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Economist

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A curated report by the Economist Intelligence Unit

TOMORROW'S CITIES

CREATING OPTIMAL ENVIRONMENTS FOR CITIZENS



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PREFACE

Tomorrow's cities is an Economist Intelligence Unit report, sponsored by AkzoNobel, which invites a group of urban experts to discuss how cities can create optimal environments for citizens - from social interaction to cultural heritage, transport or green spaces. The report was edited by Zoe Tabary.

Our sincere thanks go to all contributors for providing their time and insights.

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TOMORROW'S CITIES

CREATING OPTIMAL ENVIRONMENTS FOR CITIZENS

Written by The Economist Intelligence Unit

FUTURE-PROOFING CITIES

Balancing economic growth with human values in the urban landscape

Today nearly 4bn people live in cities. That number is expected to increase by 2.5bn by 2050, with over 90% of the growth occurring in Asia and Africa. These regions, however, lack the resources to adapt to the forces of urbanisation.

“Developing countries face a lack of planning capacity in their cities,” observes Michael Mutter, who leads the Effective Cities programme funded by the UK’s Department for International Development in Nigeria. “These cities are doubling in size every 15-20 years and people do not understand the implications. UN-Habitat (the UN’s human settlements programme, which aims to promote the development of socially and environmentally sustainable human settlements and the provision of adequate shelter for all) predicts cities in developing countries will face huge risks from climate change such as flooding, desertification, and disease. Designing and building new cities is a necessity.”

This push for “new” and “future-ready” cities was highlighted in September 2014 by Narendra Modi, India’s prime minister, who extolled the construction of 100 “smart” cities to transform the country. Such cities will need to accommodate spiralling urbanisation, service the needs of citizens and stimulate trade and investment to create jobs, all within the constraints imposed by climate change and the need to meet greenhouse gas emission targets. This requires investment, development and technology, but how does the human dimension fit into this vision—what is the future of the family unit and its various life stages, and what about those who are not necessarily perceived as being economically productive? In an efficiently organised city, what becomes of design that has traditionally focused on human relationships, like hutongs, the old alleyways in Beijing whose cloistered dwellings housed familial generations around a courtyard? How should cities create an optimal environment for their citizens, and who is best placed to drive planning initiatives?



Cities designed for the future

Masdar, a sustainably designed city in the desert of Abu Dhabi built to be entirely carbon neutral, was touted as a blueprint for future cities. Located near the Masdar Institute for Science and Technology (MIST), it has had to scale back its aspirations of being home to 40,000 people by 2015: only several hundred students and some 100 companies out of the 1,500 envisaged have moved there so far. Ironically, a lack of affordable housing obliges the city’s workers to commute by car to a city aiming to be carbon neutral. Masdar’s growing pains are due both to a lack of investment following the global financial crisis, and to the inability of people quickly to adapt to unfamiliar urban environments.

The regeneration of cities can be initiated by inhabitants as a city becomes populated, as exemplified by Abuja, the capital of Nigeria and one of the fastest-growing cities in Africa. Home to 2.5m people, it was planned as an administrative capital to house civil servants.

However, the degradation of infrastructure over the past 30 years and traffic congestion have led to rapid growth in the peripheral shanty towns and slums.

These deprived areas have become incubators for traders, small businesses and entrepreneurs transforming the character of the city from one dominated by administrators. Today, over 80% of Abuja's economy is generated by the private sector and 68% of the population is self-employed.

Preserving the cultural heritage, the community and the layout of older cities poses another challenge. The 700-year-old city of Chiang Mai in northern Thailand—historically a kingdom and religious centre with over 300 Buddhist temples—preserved its heritage as the capital, Bangkok, became the political and economic centre of Thailand. In recent years Chiang Mai has become the Association of South-East Asian Nations' (ASEAN) gateway to southern China, resulting in its rapid transformation as a commercial centre. The traditional socio-economic fabric of the city is being swiftly altered as small-scale agricultural land is absorbed into urban sprawl and small markets are replaced by shopping malls. Buddhist rituals once dominant in the daily life of the city have been eroded by the pressures of commuting, materialism and a faster pace of life.

Rethinking urban environments to better serve citizens

Mr Mutter believes that cities can be more sensitive to inhabitants' needs by keeping abreast with the rate of change in a city and being more proactive in planning its infrastructure. This may involve gathering data, for example from a city-wide network of sensors to identify the root causes of traffic congestion, but also by listening to the voice of citizens and communities. Less straightforward, however, can be finding that voice in lower-income populations living in shanty towns and slums.

Ripin Kalra, senior fellow at the Max Lock Centre, part of the University of Westminster (UK), says that policymakers need to understand better what is valuable to a city. One way to do this is through community-led asset management, where citizens themselves decide which assets are important to preserve, be that schools, open spaces, community centres, places of worship or health clinics. Small-scale urban planning will generate broader transformation but, crucially, at the scale and speed acceptable to a community. Such projects have already been undertaken in Pretoria (South Africa) and Nairobi (Kenya). Valuing community assets includes appreciating rituals such as Diwali, the Indian festival of light and colour, which generate goodwill and cohesiveness within communities.



Policymakers need to understand better what is valuable to a city.

*Ripin Kalra,
senior fellow, Max Lock Centre*

Human values within cities

Mr Kalra's vision of a future city is one that is sensitive to the values of its inhabitants: "how do we start to value people who are not considered economically active? Little consideration is being given to the elderly, the non-employed and the very young when planning future cities". Valuing a city's older population can be illustrated by policies encouraging mobility and interaction so that the elderly are not house-bound. Initiatives range from bus services with low steps to facilitate access, to the design of street pavements that are not too narrow and uneven, or siting community centres close to elderly populations. The city of Akita in Japan has shifted planning for the elderly from government to communities, associations and private firms. Its planning strategy spans housing, transport and the prevention of social exclusion.

To appreciate and realise the value of people in a city means creating and designing environments where human interaction can thrive. This can be done through architectural design showcasing the traditional values of a city, such as in Bilbao, Spain, (where Frank Gehry's Guggenheim Museum honours the heritage of the city's steel industry), as well as in the creation of public spaces, community centres, and parks that allow citizens in the anonymous urban mass of a city to feel human through their connections to other people.

Creating thriving social networks will build more robust communities and, in turn, more resilient cities better able to deal with the challenges of the 21st century.



Simon Thurley
Chief executive of English Heritage

THE HERITAGE CAPITAL IN CITIES

How can cities balance development with their historic and cultural character? asks Simon Thurley, chief executive of English Heritage.

It has been argued, with good reason, that cities are man's greatest achievement. The ability of millions of individuals to live harmoniously and healthily together with enough food, drink and energy is, where it happens, extraordinary. This achievement is even more remarkable considering that many cities are hundreds, and in a small number of cases, thousands of years old. These are places that have had to renew and reinvent themselves to meet new situations, riding often tumultuous social, political and economic change.

Change is at the heart of metropolitan life. Development and redevelopment is what allows cities to survive and thrive. The central business districts of many cities have been rebuilt several times since the Second World War. Residential areas develop more slowly, but they do change as older houses are swept away to make way for newer ones, low rise is replaced by high rise and unfashionable areas become gentrified.

In this continuous turnover the pride of one generation quickly becomes the blight of the next. Buildings erected with skill and imagination to meet current needs become redundant and unusable more and more rapidly. In many cities this creates a dilemma, as buildings erected 100 years ago or more are integral to the look, feel and character of a place. Take them away and a city loses part of its identity. Take them all away and the city becomes somewhere else.

How to balance development and change with the need to retain and enhance character and identity is a central issue for cities in both the developing and the developed world, and particularly in places where civic infrastructure was built around a century ago. Some cities have successfully embraced the challenges of reusing defunct infrastructure. Old industrial areas have become home to boutiques, bars and restaurants. For example, the meat-packing district in New York and its old disused railway, now called the High Line, shows what can be done with redundant, but historically rich, structures. The massive King's Cross goods yard in London is now home to educational institutions, high-tech businesses and trendy flats. An old custard factory in Birmingham has given way to fashionable shops, cafés and offices.

There are lessons to be learnt in towns across the world for cities wanting to reuse historic buildings in their regeneration schemes. Yet successful schemes seem to be the exception rather than the norm. Generally, the assumption is that it is better to demolish and rebuild. Adaptation is seen as troublesome, time consuming and, crucially for the developers, less profitable. Of course sometimes buildings cannot be adapted and given new uses, but more often than not they can. And when they do they generally create value both in an economic sense and in terms of providing wellbeing for citizens.

In the most progressive cities, old buildings are now seen as capital that can produce significant economic return for a relatively small investment. This capital can be the defining factor as cities compete with each other to entice corporations, students, tourists and talent. Between places with a rich historic character and those that adopt the homogenising architectural language of global capitalism, the choice for cities is increasingly easy.



Development and redevelopment is what allows cities to survive and thrive.

Bio:

Simon Thurley is an historian, museum director and heritage crusader and has been chief executive of English Heritage since 2003. Before that he was director of the Museum of London and was, for eight years Curator of the Historic Royal Palaces.

HOUSING AND EDUCATION

The secret to successful urban schools is housing, argues Megan Sandel, principal investigator at Children's Health Watch.

For children to learn in school, they first have to show up. But the data on school absenteeism in many urban schools would make your hair curl. In San Francisco, it is estimated in some school districts that over 50% of students are chronically absent (defined as missing 10% or more of school in a given year).

The longevity of students at a given school is as valuable to them as simple attendance. But students often "churn" – leave and change schools or districts –each year, forcing teachers to re-teach material to new students. In Massachusetts, it was estimated that over a third of students across 11 cities churn through a school in a given year, that is, who start and finish a grade in different places.

As a doctor, I was taught to differentiate between symptoms and diseases. I can treat a cough with syrups to cover it up, but I can only cure the cough if I treat the underlying pneumonia with an antibiotic. In many ways, poor attendance and churning are symptoms of the same underlying disease: a lack of affordable housing.

The gap in affordable housing in most urban environments is profound. In New York City, nearly 77,000 students live in unstable housing, with an estimated 26,000 in homeless shelters and over 40,000 doubled up where two families live in a single home. A Utah research brief showed that homeless students and children living in unstable housing were respectively twice and four times more likely to be chronically absent from school. That means kids who have unstable housing are significantly more likely to miss more than 10% of the school year.

By investing in more affordable housing, cities can stabilise urban schools and prevent churning and chronic absenteeism. Some interesting experiments are taking place to test the impact of housing on education. As Michael Mirra, executive director of the Tacoma Housing Authority (THA), puts it: "How do you spend a housing dollar to achieve two outcomes: first, help the kids we provide accommodation for to succeed in school and second, help the schools that serve our community?"



Megan Sandel
Principal investigator at Children's Health Watch

Bio:

Megan Sandel, MD MPH, is an associate professor of pediatrics at the Boston University Schools of Medicine and Public Health, the Medical Director of National Center for Medical-Legal Partnership, and a Co-Principal Investigator with Children's Health Watch. She is the former pediatric medical director of Boston Healthcare for the Homeless programme, and is a nationally recognised expert on housing and child health.

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As reported in the Washington Post, the THA partnered with a local elementary school where the churn rate was over 100% of students in a given year (given a classroom with 20 seats available, students would come and go until 56 children had been in the class— almost three times the original class size). They created a housing voucher programme linked with social services, which targeted the chronically absent children and yielded significant results, reducing chronic absenteeism by 75%. But they are using scarce housing funding, and we should rapidly expand this promising pilot.

In linking housing investments with learning, cities can continue to apply healthy design principles to urban environments designed for health and well-being. As Jonathan Rose, founder of a multi-disciplinary real estate development firm, said in his recent Dunlop Lecture, “there is a cognitive ecology to the design of urban environments that is essential”. He outlined four strategies to combat toxic stress, including affordable housing, places for exercise, quiet spaces and healthy interactions. These prescriptions are easily applied to healthy learning environments as well.

Policymakers must understand the interconnectedness of urban spaces: housing matters for education, and what is good for citizens in housing is generally good for students in schools too. Without addressing the issue of housing, any educational reforms will be considerably less effective. Only when we understand and invest in these real solutions will urban schools improve and the potential of their students be realised.



By investing in more affordable housing, cities can stabilise urban schools and prevent churning and chronic absenteeism.



Alfredo Brillembourg
Founder of Urban-Think Tank (U-TT)

LEARNING FROM SLUMS

Cities in developed countries could learn about sustainability from so-called slums in the developing world, explains Alfredo Brillembourg, co-founder of Urban-Think Tank (U-TT).

How many people live in slums and where are slums most concentrated?

Based on the most recent estimates, almost 900m people worldwide live in slums, defined by UN-HABITAT (the UN's Human Settlements Programme) as a group of individuals living in an urban area lacking at least one of the following:

- housing that protects against extreme climate conditions;
- sufficient living space (no more than three people sharing the same room);
- access to safe water at an affordable price;
- access to adequate sanitation;
- security of tenure that prevents forced evictions.

Because of constraints in formal housing in a context of rapid urbanisation, an increasing number of people are resorting to slum settlements on the fringes of the world's megacities such as Caracas (Venezuela), Rio de Janeiro (Brazil) or Nairobi (Kenya). Slums are primarily concentrated in Sub-Saharan Africa, South Asia and Latin America.

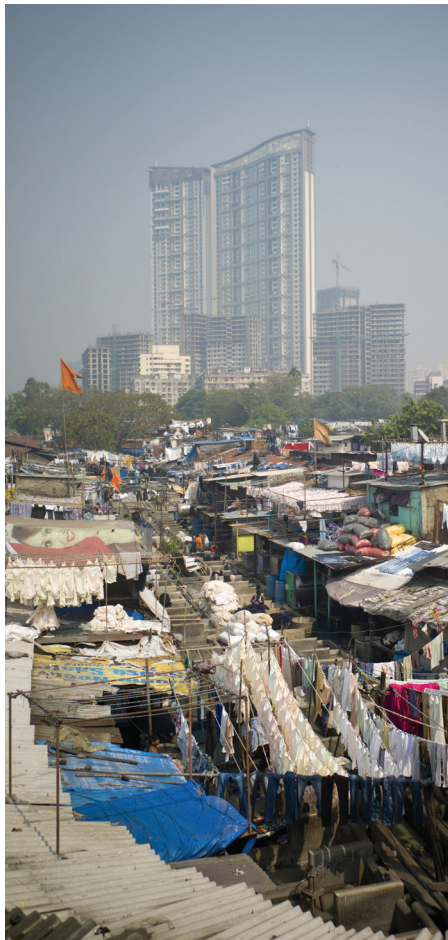
Could you describe the living conditions in slums?

While slum dwellers are incredibly resourceful when dealing with scarce resources, living conditions are generally tough. Many informal settlements are overpopulated and offer poor access to health, sanitation and education services, as well as low social mobility.

At the same time, there are some variations. In Latin America, informal housing is often built of more robust materials such as concrete, which make for better living conditions. In Asia and Africa, however, informal settlements are frequently constructed out of less resilient materials, leaving inhabitants more vulnerable to natural disasters and other structural threats.

Bio:

In 1993 Alfredo founded Urban-Think Tank (U-TT) in Caracas, Venezuela. He has over 20 years of experience practicing architecture and urban design. Since May 2010, Alfredo has held the chair for Architecture and Urban Design at the Swiss Institute of Technology (Eidgenössische Technische Hochschule, ETH) Zürich in Switzerland.



Slum dwellers are particularly entrepreneurial, with families converting their ground floor into a soup kitchen or a school.

What is “slum upgrading” and why are some local and national governments pursuing it?

The UN predicts that the number of people living in slums worldwide may double by 2050, meaning that policymakers will need to plan for ever-denser urban populations. A number of governments are resorting to “slum upgrading”, a strategy focused on lifting slum dwellers out of poverty by both retrofitting vital infrastructure in informal settlements, as well as building better-quality housing in situ that empowers citizens and prevents unnecessary displacement.

The Brazilian government, for example, launched a programme called favela-bairro (slum to neighbourhood) in the slums of Rio de Janeiro in the 1990s. Funded by the Inter-American Development Bank, the programme sought to integrate slums into the fabric of the city through infrastructure upgrading (for example by building water and sewage systems, stairs in houses, and funiculars to connect hills). It was very successful, and involved 253,000 residents in 73 communities.

Similar initiatives are also being implemented around the world, as exemplified by the work of Slum Dwellers International, a transnational network of community-based organisations dedicated to improving the living conditions of slum dwellers and ensuring that these populations gain recognition as equal partners with governments in the creation of inclusive cities.

What lessons can cities learn from slums, and from slum upgrading in particular?

In a way, slums are areas of high sustainability—they use less water and electricity, for example. There is also a stronger sense of community and solidarity than in big cities in general, which are much more anonymous. Slum dwellers are particularly entrepreneurial, with families converting their ground floor into a soup kitchen or a school. Policymakers in developed cities should learn to listen to citizens rather than adopt a top-down approach to planning—a core component of the “slum upgrading” method.

FOSTERING SOCIAL INTERACTION IN CITIES

The streets and public areas in which people come together are the life force of cities. Unlike parks, traffic and buildings, however, the life between these spaces does not fall under a specific municipal, state or federal jurisdiction—and it shows. By putting people—their behaviour and activity—at the centre of design and planning processes, cities can promote social interaction and public engagement, argues Jeff Risom, partner and managing director at urban research and design consultancy, Gehl Studio.

The world's best cities invite people from all walks of life to meet and spend time together, find peaceful respite, or enjoy being "alone together". These cities offer a variety of mobility options, especially for walking and cycling, which allow citizens spontaneously to socialise with an acquaintance or visit a shop. Yet in most cities, streets in particular are a vastly undervalued public asset. Comprising typically between 20-30% of a city's land area, streets could be doing more than just allowing people and objects to move from A to B.

Melbourne tops The Economist Intelligence Unit's Global Liveability Ranking, while the Quality of Life survey published by Monocle puts Copenhagen in first place. Despite being at opposite ends of the planet, these cities share some significant traits. Both municipalities have Departments of Urban Life, assessing the vitality of public life based on people-centred metrics such as pedestrian flow, time spent lingering in an area, and use of streets and spaces after dark. Both cities measure the vitality of public life as much as they measure vehicular traffic, congestion and economic growth.

Copenhagen has committed by 2015 to increase pedestrian traffic and the time spent in public spaces by 20% compared with 2010 figures, and to raise the share of citizens satisfied with the city's public space to 80%. All cities and politicians are in principle committed to the quality of public life, but that commitment does not always translate into measures and targets.

While vibrant urban planning should have a positive impact on liveability, not every city is Copenhagen, nor is there a silver bullet to improve social interaction in cities. Urban planners need to ask themselves who it is they are targeting; indeed, municipal investments may benefit some socio-economic groups more than others. For example, lower-income groups might get pushed out of a neighbourhood by virtue of well-meaning infrastructure improvements that lead to gentrification, and other developments such as allocating public space for outdoor restaurant seating are more likely to benefit middle- or high-income groups.

There is little knowledge about the impact of design on trends like gentrification, lack of investment, or civic engagement. Yet advocacy groups and academics are starting to make inroads in this field. Raj Chetty, Bloomberg professor of economics at Harvard University, has shown that when cities mix housing tenure types, lower-income groups are more likely to move up the income ladder, while higher-income groups develop a better awareness of other socio-economic groups. The Knight Foundation is initiating several projects to understand better the relationship between urban design and social interaction at city level.

Can design alone promote social interaction? No, but it can have a big impact in unexpected places.



Jeff Risom
Partner and managing director at
Gehl Studio



...streets could be doing more than just allowing people and objects to move from A to B.

Bio:

Jeff Risom is partner and US managing director at Gehl Studio. Jeff has worked with both public and private clients as well as non-governmental organisations in Europe, the USA, Latin America, India and China. As an international consultant, Jeff strives toward processes that catalyse local engagement and design solutions that remove barriers to diverse and equitable urban environments.



Tim Pryce
Head of public sector at the Carbon Trust

CLEANER AND GREENER TRANSPORT

How can cities innovate to reduce carbon emissions and air pollution, creating clean and sustainable transport systems? asks Tim Pryce, head of public sector at the Carbon Trust.

Transport has always shaped cities. In medieval times crossroads gave birth to thriving market towns. Venice was built up around its canals. Industrial Britain's development followed the route of railways and waterways. Many North American cities were created for the car. But how are the cities of today being shaped by a need for more sustainable transport?

Cities are now home to over half the global population and have a large role to play in reducing carbon emissions and improving air quality. This requires new technologies and ways of organising cities, alongside energy and process efficiency gains.

Many local governments are accelerating change through policy initiatives such as integrated transport; congestion charges and low-emission zones; sustainable procurement and lifecycle costing; and opening data up to companies and academics. These urban policies can move markets in more sustainable directions. For example, London is requiring all newly licensed taxis to be zero-emission capable from 2018, which has resulted in five vehicle manufacturers committing to meeting that deadline.

There are three main ways that cities can innovate to make transport more sustainable without increasing journey times.

- **Better land-use planning:** The least dense cities, for example Houston in the US, have per-head carbon emissions that are nearly ten times higher than the densest, such as Singapore. City planners are using transit-oriented development to increase density while maintaining quality of life and property value. This involves clustering mixed-use developments around a key transport hub, as with the KL Sentral area in Kuala Lumpur, built around the largest railway station in South-east Asia.

- **Modal shift:** Some cities, such as Delhi, India, are investing heavily in creating the mass transit systems needed to change how citizens travel. Others are using incentives and behavioural change to encourage people to choose more efficient—and often healthier—forms of transport. Copenhagen has a number of progressive cycling policies including the Green Wave, which allows people cycling at 20km/h to hit all green lights during rush hour. This supports commuting at a speed that keeps traffic moving, but is safe for the cyclist.

Bio:

Tim Pryce leads the Carbon Trust's work with the public sector, providing technical and strategic support to help organisations to cut carbon emissions and provide leadership on climate change. Tim is a qualified chartered accountant, and spent five years at the National Audit Office specialising in environmental issues including Climate Change Agreements, flood defences and emissions trading.

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• **Making existing transport modes more efficient:** The use of lightweight materials and structures to reduce vehicle weight, and new engine and fuel technologies, are helping to make existing road and rail vehicles more efficient. However, alternative ways of fuelling transport are also needed and it is not yet clear which technologies and fuels cities will back. The main options are hydrogen fuel cells, fossil fuel hybrids, and electric vehicles, and the optimum solution may well vary from city to city. Many options require city-level investment in new infrastructure—for example the city of Gumi in South Korea is currently piloting a scheme that embeds wireless charging for electric buses within the roads, helping to recharge vehicles on the move.

A number of cities are already taking significant steps towards creating sustainable transport systems. In Manila, in the Philippines, the Asian Development Bank is aiming to roll out 100,000 electric tricycles (e-trikes) to replace current fossil fuel versions, which will not only benefit the environment and health, but will also increase take-home pay for drivers by around 15%.

Hangzhou in China, which already has the world's largest bike-sharing scheme, has embraced the electric car. It is now installing multi-storey "vending machines" for ultra-compact electric cars, with a 75-mile range and costing just US\$3 an hour. There are around 50 of these in the city today and plans for many more. Hangzhou also has battery-swapping facilities for around 500 electric taxis.

The global need to cut carbon emissions and air pollution, at the same time as improving human development, has created the demand for sustainable and accessible transport systems. Through their actions, city governments are helping to shape the cities of the future, today.



City planners are using transit-oriented development to increase density while maintaining quality of life and property value.

AGE-FRIENDLY CITIES

As people live longer and urbanisation rates grow, more of the elderly will need adaptations to their environments. Most cities however do not yet have a cohesive age-friendly planning strategy.

The Economist Intelligence Unit spoke to Ruth Finkelstein, associate director at the Robert N Butler Columbia Ageing Center, to find out how cities can cater to the elderly.

Which countries and regions are most affected by ageing populations and to what extent does this affect cities?

The ageing population trend affects all regions in the world, particularly Western Europe, Japan and Scandinavia.

The main driver of this trend is a global improvement in public health, leading to an increase in average life expectancy. This combined with rising urbanisation rates, mainly in developing economies, results in an increasing share of elderly people in cities.

What are some cities doing to put the elderly at the top of the agenda?

Age-friendly planning is not just about the level of investment but how to invest money and to pre-plan. The idea is to look through the lens of ageing when we plan, build and design cities.

Cities that are ahead of the curve in age-friendly planning are those in Western Europe -- particularly Spain, Italy and Germany --, Scandinavian countries and Japan. For example a number of Spanish cities, including Madrid and Valencia, have developed comprehensive city-planning strategies that ensure design works for people of all ages and levels of ability (including both the able bodied and the disabled). Putting age-friendly design at the heart of city planning means that these cities won't have to go through the costly process of retro-fitting and modifying existing facilities.

Similarly the workplace is a good example of an area that would have many wider benefits for society, if optimised for an ageing workforce. BMW, a German car manufacturer, has taken the lead in adapting its work processes to older employees. Its factories include updated facilities such as ergonomic back supports for employees, mobile tool trolleys to prevent straining for tools and improved lighting for the visually impaired.



Ruth Finkelstein
Associate director at the Robert N Butler
Columbia Ageing Center

Bio:

At the Columbia Aging Center, Dr Finkelstein currently leads the translation of interdisciplinary scientific knowledge on ageing and its implications for societies into policy-focused practice in order to maximise productivity, quality of life, and health across the life course. She has over thirty years' experience in health policy, planning and research, focused on promoting health for vulnerable populations.

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Who should be taking the lead on developing age-friendly city planning – governments, businesses or citizens themselves?

I don't believe age-friendly planning initiatives should be driven from central government alone, it really has to be a partnership between each of these actors. Businesses ought to be leaders not just in redesigning workplaces, but also in improving urban environments – and it is in their interest to do so. The elderly are much more likely to use local amenities such as shops and cultural sites in an environment they perceive as age-friendly.

Local governments must have a hand in planning as most of the design of streets, sidewalks, transportation systems and public works occurs at the local level. Similarly, if older citizens themselves don't press governments for change, policymakers will miss the boat.

What challenges do you foresee in the implementation of new approaches to age-friendly planning?

The challenges are enormous. There's a technical administrative challenge associated with getting separate entities to collaborate for a mission that cuts across sectors.

Political will is another major issue. This has to do with how society views older adults, and the stereotypes that prevent us from seeing the value that age-friendly planning can have towards the whole community. An active elderly population can expand a city's workforce and benefit the local economy: giving elderly people an adequate access to shops and amenities, for example, can add to the vibrancy of an area.

Changing our thinking now can enable us all to extend our active lives in the community.



Age-friendly planning is not just about the level of investment but how to invest money and to pre-plan.



Martín Andrade
Co-founder of Fundación Mi Parque and
national coordinator of urban parks in Chile



The challenge for urban policymakers wanting to improve the lot of their citizens is not to simply create more green areas, but to find ways of empowering communities to take ownership of that space.

Bio:
Martín Andrade, is an architect, co-founder of Fundación Mi Parque and national coordinator of Urban Parks in Chile. Because of his work, in 2012 he was awarded "Social entrepreneur of the year" in Chile by the Schwab Foundation (entity related to the World Economic Forum).

GREENING OUR CITIES

The World Health Organisation recommends 9 sq meters of green space per inhabitant, yet the average person in Chile has just 4.4 sq meters of green space. Martín Andrade, co-founder of Fundación Mi Parque and national coordinator of urban parks in Chile, explains how public green areas can improve the lives of poor families.

In 2010, the Chilean Ministry of Housing and Urbanism carried out a survey on the quality of urban life. When asked about the biggest problems in their neighbourhood, respondents cited the lack of green areas as one of the main issues.

This is a shame. When searching for information about the importance and impact of green areas in cities, it is easy to find evidence for how they benefit the environment, how they help to decrease crime, and how they increase property values and social integration. However, very little is said about the less obvious, yet equally important, benefits of green areas: giving citizens a sense of pride and belonging.

Outside observers may wonder why citizens do not take matters into their own hands, for example by raising funds to improve their surroundings or helping with the cleaning of their area. To better understand this problem, Mi Parque (a non-governmental organisation dedicated to improving the lives of poor families by increasing access to green spaces) embarked on a photo-ethnographic project in which people were given cameras and notebooks to explain how they felt about their neighbourhood. Comments included "I do not feel part of the society" or "I feel ashamed about the place where I live".

The challenge for urban policymakers wanting to improve the lot of their citizens is not, therefore, to simply create more green areas, but to find ways of empowering communities to take ownership of that space. That's why, rather than taking a top-down approach to landscape planning, Mi Parque focuses on involving families and communities at the earliest stage of a new project. Our belief is that the community must be the principle actor throughout the design, construction and maintenance of the project. To date, Mi Parque has collaborated with 92 businesses on the implementation of 185 projects, assembling 19,735 volunteers and benefiting over 310,000 citizens.

Our sense is that our more bottom-up approach is producing results. Indeed, we recently partnered with two research centres, the IM Trust Foundation and J-PAL, to measure the social effects of 30 green areas that were developed in the Chilean capital, Santiago, in collaboration with citizens, and comparing them with 30 other areas that were not subject to any intervention. The research is ongoing, but initial results show a perceptible increase in the pride and sense of belonging related to specific neighbourhoods. My hope is that our experience will help shape public policy and lead to more projects in this field.

RETHINKING URBAN TECHNOLOGY

Emma Stewart, head of sustainability solutions at Autodesk, a US software corporation, explains why the “smart city” construct is incoherent.

Much like in ancient times in Athens and Rome, cities have once again become the political and economic heart of society, accounting for 70% of global GDP, a figure that will continue to rise as the share of people living in cities increases from 50% to 70% between now and 2050. Cities are also responsible for the vast majority of new infrastructure spending and have the highest environmental footprint.

Yet the private sector’s response to this huge societal shift has been worryingly reductive: existing products are rebranded as “smart city” offerings; experts opine breathlessly about the promise of sensors, “big data”, and an all-seeing Internet.

In reality, the most powerful and cost-effective use of modern technology is not collecting big data once things are built, so as to enable marginal improvements, but rather generating, simulating, and analysing ideas relating to the design, or redesign, of city assets. This application is a more cost-effective and powerful way to achieve the outcomes that cities seek—not to be “smart”, but rather to be liveable and sustainable. The term “smart” can, for our purposes, be broken down into an acronym, as outlined below.

S: Sets science-based targets

Cities account for the vast majority of greenhouse gas emissions globally, and setting targets to reduce those emissions is now commonplace. Yet how is a city mayor to know what target is a reasonable proposition? Climate science suggests that 80%+ reduction targets are necessary to stabilise climate change by 2050, and cities such as Palo Alto in California have begun to calculate their economically-adjusted fair share of those global reductions.

M: Makes the comprehensive business case

Until recently, making the case for investments in urban infrastructure projects involved relatively simple calculations: What is the predicted capital cost of the project (minus any likely cost overruns) plus basic annual operating costs? But the dearth of national government funding for infrastructure is driving project sponsors towards a different set of financiers—banks, pension funds, and infrastructure exchanges—and there they encounter a more nuanced set of questions, such as: which stakeholder group will benefit most from this project? What is the net environmental benefit now and in 50 years? How have you mitigated against the risk of natural disaster? Marc Weisdorf, head of JP Morgan Asset Management, representing 110 global institutional investors and US\$1.6trn in assets, summed it up by declaring, “We will not invest in any infrastructure project that does not include long-term triple-bottom-line analysis (meaning financial, social and environmental) from early planning through to operations.”



Emma Stewart
Head of sustainability solutions at Autodesk

Bio: Emma Stewart is Head of sustainability solutions at Autodesk, where she leads the design software company’s efforts to make sustainable design easy, insightful, and cost-effective for its millions of engineering and design customers.

TOMORROW'S CITIES

CREATING OPTIMAL ENVIRONMENTS FOR CITIZENS

A: Absorbs water

Whether coastal or inland, cities need to act more like mangroves and less like car parks. Roughly half of mankind lives on the coast—more people than inhabited the entire globe in 1950—and coastal flooding now represents a significant risk. Even inland, impermeable surfaces and combined sewage systems—once considered state-of-the-art—leave cities paying huge sums to ferry away and treat water and, at times, after increasingly heavy rain, leave citizens wading through sewage when the systems overflow.

So, the current buzzwords for city officials from Philadelphia to Singapore are “green stormwater infrastructure”, which has the dual benefit of absorbing and filtering rainfall while cleaning the air, enhancing property values, and providing open space.

R: Retrofits energy hogs

Even where national directives do not yet exist, cities such as New York and Washington, DC, are creating their own mandates to squeeze unnecessary waste out of their built environment. Yet until recently they have relied on age-old techniques such as costly on-site audits. Now, something as simple as a camera, tablet computer or aerial image can be used to evaluate the building's likely energy use and potential for upgrade, thereby empowering cities better to target their limited resources.

T: Transports people, not cars

Cars have significantly improved living conditions, but car-oriented development is harmful. An affinity for “car-first metrics” by traffic engineers has led to a doubly damaging outcome: clogged roads and an overweight population. Technology has a role to play here, but it can be simpler than autonomous vehicles, and can have a greater impact than small improvements here and there. The larger opportunity lies in redesigning existing streetscapes to transport people and goods in ways that are good for our cities and our health: rail, bus, bicycle and foot.



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Michael Weigelt
Director of corporate communications at
Living PlanIT

ENABLING RESILIENT CITIES

Key to resilient cities is an information and communication technology (ICT) platform that optimises infrastructure, argues Michael Weigelt, director of corporate communications at Living PlanIT.

There are a number of pressing trends that call for technological innovation in cities.

Mass urbanisation - The majority of the world's population lives in cities, which need to provide and maintain infrastructure to deliver services to their citizens. According to the World Health Organisation, in 2014 some 54% of the world's population lived in cities, compared with 34% in 1960. This shift puts more stress on ageing urban infrastructure that all too often has not been significantly upgraded.

Finite natural resources - Cities consume the majority of the planet's natural resources and account for roughly 70% of greenhouse gas emissions globally. New solutions are needed to ensure that, over the long term, cities provide the quality of life that citizens either aspire to or have become accustomed to, while at the same time reducing the consumption of resources.

The innovation imperative

In order to make the best decisions about improving city infrastructure (including energy, water, waste, mobility, communications) we need to be able to collect and analyse information from these systems. The Internet of Things (IoT) is the name given to the growing trend for consumer and industrial devices being connected to the Internet, enabling information gathering and control functions to increase efficiency.

While much progress has been made in establishing the tangible value of IoT for cities, most stakeholders are poorly equipped to handle this evolution. Many strategies focus on consumer electronics rather than on solving long-term challenges such as improving the resilience of city infrastructure. Solutions require a unified ICT infrastructure platform that enables the collection and analysis of real-time data in cities, to improve traffic flow for example.

A number of tech companies are creating solutions to global challenges through new technology models enabled by an ICT platform. Digital infrastructure now allows technologies that previously worked in separate silos to be integrated, thereby increasing their efficiency within the broader system.



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Bio:

Michael leads corporate communications for Living PlanIT, the award winning international technology company that develops and licenses the PlanIT Operating System (PlanIT OS™) – the essential open software platform that enables the design, delivery, operations, and enhancement of urban and rural environments, allowing new forms of interaction between people, places and things.

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For example, a city's surplus solar energy can be used to pump water into a container at a higher altitude, which can then on a rainy day be released downhill through a micro-hydroelectric system, generating further energy to power the city. This energy infrastructure requires sophisticated data analytics in order to run optimally. The ICT platform collects data about historical and live weather patterns to determine when to pump, hold or release water. These types of developments have the potential to transform financial models, city planning and also mindsets regarding what is possible.

The use of these new technological models in cities will grow. According to research by Bosch, an engineering and electronics firm, the financial opportunities around IoT solutions could be worth €596bn by 2022, and opportunities in the connected utilities market alone are estimated missing end of sentence: are estimated at €44bn.

URBAN DIVERSITY

Is there such a thing as an urban “diversity dividend”? asks Mike Raco, professor of urban governance and development at University College London.

There is a deep ambiguity in the attitudes of policymakers to the growing presence of ethnic diversity in western cities. For some, it is celebrated as a core element in the creation of vibrant, progressive and economically successful cities. For others it represents a threat to long-term economic prospects and social cohesion. So what we can learn from the existing evidence?

Some research indicates that greater ethnic diversity boosts the competitiveness of cities. World business leaders in Davos recently lauded the “diversity dividends” that accrue from varied labour markets and the wider pool of skills and talent that these provide. It is claimed by some that firms with more diverse employees and managers often possess more outward-looking approaches. They have a better awareness of the cultural variations found in markets and are able to tap into broader sources of finance. There are, for example, growing transnational sources of Islamic funding made available for Muslim entrepreneurs and businesses. The global distribution of investments from international sovereign wealth funds is also influenced by the presence of diasporic communities, who are more likely to be found in diverse cities.

Research in European cities also indicates a high degree of entrepreneurialism amongst migrant communities. Their presence can act as a platform for creativity and business growth, particularly in poorer neighbourhoods.

City marketing campaigns increasingly reflect this optimistic ethos. The bid for the 2012 London Olympic Games represented a watershed moment in showing how the promotion of diversity can act as a springboard for “boosterist” agendas. It has been copied by cities across the world.

And yet, these positive representations are also contested. Much of the focus has been on “creative” individuals and firms. Yet the reality in many cities is that migrants face multiple forms of discrimination and labour-market exploitation. In some instances, their presence also has a negative impact on the working conditions of existing lower-skilled workers. Moreover, despite the rhetoric, many ethnic businesses face significant barriers when seeking to expand beyond their immediate, local markets, thus limiting their wider economic potential.

There are also political dangers. The presence of migrants can act as a lightning rod for broader discontent. The marketing of diversity by cities can all too easily descend into crude caricatures and stereotypes. Whilst pro-diversity policies appear to embrace ethnic differences, they can also amplify them by encouraging communities and citizens to think of themselves as separated by cultural barriers.



Mike Raco

Professor of urban governance and development at the Bartlett School of Planning, University College London



Diversity is commonly seen as an asset. It is a part of what makes cities attractive places in which to live, work and invest.

Bio:

Mike is professor of urban governance and development at the Bartlett School of Planning, University College London. He previously lectured at King’s College London and the Universities of Reading and Glasgow. His research interests are focused around the central themes of governing spaces, with a particular emphasis on democratic theory and governance, sustainable-city building, and urban diversity.

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So what of the future? There is much to be positive about. There is evidence that the attitude of city authorities to diversity tends to be pragmatic and positive. Diversity is commonly seen as an asset. It is a part of what makes cities attractive places in which to live, work and invest. There are numerous examples of how social and economic policies are being combined in innovative ways to meet changing demands. However, some of the biggest threats come from wider economic changes. There are growing inequalities in cities across the world and this is leading to a polarisation of opportunities for all, not just those defined as ethnically diverse. Policy interventions that are tailored to the needs of diverse groups have an important role to play, but they are not a substitute for a fairer distribution of economic risks and rewards.

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