16 bn
15	WINDHOEK	\$13 bn
16	ABUJA	\$13 bn
17	ADDIS ABABA	\$13 bn
18	MARRAKESH	\$11 bn
19	TANGIER	\$11 bn
20	LUSAKA	\$10 bn
21	MAPUTO	\$10 bn
22	GABORONE	\$9 bn
23	MOMBASA	\$8 bn

Note: "Total wealth" refers to the private wealth held by all the individuals living in each city. It includes all their assets (property, cash, equities, business interests) less any liabilities, and excludes government funds.

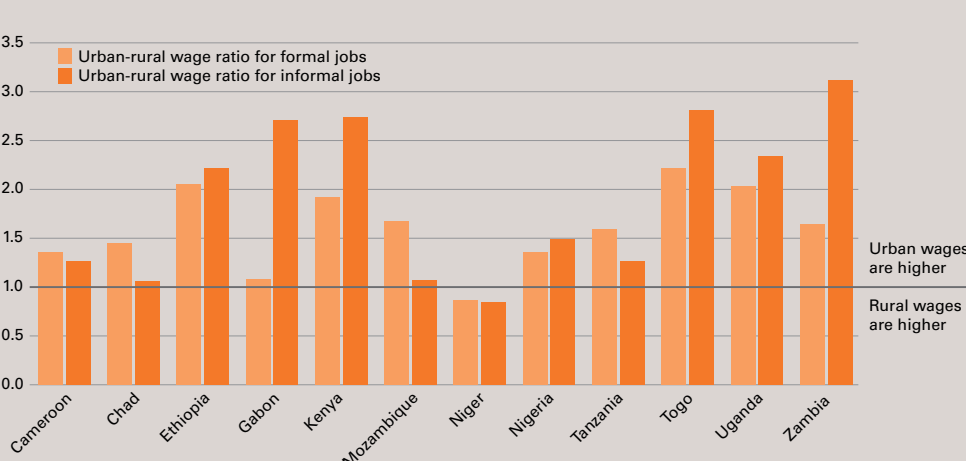
ABSOLUTE POVERTY

(per cent of population)



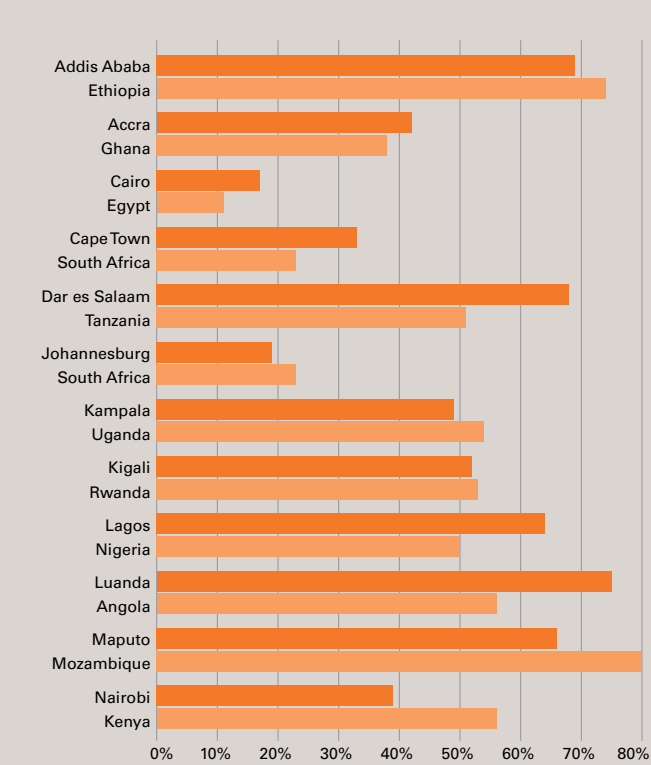
URBAN-RURAL WAGE DIFFERENTIALS

(ratio of urban to rural wages, where values over 1 indicate higher urban wages & values below 1 indicate higher rural wages)



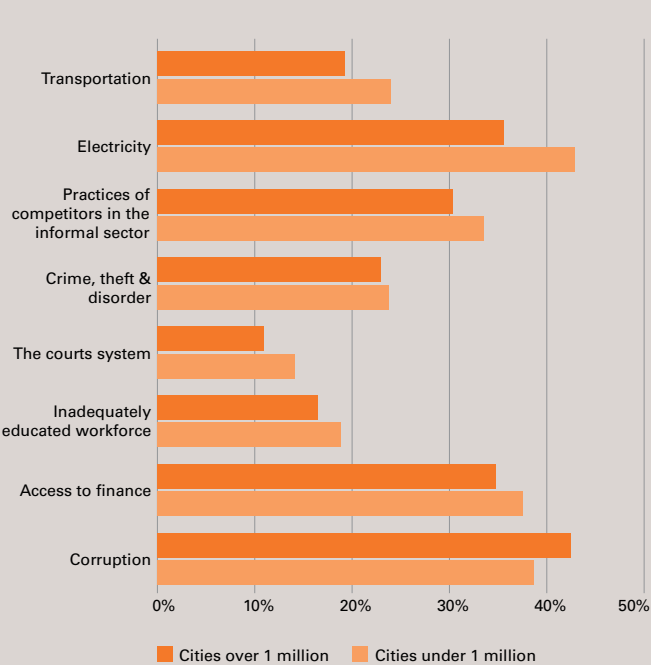
INFORMAL SETTLEMENTS

(per cent of population living in informal settlements, 2010)

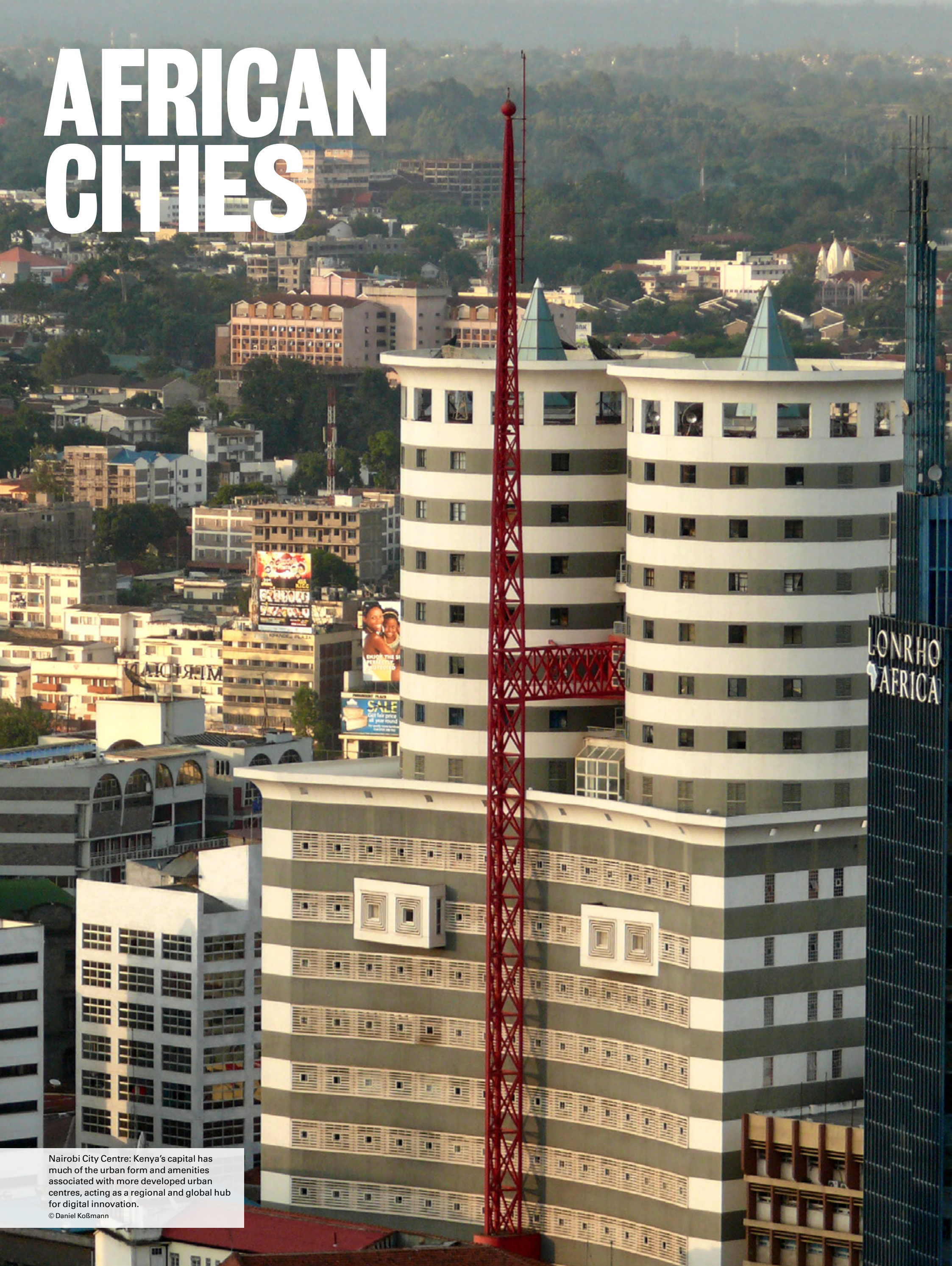


MAJOR CONSTRAINTS

(per cent of firms identifying as a major constraint, 2006-2015)



AFRICAN CITIES



Nairobi City Centre: Kenya's capital has much of the urban form and amenities associated with more developed urban centres, acting as a regional and global hub for digital innovation.
© Daniel Kößmann

CAPTURING URBAN LIVES

Africa has over 200 cities larger than 300,000 people. The images of Addis Ababa, Lagos, Nairobi, CapeTown, Accra, Dar es Salaam and Kampala on these pages capture some of the diversity of urban form, mobility and lived experiences in cities across the continent. Several experts were commissioned to write short vignettes providing a snapshot of the impact efforts to redefine urban futures is having on their cities. The quotes below give a sense of their very personal narratives. Full versions are available on <https://urbanage.lsecities.net/newspapers/developing-urban-futures#vignettes>



ADDIS ABABA, ETHIOPIA

“The multistorey condominiums are not only redefining the city skyline, but also the urban culture. Part of the change includes adapting to varied cuisines since making traditional meals requires access to the ground and open spaces. Encouragingly, it has created an opportunity for businesses to flourish in delivering services and processed food.”

Bisrat Kifle Woldeyessus, Researcher, EiABC, Addis Ababa University

ACCRA, GHANA

“Ghana’s plans for a high-profile interdenominational National Cathedral in central Accra will commemorate the country’s 61st year of independence and sprawl six hectares. For the president, this project fills a missing link in the nation’s architecture. The project’s planning process also underlines the tensions of the city’s urban development trajectories and aspirations: Accra’s hospitals rely on only nine functioning ambulances for more than four million residents.”

Victoria Okoye, Urban Policy Specialist, WEIGO and PhD student at University of Sheffield

CAPE TOWN, SOUTH AFRICA

“Bo Kaap is the sole surviving non-white neighbourhood in the centre of Cape Town, having survived demolition under the Group Areas Act of 1950 that destroyed neighbourhoods like District Six. This history is a huge source of pride for residents and is deeply woven into the narrative of the area. Ironically, this has also attracted outside interest. Lax planning laws have enabled developers to run roughshod over communities as they develop luxury homes for the tourist and middle-class market.”

Tau Tavengwa, Founder & Editor: CityScapes Magazine, African Centre for Cities

LAGOS, NIGERIA

“Influenced by modernist developmental visions, there is intense competition for space between local and cosmopolitan interpretations of urbanity. Lagosians continue to respond to urban challenges by self-provisioning. Even though [there are] extreme gaps between rich and poor, the simple pleasures of Lagos life are enjoyed by all: street food, parties, as well as the resounding belief that no matter the situation, *the Spirit of Lagos* – epitomised by enterprise and determination – will always prevail.”

Taibat Lawanson, Associate Professor of Urban Planning, University of Lagos

NAIROBI, KENYA

“Most people in Nairobi don’t drive, but you wouldn’t know that from the road building campaign currently underway. Informal businesses alongside major arteries have been cleared to make room for road expansion – most have no provisions for pavements or bicycle paths. The inner city public square has been replaced by shopping malls, where security guards have the power to turn away anyone they think doesn’t quite fit.”

Nanjala Nyabola, Writer, Political Analyst

KAMPALA, UGANDA

“The experiences in Kampala today are a mix of urban development strategies with the declining role of the state. Whereas the large-scale infrastructure projects form the main approach to urban development, the role of small-scale solutions and technologies in sectors such as water supply, waste, sanitation, transportation and road network can no longer be underestimated. Planners and city managers are investing in reversing these development trends but there is little indication of negating the emergent alternative solutions.”

Shuaib Lwasa, Associate Professor of Geography, Makerere University



Above: Gurd Shola, Addis Ababa ©Charlie Rosser
Below: Kisutu, Dar es Salaam ©Daniel Hayduk



CITYSCAPE

Many cities across Africa have traditional urban cores, where higher densities coincide with more intense and varied activity. CapeTown's city centre is largely commercial, with a relatively low number of residents and surrounded by a pattern of low-density suburban sprawl. Nairobi has a mix of dense neighbourhoods including low-rise structures, like Kibera, and medium-rise buildings close to the centre. Dar es Salaam's compact and versatile inner city fragments into a periphery where an informal building pattern results in limited land intensity. Addis Ababa's dominant low-rise typology is rapidly being transformed with a mix of medium- and high-rise buildings that are dramatically expanding the city's footprint and reshaping its historic street pattern.



Above: City Centre, CapeTown ©Robert Harding
Below: Kibera, Nairobi ©Tony Karumba





Above: Kampala, ©Mudondo Evaline
Below: Lagos ©Emeka Okereke

MOVEMENT

Investment, economic development and policy intervention are changing the way people connect in cities across Africa. Digital technologies are reshaping the convenience and safety of motorbike and shared taxi services. Growing motorisation undermines liveability and health by adding new layers of congestion and pollution, while dedicated public transport in Addis Ababa presents a more sustainable alternative to managing growth. Retaining high pedestrian behavioural choice will become increasingly important as future public transport initiatives, including commitment to public realm design, are developed.



Above: Makola Market, Accra ©Nicholas Seun Adatsi
Below: Light rail transit near Piazza, Addis Ababa ©Charlie Rosser





Above: Entrepreneurship, Kampala ©Mudondo Evaline
Below: Lagos Mainland ©Emeka Okereke

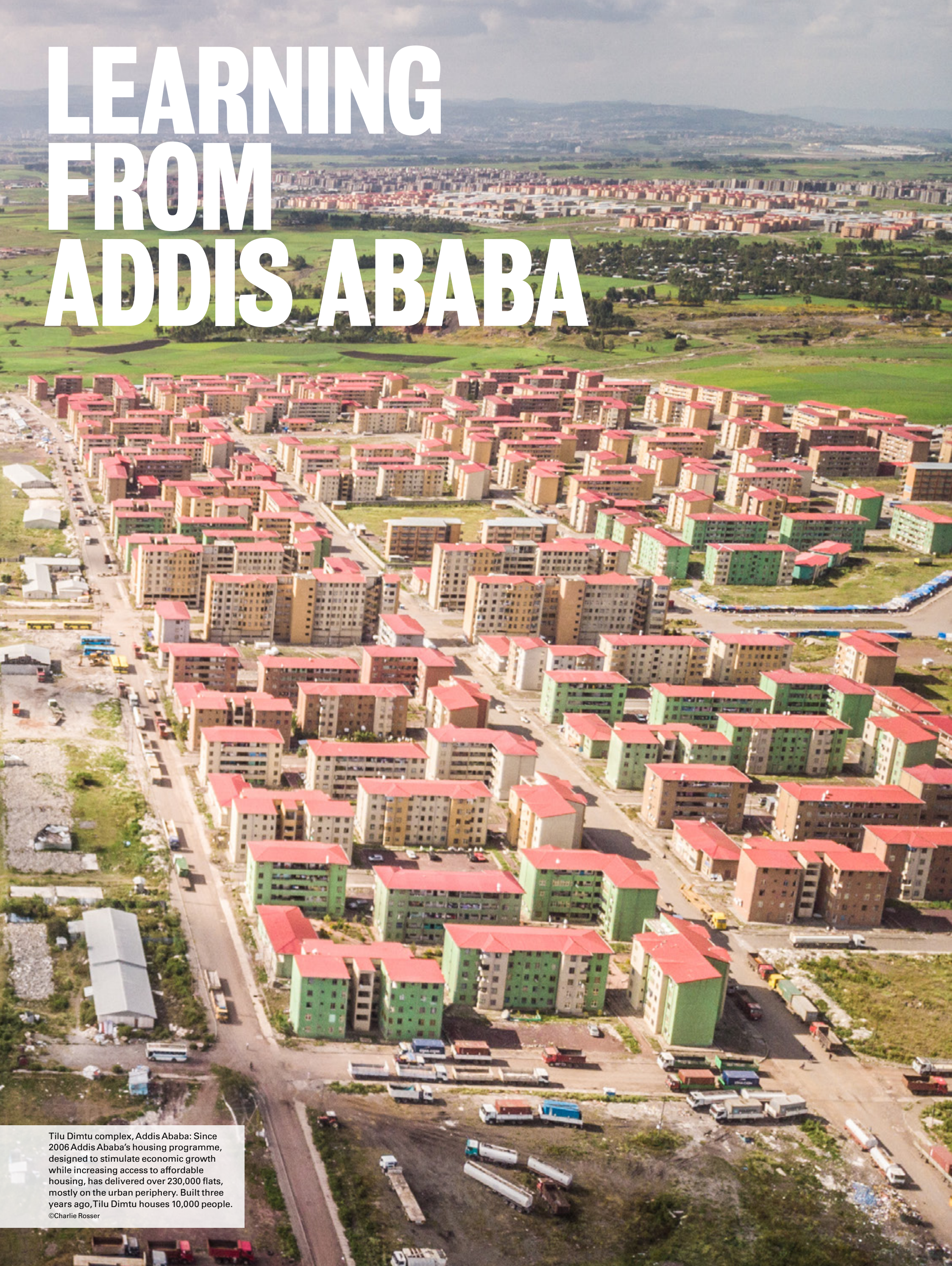
LIVING

Cities provide the physical context for a complex variety of human activities. Proximity between people, goods and ideas encourages vitality and productivity. In Addis Ababa, the taller, commercial buildings of Merkato accommodate multiple uses and levels of interaction. In Kampala, the street becomes a place of transaction and exchange between local entrepreneurs and customers, as well as regionally sourced goods within the city and beyond. Competition for space in Lagos generates a tight, multilevel urban landscape that contributes to the economic dynamism of the Nigerian powerhouse.



Above: Nakawa Market, Kampala ©Mudondo Evaline
Below: Chinese-built mall in Merkato, Addis Ababa ©Charlie Rosser





Tilu Dimtu complex, Addis Ababa: Since 2006 Addis Ababa's housing programme, designed to stimulate economic growth while increasing access to affordable housing, has delivered over 230,000 flats, mostly on the urban periphery. Built three years ago, Tilu Dimtu houses 10,000 people.
©Charlie Rosser

LEARNING FROM ADDIS ABABA

STEERING GROWTH

Mathewos Asfaw Bekele

During the last two decades Addis Ababa has witnessed a remarkable transformation, not limited to Addis Ababa; secondary cities are also undergoing major change. This transformation is expected to advance in scale and quality to meet the nation's goal of middle-income status and the containment of inequalities provided appropriate policies, regulations, planning and governance practices are put in place. This essay provides an overview of Addis Ababa's master plans and future challenges and opportunities.

The 1986 Master Plan

The Ethio-Italian Master Plan of 1986 came up with a regional, metropolitan and urban planning approach for a 20-year (1986–2006) forecast, a new approach in Ethiopian urban planning. One aspect was the establishment of a planning office, the Addis Ababa Master Plan Project Office (AAMPO). This office later became the National Urban Planning Institute (Proclamation No. 317/1987), creating the foundation for institutional and systematic urban planning. The Addis Ababa city spatial plan defined a multi-centre framework with related land use patterns and a number of key projects (including housing, transport and mobility, energy and the dairy industry). The plan was the first in the city's history to be ratified and accompanied by a proclamation. Some of the major outcomes of the master plan – the cooperative housing settlement schemes of Mekanisa in the south and Gerji in the east, and the ring road – have significantly influenced the spatial development of the city.

The city development plan gave emphasis to integrated development with the hinterland and the nation as a whole, to ensure holistic development benefits for all with integration into regional and global urban networks. Though technically sound and comprehensive, it couldn't be fully implemented as AAMPO was not assumed as an operational planning device of the municipality and because of the collapse of the Derg administration in 1991. As a result, it was only the city component of the holistic master plan that was ratified and partially implemented, leaving aside regional and metropolitan plans.

The 2003 City Development Plan

The 2003 City Development Plan (CDP) was the first to be fully managed and led by the city administration using local staff and institutions. Unprecedented local staff capacity-building became the springboard to manage urban development plans throughout the country.

The plan revised the 1986 master plan with some adjustment to the approach and principles. It focused on the city administrative domain as defined by the new Constitution of 1995. It retained the major land uses and city structure, but left out the regional and metropolitan concept to conform to the new federal government structure.

The plan gave a structural framework for major development issues of infrastructure and environment. It followed a strategic approach with attention to participation and implementation. To facilitate participatory processes a supervisory board was established with a technical advisory committee, and public discussion fora.

The development plan greatly influenced the city's growth and development; major city transformations during the last two

decades can be attributed to the ratified city development plans and the accompanying legal and institutional tools and instruments. The most important were condominium housing, private real estate development, new major arterial streets and transport network and establishing a new governance model. On its basis ten sub-cities and 100 lower-level woredas were created (Proclamation No. 13/2004) to decentralise service delivery. A number of laws and regulations such as the Construction Permit Regulation No. 17/2004, Condominium Regulation No. 12/2004 and the Amended Addis Ababa City Charter Proclamation NO.311/2002 were enacted. It is also worth mentioning that the east–west and north–south BRT lines (which later turned into LRT) can be considered, to a large extent, as outcomes of the CDP.

The 2017 City Plan

In consideration of the economic and demographic growth of the capital and the nation, the recently ratified plan introduced new concepts. The most important are related to redevelopment of central slum neighbourhoods; a polycentric city structure; multimodal public transport and land use integration; and encouraging pedestrianisation, densification and mixed-use development. Among the key issues included are a 30/30/40 ratio for transport infrastructure, green open space and built-up areas; service as a major city role and function; leveraging private-public partnerships; the integration of socio-economic and spatial planning; and capacity building. The 2017 city plan is also framed by the Growth and Transformation Plan, GTP I (2010–2014) and GTP II (2014–2019), with the goal of achieving middle-income status through economic and structural transformation. Nine local development plans focusing on centres and corridors have been produced to support detailed implementation of major centres and corridors.

The Addis Ababa Plan Commission, Centres and Corridors Development Corporation, Drainage and Green Development Agency and Infrastructure Coordination and Construction Permit Authority are the newly organised institutions to support and ensure the advancement of the city in accordance with the plan.

The Addis Ababa city plans have retained strong links and continuity. This has limited disruptions as far as the plans are concerned. There are actually a number of mismatches between the plans and what is on the ground because of failure in implementation.

These plans understood the need for regional planning to create strong links with rural areas and other urban centres. The major differences of the previous two plans are that the latter promoted and applied a participatory and strategic planning approach. These plans not only promoted socioeconomic, spatial and environmental aspects, but also spearheaded the development of key implementation tools and strategies such as local development plans, governance and financing structures, setting up key implementing institutions, drafting regulatory frameworks and capacity-building programmes focusing on enhancing plan preparation and implementation, managerial capacity and institutional system development at all levels.

Future challenges

Though it has been the government's intention to plan and transform the city through investment in housing, services, infrastructure and job creation, there are gaps between what has been intended and what has actually happened on the ground.

This is mainly due to low capacity and poor commitment at all levels of government. The following points spearhead the future challenges in Addis Ababa:

Unbalanced migration: As a result of environmental degradation, drought and unproductive agricultural practices in rural areas coupled with recurrent conflict, migration to the capital city has been unprecedented. This process may continue. There is no matching labour demand.

Infrastructure deficit: The economic base and the revenue the city generates cannot provide infrastructure (transport, power, sewerage, water) and services (health, sanitation) to the growing population as a result of natural growth, migration and daytime commuting from surrounding towns. The current infrastructure can serve approximately half of the current population, estimated at more than four million. The housing deficit of more than half a million could be a perfect case to substantiate the above statement. Most of the new migrants' housing demand is being met informally by self-organising neighbourhoods, mostly on the outskirts and in green vacant areas.

Unstable governance capacity: There have been five recent programmes (in 2003, 2004, 2005, 2008 and 2012) to reform Addis Ababa's organisational structure and governance system. There has been rapid turnover of leadership, management and technical staff, and unsynchronised and poorly enforced regulations and laws.

Poor integration with other cities: As a result of limited integration with regional capitals and other secondary cities, Addis Ababa hasn't fulfilled its role as an engine of economic development.

Environmental threats: A decrease in green coverage, increase in built-up areas, increased flooding, water and air pollution and low resilience to climate change present serious risk.

Opportunities

There are, nevertheless, a number of prospects that the city could exploit to overcome the challenges and meet the development goals it has set:

Youth dividend: Its young workforce could contribute to the city's development in the construction and service sectors (building of houses, transport, power, sewerage and water infrastructure, solid waste management, etc.) as well as in small and medium manufacturing industries.

Global gateway: The city's international role as a centre of diplomatic missions and development organisations, and its potential as a gateway and tourist destination, could further advance its development.

Clear roadmaps: The recently ratified plan, governance structure and accompanying five- and ten-year strategic plans; local development plans; and new implementing and regulating institutions, laws, regulations and manuals provide clear roadmaps and executing tools for the city to meet its development goals.

Political change: The current positive political change could support a more conducive environment to draft and redraft existing laws and regulations (land leasing, private sector engagement, public engagement and democratisation of the

election process) and provide professionals and development partners more room in reshaping urban governance.

Unlocking trade: The city can benefit from Sino-African cooperation such as the Belt and Road initiative owing to its role as engine of national development and seat of the AU. Improved relations with Eritrea are expected to increase development opportunities through improved trade.

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A CITY IN FLUX

Fasil Giorgis

Large central parts of Addis Ababa are swiftly disappearing. Once demolition is complete, now-ubiquitous yellow-and-green corrugated iron sheets enclose the whole area. When you look at the slopes to the west of the palace of Emperor Menelik II, who was the ruler of the country during the foundation of the capital, you wonder what happened to the dense slum that used to be there some years ago. What is striking is the absence of any trace of what existed there for the last 130 years. In these 'renewal areas' the city seems to be determined to start from scratch. This practice destroys not only structures but also community spaces and heritage buildings that had existed since the foundation of the capital.

Addis Ababa's old urban quarters and its original settlement pattern were the result of the process of transformation from a rural to an urban society that started in the last decades of the nineteenth century. Each urban quarter or village, locally known as a *sefer*, was administered by a member of the aristocracy who owned a larger house built on higher ground. During the first three decades of its existence Addis Ababa was an agglomeration of such *sefers*. Efforts to restructure the city had started in the 1920s, but expanded during the Italian occupation of 1936–41.

During the first months of occupation a heated debate took place in Rome among the Italian planners, about whether to build a city in the forest or a garden city. Finally, the plan of Guido and Valle was selected to be the official master plan of Addis Ababa. Soon after, planners set about preparing a master plan based on racial segregation. The planned forests and green areas in the valleys along the rivers were considered a suitable barrier between the settlements of the indigenous people and the European quarters. Modernist planning ideas of functional zoning were well suited to segregation. Due to the shortage and high cost of importing construction materials from Italy, architects and engineers resorted to locally available resources, resulting in an interesting architecture and in local masons and craftsmen acquiring foreign building skills. The outcome of the Italian efforts is still visible in Piassa, Kazanchis and Popolare, but elsewhere in the city the traditional urban structure persisted.

After the five-year occupation a new master plan was prepared by British planner Sir Patrick Abercrombie. His plan focused on the creation of satellite towns to limit the horizontal sprawl of Addis Ababa. Except for the few main streets lined with the modern buildings and fenced compounds of large

public institutions, the city continued to grow organically from the 1940s up to the 1970s within the areas defined by planned and pre-existing roads.

In 1975, when the military regime that toppled the imperial government took power, the rented houses built by landlords were 58.8 per cent of the total housing stock. The regime, following a socialist ideology, nationalised rented houses and tried to administer them through community organisations known as *kebeles*. The public ownership of these low-rent *kebele* units allowed poorer families to stay within the city centre. As the *kebeles* lacked funds and the majority of tenants were poor, the houses deteriorated. Growing housing demand encouraged tenants of *kebele* houses to sub-let rooms illegally. The slum appearance of major parts of Addis Ababa is due to the rusted colour of the corrugated-iron sheet roofing, the earth mortar used to build walls and the high density of buildings. When seen from the air these areas appear very similar to slum areas found in many cities in Africa and elsewhere, but at the street level the social fabric tells a different story; contrasting income groups live side by side, participating equally in traditional community organisations.

This state of affairs was a cause of embarrassment for the last three ideologically divergent regimes, who have governed Ethiopia from the 1940s to date. The imperial government of Haile Selassie tried to give Addis Ababa a modern look by opening large avenues and European-designed modern buildings. During the military dictatorship (1974–1991), the basic structure of the city did not change but cooperative and private housing was built on planned expansion areas. An extensive new master plan was also prepared by Ethiopian and Italian planners to direct the city’s development for the following ten years. This new master plan was endorsed in 1994 under a different government and eight years after its completion. The biggest transformation took place in the last two decades under the current government, when urban renewal projects were carried out on a massive scale. Most old neighbourhoods were simply erased without trace, replaced with commercial buildings and cost-efficient apartment blocks locally known as ‘condominiums’. In spite of their architectural deficiency, condominiums are relatively successful in helping alleviate the housing shortage.

Growing economic pressures have led to further elimination of the older housing stock, the displacement of residents and the loss of urban heritage. The old inner-city residential neighbourhoods of Addis Ababa not only provide housing at rents that can be afforded by the low-income residents but also provide, within settlement areas, a wide variety of employment opportunities, formal and informal. These areas, which are characterised by intensive mixed land uses, are also of major economic importance. Many households also run small-scale commercial activities in their homes.

The cleared plots, acquired by investors by bidding for leasehold, end up being very expensive. Developers have to build densely to meet their expenses and make a profit. High land prices discourage the creation of open spaces, which are essential to the urban quality and habitability of the city. The big question is: was this necessary or is it possible to integrate urban renewal and urban upgrading?

A case in point is the ongoing debate over an urban block in front of the National Theatre, which was built during the Italian occupation period and later became a

popular public space for Addis Ababa’s residents. The three-storey building with street-level arcade has cafes, grocery stores and bookshops. At the northern corner is one of the most important hotels of the 1960s, built during the inauguration of the Organisation of African Unity. For the last seven decades this area has been considered one of the most popular public spaces in Addis Ababa. A few years ago the buildings defining this public space were acquired by a developer to be transformed into a 60-storey hotel!. Heritage protection activists and the tenants of these buildings tried to persuade the city administration to change its decision. Unfortunately, these Italian occupation period buildings were not listed as urban heritage at the time. The case is still being debated but once the new development starts to be realised all the activities and vibrant life will cease to exist. A part of the city is being taken away from its residents.

While the seductive images of modern high-rise shiny developments are irresistible to officials, these large-scale high-rise urban developments are too expensive and unrealistic for most African cities. The reasons often given by local governments and developers are the alleviation of housing shortage and creation of employment. But the economic reality tells us that these developments are unaffordable for the great majority of the urban population, a drain on the urban economy and require massive hard currency.

If these ‘redeveloped’ and ‘transformed’ areas only accommodate the needs of the wealthy, with high-rise towers and posh new hotels, can they be considered inclusive? Isn’t the city creating invisible barriers between the rich and the rest? Protection of heritage in this case does not imply saving buildings of times past but retaining the vibrant multilayered street life of the already established city.

1. Addis Ababa's tallest building, the 198-metre, 48-storey Commercial Bank of Ethiopia Headquarters, is currently under construction.

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GATED ADDIS

Yeraswork Admassie

Having followed a historical trajectory different from that of developed and some developing countries, Ethiopia’s urban growth has acquired a number of peculiar characteristics. One of these characteristics is the mixed distribution of its population, activities and services. Contemporary urban development in Ethiopia, which began in earnest towards the end of the nineteenth century, was a process whereby the wandering ‘capitals’ of the emperors and regional governors were gradually fixed at permanent sites. As a result, the layouts of most of these urban centres have closely followed the ‘blueprints’ according to which residents of the moving camps perched their tents in a predetermined order’.

Addis Ababa, too, was settled following the hierarchical feudal organisation of the state and the army. Following Menelik’s decision on the present site of Addis Ababa for his capital, large tracts of land were allotted as camping sites to high-ranking officials, who in their turn subdivided their respective holdings among their retainers

and servants. This pattern of settlement and land use remained entrenched because, given the realities of the time, social hierarchy could not, and needed not, be marked with physical distance. Under the backward economy and underdeveloped division of labour dominant at the time, members of the upper and lower classes were too interdependent to reside in separate quarters. Likewise, social hierarchy did not need to be defined by physical boundaries. It was enough for the elite that they were made distinct by the high office or social position they held, or by their dress.

This early attribute of the pattern of settlement hindered the emergence of racially, ethnically and socioeconomically segregated neighbourhoods. Even today, Addis Ababa is to a large extent a city of undifferentiated neighbourhoods in which shacks and villas, rich and poor, foreigners and locals and people of various religious and ethnic affiliations live side by side. It is still a city with strikingly clear social proximity between various social groups. It maintains a high sense of neighbourhood-based community solidarity that cuts across class and ethnic divisions. Even today, it is a place of considerably low levels of ethnic tension and violent forms of crime.

But, as time went by, a system of social differentiation based on income emerged. In the 1990s, during which decade the flight of the rich to the periphery was only beginning, a new pattern of residential segregation arose. The incongruence, or contradiction, between the new social geography and the old physical layout had to be resolved somehow – and gating has provided one practical solution.

The changes in the patterns of settlement are hinged on the basic socioeconomic transformations taking place in Addis Ababa. Ever since the introduction of elements of a free-market economy in the early 1990s, Ethiopia has been on a path of rapid social change and polarisation. The number of the emerging socially distinct local elite, as well as that of the resident expatriate populace, is growing by the day. The divide between the rich and the poor has widened over the past two decades. Nowhere is this polarity more visible than in the built environment of Addis Ababa.

Walled-off communities

The literature on gated communities is full of synonyms that essentially convey the same central concept. The terms *gated community*, *access-controlled community*, *gated enclave* and *fortified enclave* are used interchangeably – as they are in this paper. Notwithstanding the common features of the gating of communities, considerable regional variation exists in the emergence and the characteristic features of gated enclaves². The regional variation is partially captured by the three types of gated communities identified by Blakely and Snyder³, namely: *lifestyle communities*, *prestige communities* and *security-zone communities*. One can also add the *purpose-designed community* as a fourth type.

In the *security-zone* category gates are built by the residents themselves and not by real estate developers. In Addis Ababa inner-city neighbourhoods retrofitted with gates vary from the most affluent to the most desperately poor in order to protect themselves from the threat of crime and traffic that is surrounding them. These have been extended to more suburban and outer suburbs as inner-city problems progressively started catching up with the middle class that had taken flight to the suburbs. In other instances suburban neighbourhoods

are installed and secured with intention-ally designed systems of barricade, without being fully enclosed, as public streets make their complete gating impossible. Newer developer-driven suburbs such as the Ayat village at the eastern periphery of Addis Ababa are taking this path of development.

The *purpose-designed community* refers to those that are meant to exclusively house foreigners and have been in existence for quite some time. The worker compounds in the Gulf States and the closed cities of the Soviet era are examples of this type of gated community. The CMC⁴ in Addis Ababa was created to serve such a purpose, although its original objective was never realised and it is now a state-owned gated community of the *prestige type* run by a state rental agency.

The spread of gated communities in Addis Ababa is mainly a post-1991 phenomenon. Moreover, all of the gating of neighbourhoods that took place prior to 1997 and most of what took place in the early 2000s relate to the retrofitting of neighbourhoods based on either housing cooperatives or clusters of individually obtained holdings with gates and/or fences. All but one that took place after 2004 concerned the pre-fitting of government-sponsored condominium development sites with gates and fences.

Gated communities do not set off class segregation from naught – their widely recognised disadvantage. They are themselves the products of social differentiation and polarisation, which they further enhance once they come into existence. In the case of Addis Ababa, gated communities have spread following the recent emergence of an affluent class that has attained a standard of living significantly higher than that of the majority of the city’s population.

Successful gating must definitely be a function of the homogeneity of the membership of the community and its organisation too, as well as the ability of housing cooperative neighbourhood communities to rise collectively in defence of their common interests. The founding of communities through government-sponsored condominium sites, which were mostly gated in the process of their establishment, and housing development cooperative sites, which account for a substantial portion of inner-city gated communities, may, therefore, also play a role.

But the central difference between the inner city and the city-periphery/suburban gated communities is significant: whereas the former are products of *in-situ/in-place* attempts at reinforcing emerging social separation with physical segregation, the latter are one of maintaining an already delineated social differentiation through the creation of totally new spaces that are made inaccessible to others, among other things, by their physical distance from the centre. As opposed to the inner-city gated communities, the emerging city-periphery real estate developer-driven ‘villages’ share, to varying degrees, the characteristic features of ‘gated communities’ of the more developed regions of the world.

1. Akalou Wolde-Michael, 1973. ‘Urban Development in Ethiopia (1889–1925): Early Phase.’ *Journal of Ethiopian Studies*, Vol. XI, No. 1, pages 1–16.

2. Grant, Jill, 2003: Planning Responses to Gated Communities in Canada. Presented at the conference: ‘Gated Communities: Building social division or safer communities?’ Glasgow, September: 18–19 2003.

3. Blakely, Edward J., and Mary-Gail Snyder, 1998: ‘Separate Places: Crime and Security in Gated Communities.’ In: Marcus Felson and Richard B. Peiser (eds.): Reducing Crime through Real Estate Development and Management. Washington D.C.: Urban Land Institute, 53–70.

4. So named after Cooperativa Muratori and Cementisti (CMC) of Ravenna, the firm that built it.

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TAKING THE CITY TO THE COUNTRYSIDE

Zegeye Cherenet

In the past 15 years, Addis Ababa has experienced a dramatic transformation. Behind the processes of transformation, global, regional and local political and economic forces are at play – each demanding their own versions of ‘modernisation’. The city operates in this complex interface while being a city-state; a seat of the regional state of Oromia; and the capital city of the federal government, resulting in complex divisions of roles and responsibilities between federal, regional and municipal governments. Furthermore, being the capital of a multi-ethnic federal state and located at almost the geographic centre of the country, it is a venue of multifaceted cultural and religious interactions and intersections. No other city in the country meaningfully shares such a load of primacy, making Addis Ababa the uncontested epicentre of Ethiopia’s urban transformation. To shoulder these responsibilities the city demands continuous change. However, to guide this and the urbanisation of the country, it is necessary to understand the forces at play and their frequently conflicting demands.

The past

The unique land tenure system, believed to be the most complex in Africa; sustained national isolation until the end of the last century and its long, continuous and independent nationhood and self-governance culture; the emerging economy being one of the few in Africa that grew without the export of natural resources; and the complexities of its physical and cultural landscapes are some of the major reasons that make Ethiopian urbanisation difficult to fit into generalised theories developed to describe urbanisation in Africa. Ethiopia can be used to introduce a new reading of urbanisation in Africa or to challenge ‘the common-sense homogenous reading of Africa’.

In an attempt to explain the historical roots of Ethiopian urbanisation briefly (referring to spatial structure and urban culture), three frontiers are often listed from which the uniqueness of Ethiopian urbanisation arises: the north and north-east, the south and the Ethiopian highlands. The north and east are associated with the traditions of the Middle Eastern city. In the south, settlement patterns are associated with an African model of extended villages with periodic markets. Finally, the Ethiopian highlands, supported by a long Christian tradition of concentrating urban centres around churches and the kings’ court, form the foundation of the current capital Addis Ababa.

The present

The current challenge of the modes of urban production in Ethiopia – particularly in Addis Ababa and other major cities – can be taken as an exaggerated mismatch of demand and supply, the most obvious one being the demand of global culture (globalisation and its capital flow) against the supply capacity of the local culture. This is visibly displayed on the planning and building culture in Addis Ababa, which seems to be overwhelmed by global forces injecting unfamiliar infrastructural and architectural programmes with ‘international’ standards

and imported construction materials. This is fuelled by global and local climate-change-related challenges, poverty and the increase in housing needs due to the high rate of urbanisation within a country that is predominantly rural. Such challenges are often resolved formally through ‘copy-and-paste’ urban development schemes (a ‘Tabula-Rasa’ approach otherwise referred to as urban renewal can be observed in Addis Ababa in the past 15 years) or through the formation of generations of informal settlements (as observed all over the country at peripheries of major cities and settlements following major roads). Though these modes of urban production – which are intrinsically interrelated – are credited with addressing some of the demands of housing needs and the creation of temporary jobs, they are also associated with emerging social segregation, growing inequality, air and water pollution and increasing corruption.

The future

It is unfair and too costly for both massive expansion projects of existing cities and the formation of new towns to follow the copy-and-paste approach of urban ‘modernisation’; neither is it wise to leave such a substantial process for chance to make its way through informal developments. Any future formulation to guide urbanisation in Ethiopia has to address key challenges such as climate change and poverty – which can be taken as the intersections of global and local challenges. This requires searching for city models based on a new culture of relationship with nature and its resources; new forms of mobility (referencing post-fossil production and consumption); the possible combining of the cutting-edge technologies with local traditional skills; and the development of new forms of collective decision-making and action. Such attempts can be synchronised with current government plans to develop hundreds of new small towns across Ethiopia and strengthen secondary cities to decentralise urban transformation beyond Addis Ababa.

In search of a new model

BuraNest is a new-town experimental project in the north-western part of Ethiopia, in the Amhara regional state. It is run by NesTown group in association with the Regional State and local communities, aiming to guide grassroots urbanisation processes by establishing a ‘rural-town’ for and by the farming community. Other than environmental challenges – mitigated through afforestation, use of local materials and water management – the experiment identified job creation and trade diversification as its main objectives. Accordingly, the experiment is founded on four basic conceptual pillars: environmental rehabilitation; education (including co-existence and trade diversification), exchange (activating markets for locally embedded economy and regional networks for exchange); and energy (a town relying on sustainable sources of energy for production and mobility). Started in 2008, the town is an open-ended, but cyclical process of planning, implementation and evaluation, which is producing knowledge at every phase of its evolution.

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THE NEW FLOWER

Rahel Shawl

Empress Taitu, wife of Emperor Menilik II, standing at her home in the north hills of Entoto, could see the breathtaking vista of the lower land surrounded by the majestic hills to the east, south and west. Eventually, lured by the natural and medicinal hot springs in the valley and attracted by the beauty of the wildflowers, she decided to build her home at this spot, which she named ‘The New Flower’ or Addis Ababa.

Since 1886 and the start of building in the hot springs area, the transformation of the city has been profound; in scale, breadth, size and importance. Addis Ababa changed from a small village of huts and tents around the quarters of the royalty, nobility and religious buildings into an organic city. The emergence of the city as a strong political and economic capital of Ethiopia as well as the diplomatic centre for Africa is mostly attributed to Ethiopia’s longstanding history of freedom from colonial influence. The Italian Army, sent to conquer the Ethiopian Empire, was defeated in the famous battle of Adwa in 1896. Emperor Menelik II (1889–1913) and Emperor Haile Selassie (1930–1974), both with strong ambitions to advance modern ideas, involved international advisors and architects to lead design. Architectural language marrying Ethiopian vernacular with international flair from India and Europe (with later influence from Greece, Armenia and the Arabian Peninsula) started to appear. Road networks built to connect palaces and residences of the nobility and foreign delegations led to Addis Ababa’s organic development. The poor, still in service to the nobility and officials, continued to live in makeshift huts around their employers in various neighbourhoods or *sefers*.

The short five-year period of Italian occupation had a small but significant impact on architectural heritage, mostly recognised by heavy stone façades. After liberation in 1941 the Emperor continued to advance his vision of ‘building to make this ‘great village’ a great city’ and the ‘freedom capital of Africa’. Together with local and international architects, he spearheaded important International Style building projects in the city like the United Nations Economic Commission for Africa, the Organisation of African Unity and the Addis Ababa City Hall. When the communist regime took power in 1974, public and private projects designed mostly by Ethiopian architects and institutions with some influence from former Eastern Bloc countries started to appear in the inner city, while social housing projects were undertaken to alleviate the huge shortage. More housing for the international community, like the CMC housing project on the eastern fringes of the city, was built.

In 1991, with the advent of a new government and opening of the country to market reforms and transformative policies, accelerating economic growth to lift the country out of poverty became the primary objective. Together with projects spearheaded by national and city governments, the new policy attracted investment from locals, Ethiopians in the diaspora and the international community. Since then, high-rise building projects have rapidly redrafted the city’s skyline; while hospitals, schools, commercial, cultural, religious and industrial projects continue to be designed and built in response to the city’s growing

demand. Social housing projects and private real estate development mostly moved to the city’s peripheries because of high land costs and to allow densification of mixed-use buildings in the inner cities.

A lasting vision of making Addis the diplomatic capital of Africa and a world-class city has regained momentum. Important recent landmarks include the new African Union Headquarters and Conference Centre (a gift from China) and the United Nations Conference Centre. The diplomatic community continues to build and expand their embassies. Collaborations between foreign and local architects have added another layer to the story buildings tell in the city. Examples include embassies for South Africa, Malawi, Equatorial Guinea, Rwanda, the Netherlands, the United States of America and Ireland.

Addis Ababa has continued to grow in an organic way. The juxtaposition of people from different ethnic, religious and economic backgrounds, and the mix of national with international, is still an important and unique part of the social fabric of the city. However, rapid urbanisation has exacerbated built environment challenges alongside complex political and socioeconomic circumstances. Although not necessarily new, a mix of factors including inflation, rural-to-urban migration, displacement, poverty, unemployment, underemployment and lack of resources like housing, healthcare and transportation are some of the challenges city dwellers face today. Urban sprawl, lack of clear zoning, cohesion of infrastructure with building projects and environmental degradation complicate responses to these challenges. Many public spaces, green areas and inner city landmarks have disappeared, replaced by rows of high-rise buildings. The quality of local design has suffered, while ideas poorly copied from abroad have become more readily accepted.

Such complex challenges are not easily solved. But future developments, mitigations and interventions have to draw on past experience together with research, innovation and new ideas. The vision going forward is to have a city that retains its peculiar charm and liveability. This requires skills development, continuous education and professionalism in all sectors to secure the quality of the built environment by private sector and government. Involving communities in participatory planning and policymaking decisions will increase the sense of belonging in a rapidly changing city. By engaging in the wellbeing of our society and the health of our built environment, we can retain Addis Ababa’s rightful name: the New Flower of Ethiopia and the Capital of Africa.

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REQUIEM FOR ARAT KILO

Marco Di Nunzio

We arrived late at the *lekso* (funeral) and everybody was there. The cemetery was on a small hill facing the blocks of the Summit condominium site on the eastern outskirts of Addis Ababa. Jonas¹ helped me find our spot. There were hundreds of people. ‘Trust me,’ Jonas said, gesturing at the crowd, ‘this is not just because this old man was respected. It is because of Arat Kilo.’

Arat Kilo was among the oldest neighbourhoods in the heart of Addis. Between 2009 and 2015, waves of evictions cleared Arat Kilo, and surrounding areas in Arada sub-city, to make room for private investments. Over 8,000 households lost their homes, many relocated to the outskirts. ‘Back in Arat Kilo, you would not see many people coming to a funeral. But now it is different. You see all these people shaking hands. They have not seen each other for a while.’ Jonas reckoned they did not come just because they knew the departed – the fact of having once shared Arat Kilo with the old man created an obligation to come. The *lekso* was about Arat Kilo as much as the old man. It was a community remembering itself, processing its shared loss of memories and place in the city.

Jonas, a university student, moved to Summit in his late teens. In Arat Kilo, Jonas’s family, like many others, paid a nominal rent for a house on government land. Sitting in the living room of the flat belonging to his aunts, Eden and Maria, in the Summit condominiums, Jonas recounted the evictions. Government officials came door-to-door, telling residents they had six months to leave, and new condominium homes would be ready by then. Those who left by the deadline found the new flats far from completed. Jonas and his parents, like many others, stayed on in Arat Kilo. The government then offered two months’ rent for private accommodation while they waited for the completion of their new home. Jonas’s family accepted. Two months stretched to a year, but the government’s rental contribution did not increase. When Jonas’s parents realised they could no longer afford the rent, they moved to the still-incomplete flat. When they arrived in Summit there was no water, electricity or roads. It would take a year for these amenities to arrive.

Eden chimed in: ‘Six months [to vacate]! And now? Have you been to Arat Kilo? It is empty!’ The urgency of the evictions made them think the government had already planned the redevelopment. Six years on, while some condominiums had been constructed and high-rises lined the perimeter roads, much of Arat Kilo, like other cleared areas, remains empty.

The houses in Summit were not free. New homes fell within the framework of the housing programme Addis Ababa City Government launched in 2006, which has delivered over 230,000 flats. Evictees paid a 10–40 per cent down-payment, ranging from 25,000 (US\$900) to over 150,000 birr, followed by monthly mortgage instalments between 2,000 and over 3,000 birr (US\$110) over 15–25 years, depending on the housing scheme they had signed up for before the evictions.

Jonas got lucky. His grandmother and his parents had lived in separate houses in Arat Kilo. As a result, they had the right to two separate new houses. Paying for two

new houses was impossible, but the double allocation was a blessing. They sold one to pay off the other.

Others were less fortunate. Jonas’s aunts, for instance, lived together to pool resources to pay monthly instalments, bills and living costs. Eden worked in a low-paying government job, while Maria did odd jobs. Khazin, an electrician, and his brother Ahmed, a carpenter, did the same. They had been evicted from Asra Ammist Kebelle (Ward 15), near Arat Kilo, and now worked to pay the mortgage instalments and support two younger siblings and ageing parents.

‘We have made it so far,’ Khazin said, ‘but it is not easy.’

‘We live in these new houses, but there is not much change,’ Eden told me. ‘Now we have to pay thousands for the mortgage. Then your salary is cut, first by taxes and then by transport costs’ – 25 birr a day (US\$0.90) – ‘it is not fair!’

Their experiences were widely shared. Out of 1,181 condominium owners surveyed in 2017 by UN-Habitat, 52 per cent said they had failed to make mortgage payments.

The objective of the housing programme, Ato Mulugeta at Addis Ababa Housing Project Office told me in 2013 – a year after the Arat Kilo evictions – was to provide quality housing and redistribute wealth in the city. His agency’s mission, he repeated in 2016, was ‘to construct standard and quality houses affordable to low- and middle-income groups, [and] to make them owners of their houses in the year 2020.’

However, condominiums remain unaffordable to residents living below the poverty line – 20 per cent of the city’s population, according to UN-Habitat.

The UN-Habitat report showed that, out of the 23,151 households evicted between 2009 and 2015 across Addis Ababa, over 1,523 households had to refuse new homes because they could not pay the down-payment. 11,998 households accepted, but their experiences were far from uniform. Some lived comfortably. Others sold their houses. A few lucky ones used the house as an asset for investments. Some who could not afford to pay for the instalments rented out their properties, but then moved even further out for lower rent – and fewer jobs. Many stayed, but struggled like Khazin, Ahmed, Eden and Maria.

For them, owning an affordable home means living in a constant state of anxiety and precariousness. Khazin said: ‘Young people can manage. You go back to town where you work and meet old friends, but for old people [it] is bad.’ Boredom, loss of place and anxiety for their children working to make the next payment were literally killing them. Khazin reckoned: ‘Old people are dying because of *cinqet* (stress).’

Back home from the funeral, Eden shared her concerns. ‘I do not want her to grow up in Summit,’ she said about her young daughter. Eden’s youngest child, a toddler, woke up from his afternoon nap and joined us. ‘He is going to be a ye*Arat Kilo lij* (a guy from Arat Kilo),’ Maria said, taking her nephew on her lap. ‘Why not a guy from Summit?’ I asked. ‘No, no, no... Nothing is to be found in Summit. A ye*Arat Kilo lij* is an *Arada* (smart person),’ Eden replied. Jonas agreed: ‘He was born here, but he has Arat Kilo in his blood.’

INFORMAL LOGICS

Elias Yitbarek Alemayehu

Addis Ababa is largely the result of the juxtaposition between formal and informal planning. There have been various attempts to formally plan the city to counter informality and regulate the city. Ten master plans have been developed, the most recent launched in 2018. Though most have remained plans on paper only, some have left traces. This juxtaposition between formal and informal planning has resulted in the creation of ten major urban typologies, namely: the informal city, the old city, the market city, the posh city, the industrial city, the cooperative city, the condominium city, the renewed city, the divided city and the shelter city. The dominant one, in which about 70 per cent of Addis Ababa’s residents live, is the ‘informal city’ – planned and built informally.

Part of the informal city, located in the inner city, has been demolished, mainly giving way to multistorey commercial developments. As a result, dwellers are being relocated into new, government-sponsored condominium housing, located at the periphery and often devoid of social networks and job opportunities. The motivation for demolishing housing located in the informal city is based on mainly seeing it from the perspective of its materiality. This perspective implies that if a house and its related infrastructure are materially poor and dilapidated then they have to be demolished. However, housing is not only a commodity but also a process, with a use-value that supports a livelihood. Low-income households typically generate income from a home-based business. Demolishing a house is also demolishing a livelihood: job opportunity, social network and psychological wellbeing. However, if for some unavoidable reason, such as providing roads or social facilities, one has to demolish houses and construct new ones, then an onsite or nearby relocation could be considered.

In constructing new affordable houses for relocatees and newcomers alike, among other affordability strategies, the following lessons could be taken from existing informally planned and built settlements:

Open space as a resource: In Addis Ababa the provision of open public spaces goes beyond the need for green parks. Owing to the mild climate, many activities are carried out in the open; one only has to walk through the informal city to observe this. Open spaces are used for both day-to-day household chores and larger communal activities. These spaces accommodate activities ranging from the smallest outdoor chores like manual coffee grinding and laundry to large wedding ceremonies. Thus, in cities like Addis Ababa, contrary to Le Corbusier’s famous dictum that ‘the house is a machine for living’, open space is a machine for living. For the majority of low-income people common spaces are not a luxury but crucial components of survival.

Incremental building: If governments take care of the development of land, access to housing finance, the provision of infrastructure and supporting citizens with technical advice and the supply of low-cost building materials, then citizens can construct their own houses and make improvements over time. Low-income households often start small and extend as their income allows. Thus, the legal framework and the design

of housing should be conducive to the incremental construction and finishing of housing.

Alternative construction materials: The directives on the use of building materials issued by relevant authorities focus on a list of given materials, such as concrete, and their quality. Building permits are issued as long as listed materials are used and proof of quality provided. The use of materials, however, should have been based on their performance and compliance with standards, such as strength and heat resistance, rather than whether they are conventional materials or not. Thus, a shift should be made from choosing from a given list of conventional building materials to allowing alternative/innovative materials as far as they fulfil basic standards.

Retrofitting: Newly employed government recruits and fresh university graduates are in great need of housing. For such target groups, retrofitting large compounds, occupied by government offices, with the construction of medium- and high-rise apartments could address their needs. It is common for government offices to occupy large plots of land on prominent inner-city sites. The construction of staff apartments, for renting or rent-to-buy, could serve a mutual strategy of retaining staff and alleviating the housing shortage.

Income-boosting: Whatever is done to reduce cost, there will always be people unable to afford housing. Thus, alongside cost reduction mechanisms, income-boosting strategies should also be put in place. In this regard, one of the key elements is developing a design of housing that accommodates home-based enterprises and the letting out of rooms. Target dwellers could also be organised in saving and credit associations for them to develop the culture of saving and investing in income-generating activities.

There has been a wide-ranging debate regarding appropriate types of urban planning for less-industrialised countries and the supply of affordable housing. The debate mostly focuses between the appropriateness of expert-driven formal planning, from above, and user-driven informal planning, from below. Both approaches are important. Formal planning is conducive to the coordination of the various components of a city and in delineating a wider vision. Informal planning, while it is user-responsive, lacks this level of coordination. Thus, this essay calls not only for the deliberate incorporation of the positive qualities of informal planning into formal planning, but also for a framework of formal planning that accommodates a degree of informality, thereby taking advantage of both approaches. Particularly when it comes to affordable housing, which concerns the majority of people, due consideration should be given to building the capacity of citizens in order for them to participate at all appropriate levels and on an equal footing.

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Publications

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Living in the Endless City, Phaidon, London, 2011
Shaping Cities in an Urban Age, Phaidon, London, 2018

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1. All names changed to protect their privacy.

A photograph of a high-speed train at a station platform. The train is white with green accents and is stopped at the platform. Several people are standing on the platform, some looking at their phones. The platform has a green roof and a sign that says 'D'. The tracks and overhead power lines are visible in the background.

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