

Liveable and Sustainable Cities: Common Challenges, Shared Solutions



WORLD CITIES SUMMIT 2014
CONFERENCE PROCEEDINGS



JUNE 2014, SINGAPORE





CONTENTS



04

FOREWORD



06

INTRODUCTION



10

CHAPTER 01
CONNECTIVITY



24

CHAPTER 02
TECHNOLOGY



36

CHAPTER 03
EQUITY



50

CHAPTER 04
ENGAGEMENT



60

CHAPTER 05
IDENTITY



72

CONCLUSION



76

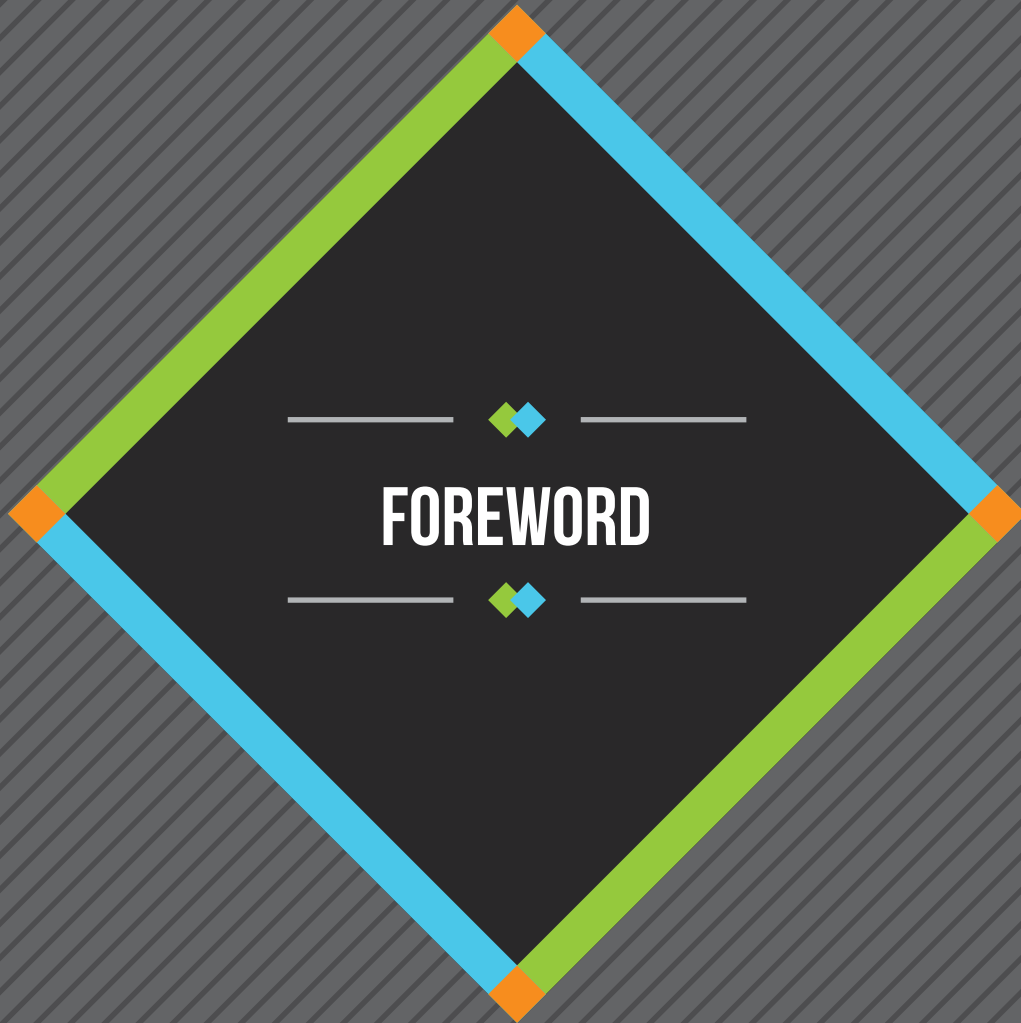
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LIVEABLE AND SUSTAINABLE CITIES: COMMON CHALLENGES, SHARED SOLUTIONS
WORLD CITIES SUMMIT 2014

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FOREWORD

KHAW BOON WAN

MINISTER FOR NATIONAL DEVELOPMENT, SINGAPORE



Cities are experiencing an accelerating pace of urbanisation with growing complexity. All are competing to be the most liveable for their people, and to do so in a sustainable manner.

All face major challenges, including competing uses for land space and rising pollution. Successful ones are finding the value of close interaction and effective collaboration among the public, private and people sectors. These are critical success factors.

The World Cities Summit provides a platform for city leaders to share and learn from one another. Since its inauguration in 2008, the Summit has also become an important gathering for industry experts to share insights, brainstorm solutions and forge partnerships with the city leaders. Singapore is honoured to host the World Cities Summit biennially.

The World Cities Summit in 2014 adopted the theme: **“Liveable and Sustainable Cities: Common Challenges, Shared Solutions”**. Proven urban solutions were shared among the participants, including hard lessons learnt so that no one needs to re-invent the wheel and pay unnecessary tuition fees. This way, we aim to propagate best practices, and promote exchange of ideas to spur policy and technology innovations. This builds deeper partnerships among cities and stakeholders.

At the Opening Ceremony, Singapore’s Prime Minister Mr Lee Hsien Loong said that urban development was a continuous process and cities would benefit from mutual learning. That was how Singapore made progress in its mission of becoming a better home for its people. He also highlighted the need to harness technology to make Singapore a smart nation, and to strengthen people’s sense of ownership through active public engagement.

A highlight of the Summit was the award of the Lee Kuan Yew World City Prize to the city of Suzhou. The Lee Kuan Yew World City Prize is named after Singapore’s Founding Prime Minister who successfully transformed Singapore from third world to the first within one generation.

Another highlight in 2014 was the gathering of over 120 city leaders at the annual World Cities Summit Mayors Forum. The next Mayors Forum will be held in New York City in June 2015.

This book distils ideas from the Summit and is organised under the five challenges facing cities today – Connectivity, Technology, Equity, Engagement and Identity. It contains valuable case studies of city initiatives and transformative projects from different parts of the world. I hope it provides an inspiration for our readers.

I look forward to you joining us at the next World Cities Summit in July 2016 in Singapore.



INTRODUCTION

INTRODUCTION

LIVEABLE AND SUSTAINABLE CITIES: COMMON CHALLENGES, SHARED SOLUTIONS

The biennial **World Cities Summit** is an exclusive and premier platform for government leaders and industry experts to address liveable and sustainable city challenges, share integrated urban solutions and forge new partnerships. The Summit is jointly organised by Singapore's Centre for Liveable Cities (CLC), and the Urban Redevelopment Authority (URA).

The unifying theme for the World Cities Summit, since its inauguration in 2008, has always been "Liveable and Sustainable Cities". The theme in 2014 was "**Liveable and Sustainable Cities: Common Challenges, Shared Solutions**". City leaders examined the current state of urban challenges and identified principles of shared solutions applicable to cities spanning the range of development, socio-economic and political contexts.

Held concurrently with the World Cities Summit are two other global events — the Singapore International Water Week and CleanEnviro Summit Singapore. The co-location of these events provides an integrated platform for global leaders in the public and private sectors to network, explore synergies, as well as to discover and evaluate the latest innovations in sustainable urban, water and clean environment solutions.

The World Cities Summit is anchored by two key components – the World Cities Summit Mayors Forum and the Lee Kuan Yew World City Prize Lecture and Forum.

The **World Cities Summit Mayors Forum** was initiated by Singapore in 2010 as a response to the urgent need for cities to come together regularly to address pressing urban challenges. It has since become one of the most important platforms for mayors and city leaders globally.

The Forum is an annual by-invitation event for city leaders to discuss urban issues and share best practices with one another. This peer-to-peer platform invites mayors and senior leaders from the industry and international organisations to share experiences in developing integrated urban solutions, building economic and environmental resilience, engaging with communities and sustaining a high quality of life in urban regions.

The **Lee Kuan Yew World City Prize** is a biennial award that honours outstanding achievements and contributions to the creation of liveable, vibrant and sustainable urban communities around the world. The Prize seeks to recognise cities and their key leaders and organisations for displaying foresight, good governance and innovation in tackling the many urban challenges faced, to bring about social, economic and environmental benefits in a holistic way to their communities. Past Laureates were Bilbao, Spain (2010), New York City, USA (2012), and Suzhou City, China (2014).

World Cities Summit 2016 will be held in Singapore in July 2016 and it will build on the discussions at the World Cities Summit Mayors Forum 2015, which is being held in New York City, a Lee Kuan Yew World City Prize Laureate.

INTRODUCTION

LIVEABLE AND SUSTAINABLE CITIES: COMMON CHALLENGES, SHARED SOLUTIONS

Cities are taking centre stage as key players in the future of human populations. By 2030, only about 15 years away, over five billion people or 60 per cent of the world's population will live in cities, compared with 3.6 billion today, an increase of 1.4 billion. If mankind is to forge a path forward to make a better life for itself, cities will have to take the lead.

This central role of cities for the future was made abundantly clear at the fourth World Cities Summit in Singapore in June 2014 by renowned senior-level speakers, including ministers, mayors, business leaders and heads of international organisations. At the World Cities Summit Mayors Forum, over 120 mayors and city leaders gathered to share ideas and best practices, and to explore new ways forward. The Lee Kuan Yew World City Prize continued its tradition of celebrating cities that have led the way in enhancing the quality of life for their residents, and inspired others with their best practices and approaches.

The World Cities Summit gathers and generates a wealth of shared solutions to the common challenges of how to make cities around the globe more liveable and sustainable. One main common threat to cities is the intensifying pace of urbanisation and rural-urban migration, which has further strained infrastructure and resources everywhere. This is happening against a backdrop of the growing encroachment of the effects of climate change, as well as of other trends such as rapid ageing and a more affluent middle class, which is now more demanding of transparency, good governance and citizen participation in city planning and management.

What still needs to be built is staggering. According to a report by the McKinsey Global Institute, an estimated US\$57 trillion in infrastructure investment will be required globally between now and 2030 – nearly 60 per cent more than the US\$36 trillion spent over the past 18 years. The world will need to see significant investments especially in transport, electricity, water supplies, sanitation, solid waste management and telecommunication, not to mention other emerging areas of need. To make this happen, related adjustments will also be needed in soft aspects, including mindsets and the culture of partnerships.

This book captures a selection of key takeaways from the common challenges and shared solutions that surfaced at the Mayors Forum, which held six roundtable discussions, as well as from three plenary sessions at the World Cities Summit, five thematic tracks, and five city presentations from Rotterdam (Netherlands), Zhuhai (China), Melbourne (Australia), Gifu (Japan) and Manila (Philippines) as well as four regional forums covering China, India, Latin America and Southeast Asia. Further insights were gleaned from the Lee Kuan Yew World City Prize 2014 Lecture and Forum featuring Suzhou (China), Medellín (Colombia) and Yokohama (Japan).

If mankind is to forge a path forward to make a better life for itself, cities will have to take the lead.

The key takeaways from the World Cities Summit 2014 are five areas of consensus which pose challenges for cities to address in order to move into the future, toward greater liveability and sustainability. The chapters contain case studies highlighted from cities that have made progress in each area:

- 1 **Connectivity**
This challenge – the broadest of the five – includes connecting citizens and cities better through more collaborative initiatives and international networks such as the World Cities Summit, so that mistakes in city management are not repeated while good ideas and solutions can be replicated and customised for implementation in more cities.
- 2 **Technology**
Finding the best ways to harness information and data more effectively with better technology can raise the quality of life in cities, especially when applied in areas such as enhancing the use of transport and urban mobility.
- 3 **Equity**
Improving the living environment of cities would be incomplete without ensuring that the benefits of greater liveability can be accessed by all residents along the whole socio-economic spectrum, as well as across all ages and minority groups. Inclusive communities will build trust and ensure the sustainability of city developments.
- 4 **Engagement**
Cities that succeed in managing urbanisation well will have to be more innovative and consultative, to reach out to their residents for ideas and really involve them. Beyond participation, residents can be encouraged to take ownership of, and improve, their environment and the community.
- 5 **Identity**
As globalisation brings much change to cityscapes, heritage and culture will be an even more vital resource, valued by cities to remain unique and by residents to identify with their living environments. All the more, heritage and culture will need to be integrated well into urban development.



CHAPTER 01 CONNECTIVITY

Cities of the
future collaborate
and connect



"The city is our future. It's a concentration of people who create networks, bring new ideas and innovation, generate economic growth and in turn, attract more people."

DR LIU THAI KER

Chairman, Centre for Liveable Cities and Director, RSP Architects Planners & Engineers (Pte) Ltd

Connectivity is a broad word, but it really gets to the root of the solutions to many problems that cities face today. There are two main aspects. One is internal: connecting the residents of a city more closely together so that different interest groups can at least begin to pull together towards the same goal of building a better city.

The second is external: connecting cities better to other cities, so that cities can learn and adapt good practices from the experiences of other cities, so as to work on shared solutions to problems that have many similarities across the continents, from congestion and crowding to fostering greater citizen participation and ownership.

Collaborating with other cities to learn and adapt good practices will help to spread the best ideas.

As the world becomes more connected by global communication technologies, connecting people and places will become more challenging as interests will become more fragmented. City governments will find it harder to communicate with residents, and so, will have to work harder to bring different groups together for the common good. Collaborating with other cities to learn and adapt good practices will help to spread the best ideas.

On the plus side, cities that are "future-ready" can be equipped and empowered by communication technologies to link up with other cities like never before, and with the stakeholders of the city. More and better collaborations between government, business and people will lift liveability all-round, from enhancing basic infrastructure to improving daily management of traffic, energy, waste and other city facets. Before this "external connectivity" between cities can

happen and reap significant benefits, though, people need first to start feeling more connected within their own cities to the different players and elements that affect liveability right where they live.

Hence, the key to eventually achieving greater inter-city collaboration is first bringing people together at the local level. This can be physical or virtual, to connect people to government, to organisations, to liveability and sustainability causes. Cities can install free wi-fi to connect everyone, such as in Adelaide, Australia, or by gathering stakeholders such as in 24-hour "Design Storm" problem-solving sessions in Cape Town, South Africa, where citizens and corporate representatives can give their ideas for city planning and improvement.

The following case studies give different perspectives on addressing the challenge of nurturing collaboration and connection among citizens and their cities, and between cities.

CASE STUDY

COMBATING CLIMATE CHANGE: CONNECTING THE C40 NETWORK CITIES



As far as global connectivity goes – bringing cities together to address the most urgent and important global issues – there are few initiatives that have gathered more ground momentum in connecting people across cities than the C40 Cities Climate Leadership Group, a network of megacities that have come together to address climate risks locally and globally. The C40 group's 67 city members are mostly mega-cities with populations over 3 million and comprise a collective population of over half a billion people, generating 20 per cent of global GDP and five per cent of the world's greenhouse gas emissions.

The C40 city mayors have already seen through over a thousand actions on climate change adaptation. Three-quarters of C40 cities have undertaken assessments of the risk of flooding and extreme weather events and implemented adaptation measures on the ground, including for flood defence and city cooling. The global connections enable the C40 cities to enhance their contributions to addressing climate change by sharing knowledge and experience of their best practices.

According to Mr Kevin Austin, Director of Regions, Initiatives and Events at C40, the group's approach is to use the knowledge some cities have in a particular area to help

There is no point in reinventing the wheel, no point in making the same mistakes somewhere else.

other cities embark on a similar project. Such knowledge-sharing is the lifeblood of promoting greater connectivity between cities to enhance liveability for everyone. "There is no point in reinventing the wheel, no point in making the same mistakes somewhere else," says Mr Austin, speaking at the World Cities Summit 2014 thematic track on Building Resilient Cities.

At the forefront of this work is how information can be best used to predict problems and respond to emergencies, and linking everything up to engage with local communities. The C40 group calls this process "polisdigitocracy", a new term coined by the C40 chairman Eduardo Paes, who is also mayor of the Brazilian capital of Rio de Janeiro. "Polis" means city in ancient Greek, and here refers to engaging people to pay attention to climate risks. "Digito" refers to the digital revolution in inter-personal communication and connection, through social media and other online channels. More and more city governments are going into this digital sphere in a big way, to ensure that they better understand their citizens and their citizens can better understand them.

The C40 city mayors have already seen through over a thousand actions on climate change adaptation.

For example, in Rio de Janeiro, the city's state-of-the-art operations centre collects a vast amount of data every day, and this enables them to monitor and respond in real time to particular impacts, such as implementing early warning systems to inform the population of an impending emergency, and getting different agencies to provide a coordinated response in dealing with situations such as localised flash floods. Rio is also using social media to reach young people to build awareness of climate risks, and to get their input into initiatives being developed. This also provides the city with more information, which can further improve decision-making capabilities.

Another Brazilian city, Sao Paulo, has a summer rain programme that includes an innovative mobile device app which contains real-time information on weather as well as the localised impacts on flooding, traffic flow, and the operation of public transport. Such use of data and communication gives citizens the information they need to move around safely and comfortably during the rainy season.

Advances in digital communication have created the means to collect and share information on a faster and broader scale than ever before. As the use of big data becomes even more sophisticated, cities will no doubt become more connected within themselves and also with other cities through networks such as the C40. It is now up to cities to do more to connect their citizens to the key issues, and then to come together to do something about it.

CASE STUDY

DENMARK: IF YOU FEEL CONNECTED TO NATURE, YOU WILL PROTECT IT

While connecting cities globally is important, to get to the heart of the problems that cities face means first starting with the individual. If ordinary people do not feel connected to their cities, if they do not feel a sense of ownership of the problem, they will not chip in to be part of the solution. For instance, they will continue to litter the environment and consume resources indiscriminately rather than help fight climate change.

Denmark, ranked the world's happiest nation in the World Happiness Report 2014, commissioned by the United Nations, is one case study. Part of the city's perceived high level of happiness may have something to do with loving nature, and feeling more connected to the environment and to other cities as part of one fragile world, and hence, wanting to do something to protect it. Many people think that a market economy and a welfare state are contradictions, but Denmark has succeeded in highlighting the connections between a vibrant market economy and a generous welfare state. It is also making very good progress in promoting water sustainability and clean and renewable energy – its cities and environment are impeccable, and Danes prefer to use their bicycles rather than cars.



CASE STUDY

DENMARK: IF YOU FEEL CONNECTED TO NATURE, YOU WILL PROTECT IT

To create the conditions for more collaboration and connectivity among citizens, sound regulation is key.



Ms Kirsten Brosbøl, Denmark's Minister for the Environment, reveals that this happy state is the result of "brave politicians" before her making brave political choices over some time. She says: "It does take a political decision to move it forward and that is why I believe Denmark is recognised to be one of the first movers within this field. In the early 70's, we did face some serious environmental problems. We had dead fish in the inland seas and our rivers were polluted. We did witness the first global energy crisis in the 70's that was one of the push factors to make this choice to go this way and it gave us some insight into where we were heading and we decided in Denmark to do something about it to change our path, to be a first mover to invest in a more sustainable future."

It is difficult to point out one specific characteristic or historical incident that is the driving force behind the Danish development of environment protection, says Ms Brosbøl, speaking at the Joint Opening Plenary of the World Cities Summit 2014. Many different dynamics have driven Denmark's striving towards sustainability over the years. The history is a story of gradual progression, starting with basic environmental protection and pollution prevention and then more incentive-oriented policies such as water pricing, and in recent years, a change towards a more holistic planning system with a strong focus on stakeholder dialogue, integrated approaches and international standards. To drive change towards sustainability, Ms Brosbøl shared a few points for leadership to mobilise stakeholders to feel more connected to the sustainability cause:

First, it is very important to make it easy for citizens to act sustainable. This might sound simple but if politicians do not really understand the needs and the behaviour of citizens, they will fail to deliver results. For instance, there can be many water-saving campaigns, but significant results will not be achieved until the big supermarkets or malls put water-saving taps or toilets in the stores so that it is accessible to people to make the right green choices.

Also, urban planning can play a strong role in reducing environmental impact because even dense cities can deliver sustainable and cost-efficient solutions for public transport, energy, water, waste and recycling. The key is to plan in an intelligent way based on the needs and behaviours of citizens. One important reason behind the concern of Danish citizens for environmental protection is that Danes, in general, have easy access to nature. The Danish coasts and beaches are not fenced but open to the public. That Danes have this access to nature is an important driver for sustainable development. It has become important for Danes to be able to enjoy nature, and so, they become more attached to nature, in a way that drives the willingness also to take responsibility to protect it.

Second, when there are limited resources, people need to think more about "multipliers". When there is one problem to be addressed, people should think about how to solve other problems at the same time because issues of liveability and sustainability are always inter-connected. For example, due to more frequent and intense rainfall, many Danish cities are currently considering how to create more reservoirs for rainwater. The traditional solution is to build expensive underground reservoirs, but instead, modern visionary planners and architects have cooperated with local communities to create waterparks or skateboard parks or curved streams with joint green areas that bring about new opportunities for play and exercise. This addresses, and solves, several problems at the same time. The capacity for capturing and storing water is increased, people get more recreational space, and they also come to feel greater affinity with water and the need for water conservation. More importantly, they become more connected to their own cities.

Third, there is a need for more integrated public-private partnerships. When the Danish Ministry for the Environment recently invested US\$2 million in a public-private partnership, this was expanded to US\$10 million with the added participation of green tech companies, water utilities bodies and local authorities to create a new bio-refinery, a state-of-the-art Danish waste water plant that not only contributes to a cleaner environment but also lowers water prices and produces green energy and fertilisers.

To create the conditions for more collaboration and connectivity among citizens, sound regulation is key. There will not be progress unless politicians make good decisions backed by strong regulations. Good regulations allow the market to follow the government's lead, because the market knows there is a stable framework as well as security of investment. This will make the business case that promoting sustainability is possible without affecting economic progress and growth.



CASE STUDY

BRITAIN: CONNECTING OLD AND NEW CITIES

Cities with heritage should not be in a prison of the past; they need to be better-connected with the present.

Fostering greater connectivity in relation to enhancing liveability is also about shifting mindsets, so as to bring different interest groups closer together. Only when this happens will there even be a common vocabulary for a dialogue to take place. And only then can any kind of substantial change start to come about, to being to narrow the gaps of perception and belief about what needs to be done to build a better city. One of those divides is between how one sees the old and the new, and who has the power and authority over preserving the old or just promoting the new.

Britain is a country that has a legacy of big, old cities that nonetheless are seeking to compete with new, young cities. To stay in the game, older cities need to strengthen their connections to other places, while redefining other connections, including their links to the past, says Mr Greg Clark, the Minister of State for Cabinet Office (Cities and Constitution) in Britain. He sees a real shift in thinking by national governments about cities, increasingly from being thought of as places of social problems to places

of economic opportunity, with many contributions that cities can make to the country's growth. And here, older cities have some advantages.

Cities with heritage should not be in a prison of the past; they need to be better-connected with the present, says Mr Clark, speaking at the Joint Opening Plenary of the World Cities Summit 2014. An essential characteristic of cities is that they are dynamic places of change; it is why people go to cities in the first place. Sometimes people compare cities to living organisms but while generally, the bigger the organism is, the slower is its metabolism, Mr Clark believes that this dynamic has to be opposite for cities: "The heart should beat faster in cities. A big city should be pulsating with life, it should be very vibrant. An elephant has a slower heartbeat than a mouse but a city should have a very fast heartbeat and so it's very important as an object of policy that I think city leaders should make sure they push through the constraints that the past might impose to make sure that they still have that pace."



CASE STUDY

BRITAIN: CONNECTING OLD AND NEW CITIES

Citing London as an example, he notes that recent visitors to London will know that the London skyline includes Big Ben and the Houses of Parliament, the Tower of London and St Paul's Cathedral, but today it also features The Shard, the London Eye or the refurbished Tate Modern, refurbished buildings of the last 15 years that have taken their place in the historic skyline. This capacity to change, absorb change and connect well with the current context, is crucial to extending a city's influence on its own citizens as well as over other cities.

This kind of consolidation of cities, and developing well the potential of how they can connect with one another, is a necessary condition for the success of the cities.

Cities also need to reflect their true economic geography and how they are connected to other areas and regions, especially when this has changed over the years. The historic boundaries of a city may not be how the city truly operates today. For example, the British city of Manchester is actually made up of 10 different municipalities that have voluntarily come together to create an entity called Greater Manchester, that speaks together, acts together and projects itself together. This kind of consolidation of cities, and developing well the potential of how they can connect with one another, is a necessary condition for the success of the cities.

The old model of world cities defending themselves against intruders is very much left in the past of medieval times. There is a paradox that cities are increasingly competitive with one another, but increasingly, also need to collaborate with one another. Sometimes this is reflected in high-signature infrastructure. Just as a high-speed train line is being built between Kuala Lumpur and Singapore, Britain is building high-speed train links between London and other great cities across the country.

City leadership is being redefined, as national governments need to loosen their grip on local city governments, and empower them more, to bring about change more effectively. Over the previous century, not just in Britain but around the world, national governments had often usurped a lot of power and autonomy that cities used to have in the past. Now is the time to give some of that power back. There is a new global zeitgeist that empowering cities to do things their way is very much in the national interest as well as the local interest. However, national governments need to deliberately go about devolving more decision-making power to cities, for this power shift to happen.

In Britain, as Mr Clarks says, one reason that British Prime Minister David Cameron created the post of Minister for Cities was to drive the machinery of national government to give power away, to invest power and resources into cities and counties so that they can make a bigger contribution to national growth. The lesson for cities around the world that have a history and have traditions associated with them is that they need not be usurped by the new cities that are emerging almost from scratch, that there is a potential for revitalisation and renewal, and they can take their place as being the motors of growth in every country and for the world.



CHAPTER 02 TECHNOLOGY

Driving innovation and
improving liveability



Technological innovations can be harnessed to install smarter infrastructure and integrated intelligent systems, to connect urban systems and people better.

Where and how, and for whom, to apply technological innovations are also important questions.

“Smart cities” are increasingly being seen as the wave of the future. The challenge is how to make the best use of technology, and to address the related aspects of implementation. Funding would clearly be an issue in less well-resourced cities. Even in the richest cities, arguments could persist over who should pay for what. Where and how, and for whom, to apply technological innovations are also important questions.

The advantages of applying technology well are many. Investing in technology pays off with new facilities and the use of data that help make for a higher quality of life for today, and enable more sustainable resource use for tomorrow. Technological innovations can be harnessed to install smarter infrastructure and integrated intelligent systems, to connect

urban systems and people better. Using big data well can enhance city management of public safety, healthcare, education and large-scale events. Taipei, Taiwan, for example, has installed 13,000 closed-circuit TV sets in public areas to combat crime.

While Tallinn, Estonia cut city centre traffic by 15 per cent by making public transport free, not every city is able to do this. Most cities would instead look to technology to solve congestion. Currently, the biggest area of technological application appears to be in shared mobility. This includes using online platforms for more efficient running of public transport systems, and for enabling people to share the use of cars and bicycles, as seen in the following case studies.

CASE STUDY

METROPOLITAN MANILA, THE PHILIPPINES: TECHNOLOGY-ENABLED EFFICIENCY, TRANSPARENCY AND OPPORTUNITIES



*The use of technology should
focus on real needs, not trends.*

The use of technology can enable cities to use resources more efficiently, provide greater connectivity between people and places, and give broader opportunities for everyone. These three aims are central in the case of Manila, capital of the Philippines.

The Chairman of the Metropolitan Manila Development Authority (MMDA), Mr Francis Tolentino, advises that the use of technology should focus on real needs, not trends. “The overall goal is to create a people-centric metropolitan area, to benefit as many people as possible through the use of technology that will eventually result in increased productivity, inclusivity and resilience especially during times of calamity,” says Mr Tolentino, speaking at the World Cities Summit Mayors Forum 2014.

The key to deploying technology to enhance mobility is with a “magic eye” – creating the ability to see the traffic situation in real-time across different media. Recognising the importance of providing real-time traffic updates and road safety measures to guide, inform and educate road users, the MMDA launched the country’s first digitised traffic navigator (TNAV) in partnership with a major TV network, in a private-public partnership to spread the risks and rewards of smart city technology. This application provides users mainly with real-time traffic information of major thoroughfares and major expressways from the north to the south. The TNAV system also provides information of ongoing construction activities, road accidents and flooding that causes heavy congestion. The Metropolitan Manila Traffic Mirror is another private-public partnership that shows real-time video feeds from the city’s CCTV cameras on laptops and smartphones. Using this facility enables motorists and commuters to plan their road trips better.

CASE STUDY

METROPOLITAN MANILA, THE PHILIPPINES: TECHNOLOGY-ENABLED EFFICIENCY, TRANSPARENCY AND OPPORTUNITIES

Being able to aggregate all this real-time information is crucial.

Since 2010, social media has also been used for public engagement by MMDA via apps on smartphones, with almost 676,000 Twitter followers and a million Facebook followers as at mid-2014. The MMDA's Twitter and Facebook teams give out traffic, flood and incident advisories, and answer queries to empower citizens to make informed decisions through accurate real-time reporting that helps them plan their trips better. In 2014, a road construction app was launched, where people can monitor the progress of the vital major infrastructure projects of the national government. Another ferry app allows people to monitor and track the routes and schedules of the ferry system from Manila to other cities. MMDA also partnered the private sector to establish LED traffic information boards in strategic areas around Metropolitan Manila.

Information becomes much more useful only when it can be centralised and used quickly. Being able to aggregate all this real-time information

is crucial. A new upgraded MMDA metro base acts as a command centre with an upgraded IT traffic control system for more than 400 signalised intersections beginning with 85 priority intersections in Metropolitan Manila. The building serves as a traffic signal system centre which includes software, hardware, communications facilities and access. These facilities allow the agency to better monitor, manage and evaluate road accidents from the centre and respond on the field immediately. The upgraded CCTV monitoring features include the use of fibre optic technology, pan tilt cameras and vehicle counters including facial and licence plate recognition. A flood control information centre facilitates improved monitoring and coordination efforts during monsoon seasons, for Metro Manila's flood control and disaster-related operations. The centre is connected to the national government's weather bureau, the National Oceanic and Atmospheric Administration, and into an international satellite base.



With younger people being more active users of technology, reaching out to younger residents is a key part of MMDA's strategy. Here, it has the help of a sponsor in the Metro Manila film festival. Metro Manila's population is teeming with young people who have the tremendous potential for creativity and innovation. As the overall organiser of the Metro Manila film festival, MMDA can promote projects that involve and engage youth to share the vision of a safer and more liveable Metro Manila. In 2012, MMDA pioneered the first-ever Cell Phone Film Festival, with a contest for students with the theme "Restoring road courtesy among pedestrians and motorists". This competition, hosted on the agency's website, was a tool to involve youth with relevant current issues in the metropolis, while tapping their creativity at the same time.

The MMDA goes so far as to put itself "all out there", as it were. From September 2012, the MMDA has had a website called Metro Solution where the public can officially lodge complaints against any erring MMDA personnel, for the agency to take swift action. In 2013, MMDA went even further – a trailblazing innovation called the MMDA Transparency Governance Wall set up 48 closed-circuit TV cameras to promote transparency and ensure security within MMDA itself. The CCTV system feeds all footage to widescreens to monitor what is going on in all the offices within the agency. As Mr Tolentino put it: "Our main objective is transparent governance and accountability. We want the general public to know that all our officials and personnel are performing their duties in an open manner and eventually we will have this on our website as well as on smartphones." It is one thing to collect big data, but this is truly walking the talk with accountability.

CASE STUDY

AUCKLAND, NEW ZEALAND: TOTAL MOBILITY TO BUILD THE MOST LIVEABLE CITY



In Auckland, New Zealand, deploying technology for total mobility is the central aim of the vision for Auckland to become the world's most liveable city. To realise this goal, a 30-year "Auckland Plan" aims to develop the city within the framework of an integrated, multi-model transportation system, according to Mr Len Brown, Mayor of Auckland.

Auckland is a city with eight councils amalgamated into one council in 2010. Its population of 1.5 million is slightly over a third of the population of New Zealand, and produces 40 per cent of the nation's GDP. Over the next 30 years, 65 per cent of the population growth is forecast to be in Auckland. The heart of the city's planned mobility enhancement is not just greater connectivity in rail, bus and ferry routing, but also providing for walking and cycling as active parts of a total integrated transport plan. Across all these modes is the essential ingredient of using the new latest technology to ensure the best connectivity and access for the community, says Mr Brown, speaking at the World Cities Summit 2014 thematic track on Future Mobility.

*Anyone can build infrastructure
but it's how well our people access it.*

*You build it and
they will use it,
but they will use
it even better if
they have access
through their
phone to the
very latest in app
technology.*

The key project is revamping the city rail system, covering both hardware and software facets. For the first time ever, a city rail tunnel is being built to connect the rail networks, and will also have a fully-integrated ticket system, to ensure greater usage of train networks and faster train times. A single prepaid card called a "hot card" allows access to ferries, buses and brand-new trains. Auckland also now has smart car park buildings, which allow drivers to make informed decisions about where to park, reducing the time spent searching for a carpark lot, and so, avoiding congestion in the CBD.

Connectivity is also wireless in train stations and on trains, with public space wi-fi, which was first used on a large scale for the Rugby World Cup in 2011. Travellers can also access information about Auckland free of charge and on the move. There are public transport smartphone apps with real-time information available on timetabling and other aspects. As Mr Brown says, "you build it and they will use it, but they will use it even better if they have access through their phone to the very latest in app technology."

Just like in San Francisco, USA, Auckland organised a hack-a-thon called "hack-AKL", which drew 500 people with specific interests. They were given 10 billion pieces of data from the transport network and asked to go and produce apps that would connect the active

integrated transport system to the people so they would use it better. Out of the hack event came 35 new apps. These apps can tell people which roads are crowded, what are the bus timetables, what time the buses are coming through, where the trains are, and also what are the best restaurants, bars and cafes in close proximity of the bus or rail station. An idea for renewable energy that is on trial at Auckland is wireless charging for electric motor vehicles. This would make electric motor vehicles more accessible, affordable, useable and really pragmatic. "The humanising of our transportation network is the most important thing we do. Anyone can build infrastructure but it's how well our people access it," Mr Brown adds.

Of course, none of these technological advances would be possible without funding. Mr Brown shares that he was particularly keen to assess how Singapore operates its network charging regime for road use, which he sees as a way for users to buy into paying for technological advances for the whole transport usage system. As he put it: "We don't lack political will, we don't lack plans, we don't lack technical expertise to support us as we go through this engineering challenge. But the one thing that will challenge us is the ability of our people to pay for the transformational change, and the technology used for them to actually achieve that."

CASE STUDY

VEHICLE-SHARING:
THE GLOBAL FUTURE OF SHARED MOBILITY



One of the key benefits of technology is to facilitate something that is actually quite basic – to enable people to share the use of vehicles. This could be the future of vehicle use in cities, if a few obstacles can be overcome along the way.

Professor Carlo Ratti, Director, MIT SENSEable City Lab, USA, does not like the term “smart cities” very much. Instead, he thinks what is happening is that cities are becoming like “computers in the open air – the convergence of the digital and physical, with us in the middle”.



For example, Lisbon, Portugal, can be mapped using billions of data points collected from taxis, all the pick-ups and drop-offs in the city. “For the first time, you can actually look at the city almost as a living thing... We couldn’t do that a few years ago. It was difficult because we didn’t have real-time information in your pockets but now you can do it. So there are more and more services that are likely to be shared,” he says, speaking at the World Cities Summit 2014 thematic track on Future Mobility. It has become possible to run a city like New York in an efficient way just with half the number of vehicles today, taking everybody to the destination when they need to be there, if people were prepared to share.

At the same time, the vehicle itself is becoming more intelligent. A lot of information can now be collected in vehicles. This coming-together of technology is blurring the difference between public and private transportation. This could mean that a city’s mobility demand can be satisfied with just 20 per cent of the vehicles, and with just a fraction of the infrastructure today.

In Singapore, there are proposals being evaluated with Sentosa and the Land Transport Authority to see if the Republic could be the first place on the planet where some of the new technology can be used to test out vehicle sharing fully in an urban space. This urban intelligence will be needed to deploy autonomous mobility in other cities.

The effect of vehicle-sharing can be seen from a comparison with the advent of Airbnb, a system that has unleashed huge amounts of capacity for hospitality worldwide. For example, Paris has 18,000 apartments in Airbnb. Building the same capacity by building new hotels would have meant building many more hotels. Milan is the European city with the highest number of shared vehicles. This is just an example of how an old idea about car sharing just becomes feasible when you have the information in your pocket.

Mr Clayton Lane, Chief Operating Officer of EMBARQ, a global initiative of the World Resources Institute’s Ross Center for Sustainable Cities to catalyse environmentally and financially sustainable transport solutions, says that Philadelphia, USA, is an example of how shared mobility has grown in the last 14 years when the car-sharing service started. It grew to 50,000 members, the largest car-sharing entity of its time in one city. The impact was quite positive – 14 cars replaced for every shared vehicle, and a 40 per cent reduction in driving overall, on average, says Mr Lane, also speaking at the World Cities Summit 2014 thematic track on Future Mobility.

That alone would double all the shared vehicles in the rest of the world combined in one city, and you can start to imagine what a shared mobility city might look like.

Sharing extends to other types of vehicles. In terms of bike sharing, 95 per cent of users in Lyon, France, had never biked in the city before the shared bicycles system started. To examine the differences between a city which is sprawling and very car-oriented like Atlanta in the USA, and a city that is very compact and walkable like Barcelona in Spain, EMBARQ interviewed car-sharing operators around the world, mobility experts, academics and potential users in focus groups in Hangzhou, China, and Bangalore, India.

The barriers against greater use of car-sharing include public policy itself. One car-sharing operator in Beijing, China, only had eight cars on the road because they had to participate in the same lottery as everybody else to get a car – a one-in-fifty chance every month – and they won the lottery only eight times. So for a city of 20 million people, they had eight shared vehicles. Most of the time, however, local conditions are the greatest bug-bear. In Sao Paulo, Brazil, it is difficult to handle bookings for car-sharing when there might be a three-hour delay due to traffic jams on any given day. In Mumbai and many parts of India, there is no regulation of street parking, so it would be difficult to be assured of street spaces in convenient permanent locations for car-sharing organisations.

Nonetheless, the potential for greater shared mobility is certainly there. Five years ago, bike-sharing was practically unheard of in China. Today, Hangzhou is a city of eight million that already has 65,000 shared bicycles. The aspiration is to carry a million trips a day. Kandi, the electric car company, has launched a system of one-way shared vehicles with plans to deploy 100,000 cars by 2017. As Mr Lane says: “That alone would double all the shared vehicles in the rest of the world combined in one city, and you can start to imagine what a shared mobility city might look like.”



CHAPTER 03 EQUITY



Cities are resilient and
sustainable when they
are inclusive



Equity and inclusiveness will become more vital to manage tensions and ease concerns.



The main recourse is to enhance the city's resilience. Specifically, social resilience is found in equitable, inclusive and cohesive societies – those that foster a greater role for all members of society, including families and individuals, as well as equitable growth with benefits for all. Equity and inclusiveness will become more vital to manage tensions and ease concerns, especially with the increasing multicultural diversity of city populations bringing up issues of identity and integration. For example, Auckland, New Zealand has people of 200 nationalities and Antwerp, Belgium has over 170.

Strategic, engaged leadership to address issues and greater transparency will help win the people's trust, which will in turn build resilience in the city. This means bridging the digital divide and other divides, and taking care to also cater to potentially marginalised segments of the population. "High-tech" must always be balanced with "high-touch", where there is disparity in society, especially in access to information, services and opportunity.

The following case studies are examples of cities reaching for equity.

In an increasingly volatile world with slower growth rates, addressing inequality in its various forms is becoming a big challenge across the globe. Widening income and wealth gaps have exacerbated other issues, such as tensions arising from concerns over immigration rates and strained infrastructure.

CASE STUDY

MEDELLÍN, COLOMBIA: CONSTRUCTING CONFIDENCE AND HOPE

Medellín is in a very important geostrategic position, in Antioquia, Colombia, at the northwestern corner of South America – what the city’s Mayor, Mr Anibal Gaviria, calls “the best corner of America”. The beauty of its setting has been offset, however, by problems of urban development that had accumulated in the city. The surest path to its recovery has had to be nothing but inclusive.

Medellín was one of only two special mention cities at the Lee Kuan Yew World City Prize 2014. In achieving that, it has come a very long way from having one of the highest levels of violence in the world only 20 years ago – with about 50,000 homicides in 10 years, almost amounting to “a war within the city”, says Mr Gaviria, speaking at the Lee Kuan Yew World City Prize and Water Prize Forum at the World Cities Summit 2014 in Singapore. These homicides accounted for over a fifth of all the homicides in Colombia. At the same time, the city had a very high level of poverty reaching 19.4 per cent.

But today, from the work especially of the last 15 years, the previous high rate of 380 homicides per 100,000 inhabitants, at the time the worst in the world, has declined steadily to a rate that is 12 to 13 times lower in 2014. In the 2013 ranking of the most violent cities worldwide, Medellín had already dropped from first to 35th place. The trend is expected to take Medellín below 100th place by 2015.

Similar to violence, inequality has also decreased, and the city improved about one point per year in the Human Development Index (HDI), from 80 in 2004 to 87.7 by 2012 (Source: <http://hdr.undp.org/en/content/human-development-index-hdi>). The HDI is a summary measure of average achievement in three key dimensions of human development: a long and healthy life, being knowledgeable, and a decent standard of living. If the improvement continues, Medellín would reach an index level as high as 95 by the end of the 2020 decade, comparable with many cities in the developed world.

*The surest path to its recovery
has had to be nothing but inclusive.*

How did Medellín achieve this? Mr Gaviria describes this as “the construction of a city for a life”. The “City for a life” focuses on five core values: participation, resilience, non-violence, innovation and transparency. To achieve this, the city must focus its work in five key areas: education and culture; institutions and justice; sustainability and habitat; economy and economic development with fairness; and inclusion and social well-being.



CASE STUDY

MEDELLÍN, COLOMBIA: CONSTRUCTING CONFIDENCE AND HOPE

Medellín's main projects involve the construction of 20 buildings to house public kindergartens in underprivileged neighbourhoods of the city, and these are of comparable standard to any private kindergarten. About 15 library parks were built in the last 12 years, as focal points for community development and meeting places for citizens in more deprived areas. Also being built are four music houses and increased capacity in public universities. A prison for women that had operated for more than a century has been acquired by the municipality and is being demolished to build the University for Peace and Non-Violence. This university will be located in San Javier district, the area most affected by violence in the last 15 years.

Mr Gaviria explains that locating this university in such an area is "part of the Medellín metaphor". This is to show how this district, like many others, can be transformed from an area marked by the darkness of violence for a long time into an area now filled with hope, education and opportunity. Another building, the Remembrance House Museum, is a very symbolic place to encourage remembering, not repeating, and eventually reconciliation, after all the violence the city has lived through. The city has also taken important steps to enhance security, using technology for better security measures, and also via social investments and programmes in education and promoting opportunities.



This project is framed by two concepts, the Metropolitan Green Belt and the surrounding park "Jardin Circunvalar" of Medellín. Medellín is located in a narrow valley and the city development has expanded up towards the hillsides to the east and west. A green belt is being built in both sectors, with projects to prevent further disorganised expansion of the city to the highest slopes where poverty and inequality exist, and to replace them with mobility, health and education projects to create opportunities not only in the centre but also in the suburbs. Another significant project is at the River Medellín, which crosses through half of the city for 16 km. This project will produce a series of parks to give more life to the river and take the river back for its citizens. Another icon related to urban and social development is Medellín's children's hospital, the most modern one in Latin America, and a future centre for all kinds of services for women and families. This is important for the health and care of children and for better gender equality in the city.

A "city for a life" focuses on five core values: participation, resilience, non-violence, innovation and transparency.

To Mr Gaviria, Medellín conveys four points about inclusive growth:

First, Medellín means hope – that it is possible to leave behind the darkness of violence, inequality and poverty, even with a low budget. Medellín's annual budget is US\$2.5 billion for 2.5 million inhabitants, eight times lower compared with New York's US\$73 billion for 9 million inhabitants and Singapore's US\$43 billion for 5 million.

Second, Medellín benefited much from stability, from having good consecutive governments, and this made Medellín's transformation possible in the last 15 years. Stability is crucial for the ability to formulate and implement long-term plans, and to have the time to gather stakeholder buy-in, and to address and adjust to any teething problems of the new plans.

The Metrocable was an important symbol in pursuing inclusive growth. In the earlier years, building up public confidence was the hardest challenge Medellín faced, when there were still high levels of violence. However, confidence in other government or institutional sectors built up as citizens started seeing results. The Metrocable was the most visible way to reach out to the poorer sectors of the population and start to transform the city as a whole. With the cable came other amenities – a library, urban improvement, and later, the construction of infrastructure for culture and education. The challenge for the future is to sustain such development. As Mr Gaviria says, "If these processes stop, then a great deal of the work previously accomplished is lost. So, I believe the future challenge is to provide stability and continued growth to those processes."

Third, focused investments can make a bigger difference, especially when resources are limited. In Medellín, resources were used wisely in education as well as mostly in innovative urban developments in public spaces, the "space of equality" where people are all equal. This is also where a city with equality is a city where public transportation is better or equal to private transportation. Such targeted investments in urban development will continue to prioritise tackling poverty and improving the city's most deprived sectors.

Fourth, Medellín has always bet on innovation, especially for more inclusive mobility in projects such as the Metrocable, the first example in Latin America of a gondola lift cable car for public transport. The cable car runs up the hill slopes, connecting the poorer districts and least developed suburban areas to the city centre.

CASE STUDY

NEW YORK CITY, NEW YORK, USA: PLANNING FOR DIVERSITY AND INCLUSIVITY



The biggest change happening in city planning is the growing realisation that planning should be more about people than about place, according to Mr Mitchell Silver, Park Commissioner of New York City, New York, USA. “In the past, people were very comfortable with spatial planning but now we understand that people are at the heart of planning.” In the planning process, what is needed is first to have a conversation about framing the key issues for planning. Only after the effort has been made very specifically to understand the different audiences, specific needs and aspirations, should the “visioning” start, says Mr Silver, speaking at the World Cities Summit 2014 panel on making plans for housing solutions into reality.

There are a few factors that drive this shift to focus more on people. In terms of the people who are being planned for, the landscape is changing dramatically. People are living longer and populations are ageing. There is also more diversity, and more people with disabilities. In the US, one in five people now have a disability and that number is going to grow. There are also more single mothers, and fewer couples are getting married. By 2030, in the US, a majority of households will be just one person, no longer the traditional idea of a family. By 2025, only 28 percent of all households in the US will have children, almost a drop in half over the past 30 years. By 2042, there will be no majority race.

In terms of the people who are being planned for, the landscape is changing dramatically. People are living longer and populations are ageing.

In the US, cities are changing the way they plan for each of the different generations, from the oldest to younger ones such as Generation Y, also known as the Millennials, one of the largest cohorts around the world. To address all their concerns, as well as to embrace other aspects of diversity, Mr Silver believes that there will be the rise of what he calls “the equitable city”, where there will be more “people of colour”, not just in the US

but around the world. Issues such as a living wage, affordable housing, early education and planning for diversity and inclusion will become more important. “Because of this change in demographics, we can no longer avoid diversity or inclusion.”

In the past, people were very comfortable with spatial planning but now we understand that people are at the heart of planning.

Climate change is another force for change. In the New York area, over two-thirds of the most vulnerable communities live within one-half mile of the flood zone that is the New York Metro area. So the city

authorities are beginning to think very differently about how to build and plan housing for people in these areas. “As we plan for cities, we have to understand there’s an anatomy, there’s a soul and all these systems have to work together. Far too often, we have departments that silo these systems, we all know they are inter-related and they are integrated with one another and we want to make sure that when we plan we understand the anatomy of a city and how it works together. We cannot plan for these systems separately.”

Hence, planners need to be like “doctors of cities”, to understand the anatomy about how all the parts fit together, to do a diagnostic just like a doctor, to understand the problems that are different for each population segment. It would be wrong to treat “the community” as if it were just one entity, when it is actually very diverse by age, race, national origin, and political and religious affiliation. City planners have to take the time to do more outreach, to make sure to reach every one of the groups. As Mr Silver notes, different age groups and generations have different values, needs and aspirations about what they want from the community in terms of household size and what households will look like in the 21st century.

In New York, a population of 8.4 million and a population density of 10,640 people per square kilometre make for a very dense city. To make the city more liveable, there is now a plan for park equity, with 200 parks added over the last few years to make sure that all citizens have access to what parks can add to healthy and quality living. New York City’s park system represents 14 per cent of the city’s land area, and there are over 1,900 parks, marinas and beaches. The current goal is to provide for 85 per cent of all New Yorkers to live within a 10-minute walk of a park. As Mr Silver says, “density and open space go together”. The more density builds up, the more city planners will need to be smarter about how to really build cities for people. simple: “If we lose our workforce, we lose our city.”

CASE STUDY

SYDNEY, AUSTRALIA: BEING INCLUSIVE AND MOBILISING EVERYONE



While more people are coming to realise the impact of having more of the world's population living in cities, places like Australia are already above the global average. Almost 90 per cent of the Australian population live in urban areas, so it is even more important to make cities like Sydney not only more sustainable and liveable, but also more resilient, and this must include aspects such as social equity.

Ms Clover Moore, Lord Mayor of Sydney, acknowledges that Sydney, Australia's largest city, has fabulous natural advantages such as its temperate climate, as well as attractions including a beautiful harbour and harmonious multicultural mix. But beneath the surface, it lags behind other cities and faces critical challenges in less obvious areas such as increasingly high living costs, especially housing affordability, says Ms Moore, speaking at a World Cities Summit 2014 plenary session. Such issues reflect increasing concern – not only in Australia but globally – about widening gaps in income and wealth. Better city management can help to narrow these gaps.

Sydney has a lot of spunk and character, and I think that attracts people and we have been building on that.

Out of Metropolitan Sydney's 4.6 million residents, the city government is directly responsible for 200,000 residents and 1 million people in the area for work, study, shopping and entertainment. The city area contributes 25 per cent of the state's economy and eight per cent of the national economy. Decisions made affect the sustainability of the entire metropolitan area, and indeed the entire nation. The past five years, 40 per cent of all jobs had been in the area, with job growth mostly in high-value creative, digital, innovative and service sectors in the inner city villages as well as tourism and education. Keeping the city vibrant economically is part of the solution – on the supply side, as it were – by addressing equity gaps.

The economic sustainability of urban communities is a vital piece of that picture. Where Sydney stands today shows the important role of historic city villages. The strength of local communities is the key attraction for people choosing to live, work or visit the city. The attractive features include high-quality developments close to jobs, shops and transport, efficient and safe ways for people to move around, childcare, community facilities, beautiful parks and open spaces, as well as quirky laneways and main streets with thriving small businesses.

Back in 2008, following a massive citywide consultation with residents, businesses, universities, governments and statutory bodies, the city of Sydney completed its Sustainable Sydney 2030 strategy. This was to make Sydney an innovative, future-focused city that addresses equity issues by emphasising being green, global and connected, so as to keep the pipeline strong for jobs and other economic opportunities.

Sustainability efforts must be inclusive by mobilising everyone to join in the efforts. The city undertook major urban renewal work in former industrial sites, to protect heritage areas while providing needed jobs and housing. Most significantly, the A\$8 billion Green Square Project transformed a former industrial site into 22,500 homes for 40,000 new residents and jobs for 22,000 new workers. The city government established strategic alliances to deliver and improve performance across all sectors, through a Better Building Partnership. The partners include leading public, private and institutional landlords who collectively own 60 per cent of Sydney's CBD commercial office space.

A holistic, inclusive approach to promoting a higher quality of life for everyone has led to much investment in public infrastructure, including new parks, cultural and community spaces, childcare facilities, a stunning library and an aquatic centre as new residents and workers move in. As Ms Moore puts it: "Sydney has a lot of spunk and character, and I think that attracts people and we have been building on that. I think the work we have done has attracted the people we want to work and live in our city. It's about economic, social and cultural sustainability. It's about doing our long-term plan and engaging with everyone, our universities, our business community, our residents... so everyone knows it's all part of this policy to make us a sustainable city."

CASE STUDY

KASHIWA, JAPAN: CATERING FOR A “SUPER-AGEING SOCIETY”



As a “super ageing society”, Japan’s inclusive city growth has to be focused on addressing the needs of a rapidly ageing population, according to Mr Kaname Uchida, Vice President of Urban Renaissance (UR) Agency of Japan. The notion of diversity – which used to focus on facets such as ethnicity, gender or class – now needs to be extended to cover the aspect of age as well.

*To build a base
that helps elderly
people continue
living at home
without anxiety.*

Japan’s UR Agency manages some 750,000 units of rental housing mainly in the metropolitan areas of Japan where about 1.5 million residents live, mostly in urban areas. The current proportion of persons aged 65 and over to total population in Japan is 24.1 per cent, or about one in four. As the total population decreases, the proportion of elderly people will continue increasing. By 2025, the proportion of persons aged 65 and over will increase to one in three, and those aged 75 and over will rise to one in five, says Mr Uchida, speaking at the World Cities Summit 2014 panel on making plans for housing solutions into reality.

In response to such a rapid increase of the aged population, it is necessary to create an environment in which the elderly are able to live at home for as long as they can. This means there is an urgent need to promote the construction of a base for community care which can provide support such as home medical care and nursing care.

One such project is the UR Toyoshikidai housing complex which is located in Kashiwa City, Chiba prefecture. Kashiwa City has a population of about 404,000, about 28 km from Tokyo. The UR Toyoshikidai housing complex consists of approximately 4,700 rental housing units where residents have been living since 1964, the year of the first Tokyo Olympics Games.

One of the aims of this project is to establish a system for the elderly to receive medical and nursing care at home. The other aim is to give active elderly people the opportunity to be involved in various activities and help them to stay active within their home surroundings. Kashiwa City and the University of Tokyo are taking the lead in formulating rules for home medical care in cooperation with concerned parties such as the medical association, to promote home medical care.

In addition, a service apartment for the elderly has been established, which provides nursing and medical care. On the ground floor of the building are various facilities including a home medical care clinic and a 24-hour home nursing care centre. All the buildings have been fitted with new amenities such as buzzers.

All these adjustments will help meet the goal of establishing a housing environment and community suitable for a “super ageing society”, taking into account both hardware and software, to build a base that helps elderly people continue living at home without anxiety. More of such developments will be needed as the population of Japan continues to age rapidly.



CHAPTER 04 ENGAGEMENT

Successful cities are
citizen-centred



Citizens are at the heart of cities. Cities should be planned for people, not places. That was the only way it was, in the old days in the villages and in the countryside. But rapid urbanisation over the past decades has focused mainly on physical planning and infrastructure developments. Addressing the challenge of putting people back into the centre of city management requires some going back to basics, back to building liveable cities by starting, naturally, with where people are at, and where they want to be.

Strong community bonds are a crucial foundation for physical resilience, to enable cities to recover well from shocks and natural disasters. When crisis strikes, a city needs all hands on deck to help out. Engaged citizens also make for successful cities in many other aspects. Co-creation is the only way forward, as no government is in a position to manage cities alone. There is no other option, given the complexity of today's cities and the growing desire and demand everywhere for greater consultation and representation. This means involving people more in city management, whether in something as concrete as managing waste, or in something as abstract as enhancing the social fabric.

Putting people first is the key to how Copenhagen became one of the world's most liveable cities, says Mr Jan Gehl, founder of Gehl Architects, Denmark. Copenhagen was the first city that systematically documented how the city was used by its people, and this has been a very strong policy driver. As he says: "For many years, we focused so much on traffic that this has dominated our thinking throughout, but we need to make the people in cities visible and we need to pay much more attention to them and have a better balance between transport and people." Today, Copenhagen has a policy to be the world's best city for people and for bicycles. There is a brand new Danish architecture policy of putting people first, says Mr Gehl, speaking at the World Cities Summit 2014 thematic track on Making Plans into Reality for liveable cities.

In the list of the world's most liveable cities, six of the top 10 cities very intensively work first on improving the situation for people in the city. These are cities that have applied the message of doing the same for people as what had always been done for cars. In New York City, Times Square and Broadway were changed almost overnight in 2009 from a car-based space to a people-based space, and became a fantastic success. In Moscow, Russia, at first the city had a problem because people thought that the freedom from communism also meant a right to drive everywhere and the main street in Moscow was clogged with parked cars, leaving only a one-metre wide pathway for people, which is very often cluttered with advertisements. A year and a half later, there were no more parked cars on the sidewalk. Instead, there was greenery and benches, and even the advertisements had come down, so people could see landmarks such as the Kremlin in the distance.

Being people-centred is also the inspiration behind the following case studies.



CASE STUDY

BANDUNG, INDONESIA:
THE CITY AS A HAPPINESS PROJECT



People are ultimately central to cities, because the city is about people. A happy city creates happy people, so cities should be built bottom-up. This is the people-centred philosophy of Mr Ridwan Kamil, Mayor of Bandung City.

Bandung, Indonesia has a population of around 2.5 million, with an additional one million people in the daytime. The city is huge and also young, with 60 per cent of the population aged below 40, and with more than 80 colleges and universities. With close to 9 per cent economic growth, outperforming the Indonesian national growth rate of 5.8 per cent, this is a city of mainly small and medium businesses, almost 60 per cent in creative industries.

While preparing for new infrastructure to be built, the city has created a “happiness project”, says Mr Ridwan, speaking at the World Cities Summit In-Focus Forum on Southeast Asia. Engaging the people is key to creating more happiness. There is a festival every Saturday night that attracts many tourists, with the main street closed to traffic. A mobile movie cinema comes to the kampong, in a slum area that used to be full of criminals, bringing blockbuster films to people who cannot usually afford to go to the cinema. This is a public-private partnership project, with the land bought by a corporation using corporate social responsibility funding. The land was then given to the society, to be converted into a creative area to show movies that rural residents can enjoy.

*A happy city creates happy people,
so cities should be built bottom-up.*

Better engagement also means addressing the people’s main problems, such as traffic congestion. Public mobility is a priority area. Cable cars for the hillsides are under a feasibility study. A rail-based system could connect low-lying areas. Inspired by Hong Kong, a series of Bandung skywalks is being built, bridges connecting neighbourhoods and centres of the city so people can walk and cycle on elevated

*I think the future
is an urban future
and connection is
everything.*

structures without having to meet the traffic below. Bandung has 6 million visitor arrivals a year, 80 per cent domestic. Only 20 per cent of people in the city use public transport, so getting more of the other 80 per cent to also use public transport is one challenge. A biking

culture is being promoted now, with initiatives such as a Friday “bike to work” day. A bike-sharing scheme was started last year. Travellers coming into the city can just drop their cars off at a hotel and use a free bus for tourists to get around.

Communication is vital for engagement, and a powerful enabler of citizen participation is technology, as applied through such amenities as free wi-fi in public places. Applying technology will also help enhance the lives and welfare of the people, and reduce social inequality. The infrastructure for communications in Bandung is being upgraded, with 5,000 hotspots installed in 2014. The city government is going paperless. The healthcare system is using an e-government concept. A citizen reporting system allows citizens to lodge complaints, and enables the mayor to track follow-ups until each case is closed. After the system came online, out of 3,700 complaints, 88 per cent were fixed.

In this area, Bandung appears to be ahead of the game. It is the first Indonesian city where all its city departments have a Twitter account. Bandung ranks number six in the world for most active city in terms of posted tweets, according to a 2012 study by the Paris-based research firm Semiocast. Of the 2.5 million population of Bandung, two million are Facebook users. YouTube is used to show the mayor’s daily activities “so that the people can know whether I’m doing my job or just doing nothing,” he says. Despite all this connectivity, Mr Ridwan spends 40 per cent of his time on the road meeting people, biking to work every day, greeting people and finding new ideas along the way. City parks are being upgraded with free wi-fi, and now the parks are full of young people hungry for the free wi-fi.

All of the Mayor’s communication activities are controlled from one single room, the Bandung command centre, which Mr Ridwan says is inspired by the TV series Star Trek. The capacity for such virtual coordination is useful especially during times of disaster, requiring a combination of civil society preparedness among Bandung’s 4,000 civil society organisations, together with a national government that is capable of fast response. “I think the future is an urban future and connection is everything,” he explains. Many observers might see Indonesia as a Third World country, but initiatives like these in Bandung are ahead of the game, mainly because they are driven by a commitment to first establishing connectivity with, and among, people.



CASE STUDY

MELBOURNE, AUSTRALIA: GREAT CITIES START WITH GREAT STREETS FOR PEOPLE



“Why would people want to visit a city?” is the key question to ask as to what gives a city its vitality, says Mr Robert Doyle, Lord Mayor of Melbourne. This, he argues, is the most important among a number of questions – What gives our cities their hearts and souls? How do we attract energy, innovation, creativity into our cities? How do we make our cities sustainable, whether it is environmentally, socially or economically? Why would people choose to live in our cities? Why would they enjoy working in our city?

Looking back over the centuries, he says that people used to visit other cities to see history, antiquity and old buildings. It was Paris that changed all that, and all cities since owe a debt to Paris. This is because Paris was the first city not to celebrate what was, but what is. It celebrated its present and its future, not its past, not what the city was, but what people could do and enjoy and experience in that city right there and then. This is the vibrancy that cities today seek, to really engage people, says Mr Doyle, speaking at the World Cities Summit Mayors Forum 2014.



Postcode 3000 succeeded because it was about people and the way they lived and used the city.

For Melbourne, its vitality initiatives were organised around “Postcode 3000”, a deliberate campaign to bring vitality back to Melbourne, to bring people back into the city centre, to use and enjoy it. Melbourne is a city of about 4.35 million and on a busy day, one million people use and pass through the CBD – workers, residents and visitors from near and far. When Postcode 3000 started in 1992, there were only 600 dwellings in the CBD. Today, the number is 28,000. An inner city community was fostered for people, rather than a mono-functional business centre. Melbourne’s CBD now has the highest ratio of street furniture in the world, with a diversity of some 2,000 restaurants and cafes. The city’s civic spine, Swanson Street, carries more pedestrians per day than Regent Street in London.

Postcode 3000 succeeded because it was about people and the way they lived and used the city. The city square was turned into the city’s most vibrant space by redesigning and activating it. It was made attractive not just to visit but to linger there, and enjoy it. A network was developed of small streets, the laneways of Melbourne, atmospheric galleries and quirky retail spaces filled with art and restaurants, with a well-connected and lively pedestrian network so people could easily get in, through and around the city.

The city invested in joint venture partnerships, brought in world-class events and shared them with the people. If not everyone could be on the tennis centre court for the Australian Open, they could watch great sporting events on large screens in public spaces in many places around the city. The city was planned for people, life, space and buildings – in that order. “If we shape cities, then they shape us,” says Mr Doyle.

The city invested in joint venture partnerships, brought in world-class events and shared them with the people.

Today, the city is brimming with people and great public and private spaces that support the social, cultural, sporting and economic life of the city. For Mr Doyle, it all boils down to one secret of making a city vibrant – no matter where you start, create great streets and all the rest will follow. “That is what we did in Melbourne, we focused on our streets, large and small. We continue to do it to try to make great streets in the hope that we can be a great and vibrant city.”



CASE STUDY

SAN FRANCISCO, CALIFORNIA, USA: VIBRANCY COMES FROM HUMAN DIVERSITY



San Francisco is the most vibrant city in the US, says Mr Mark Chandler, Director of the San Francisco Office of the Mayor for International Trade and Commerce. And he has a few proof points to back his claim.

Three years ago, San Francisco had an unemployment rate of about 9.6 per cent. In 2014, this had fallen to about 4 per cent and was dropping further – much lower than the national average. In the last three years, the city of San Francisco has created more jobs than all but three other cities in the US – the financial centre of New York, North Dakota because of shale oil and Texas because of energy. This is remarkable considering the relatively small geography of 122 sq km and the small population of only about a million people. San Francisco is today an international centre of innovation technology, application development, gaming, social media, biotechnology and green environment technology, says Mr Chandler, speaking at a World Cities Summit 2014 plenary session.



Forty per cent of the citizens were born outside the US, half the new companies are created by immigrants.

As a city, we have opened all of our data. We've allowed app developers to play with our data.

What is the secret of San Francisco's success? The city's future is not dependent on geography, raw materials or cheap labour, but on having a quality of life that retains in the city a highly-skilled workforce who could go anywhere if they wanted to, says Mr Chandler. The San Francisco city government has observed four new challenges with this highly intelligent, highly productive workforce – the demand for information, the demand for liveability and sustainability, a continued demand for encouragement of diversity, and a new definition of infrastructure.

On demand for information, the new young urban workers driving the economy today are connected to information instantaneously, and want the same from government. The result, he says, is that "As a city, we have opened all of our data. We've allowed app developers to play with our data. We've had hackathons, we've had what we call 'datapaloozas' to get together and allow the private sector and the individual to work with our data." As a result, the city now has over 60 applications that are free to the public to get access to government services, from information on parking to installing roof solar panels. The city created a new post of chief innovation officer, and the mayor meets weekly with innovation leaders and workers privately in their offices all over the city to find out their concerns. "We're finding that this resonates very fast and very highly with our workers, that they have instantaneous information and they feel the government is responsive to their needs."

On demand for sustainability, the city knows that talented residents can live and work anywhere, and they want the best environment in the world. The technology company Siemens, for example, has called San Francisco "the greenest city in the US". Such recognition has been achieved through having green building standards, mandatory recycling of 80 per cent of waste, being the first city to ban plastic bags and styrofoam, and the first city to put in free electric car chargers.

On demand for diversity, the city welcomes members of its workforce from around the world who "come in every shape, size, colour and sexual orientation". Forty per cent of the citizens were born outside the US, half the new companies are created by immigrants. The Mayor is Asian-American, and the City Council is made up of all ethnicities.

On the desire for a new definition of infrastructure, the new ideas from the people include wanting more bike lanes, tearing down freeways and building more "pocket parks" which are smaller park areas that can be evenly distributed to make the city more liveable. The challenge for the city government is to listen to this new paradigm and respond quickly and accordingly, because the equation is quite simple: "If we lose our workforce, we lose our city."



CHAPTER 05 IDENTITY

Culture is crucial
for character



Culture is cherished in the most attractive cities – those that foster social, cultural and natural capital. The challenge for most cities is to overcome the barriers that stand in the way of realising this potential. These hurdles can range from competing short-term economic motivations to the sheer lack of appreciation of the true value of culture.

Cities that integrate heritage and culture well stand out because they also do more in place-making to connect residents deeply. This can be seen in places such as Project Minato Mirai 21 (Future Port 21), which is turning an old shipyard into a seaside art museum at Yokohama, Japan. Nothing boosts civic pride more than smart investment in culture, such as in the two new arts centres being built in Malaga, Spain, the city of the artist Pablo Picasso's birth.

Heritage extends beyond the concrete and cultural to embrace the cultivation of nature, such as in Singapore's nationwide park connector network and over 700 community gardens, boosting green spaces to unify the people.

Enhancing city liveability is about making the most of a city's inherent advantages, and often, the key is in heritage, as the following case studies illustrate.



CASE STUDY

SUZHOU, JIANGSU PROVINCE, CHINA: THE VALUE OF HISTORY AND CULTURE



Culture is as important as commerce in the revitalisation of Suzhou, China, winner of the Lee Kuan Yew World City Prize 2014. For many years, Suzhou placed much emphasis on learning from, and referencing, the successful experiences of other cities such as Singapore in cultural heritage conservation, as much as in industrial upgrading and business operations, shares Mr Zhou Naixiang, Mayor of Suzhou.

Suzhou is a city in China renowned for its history, culture and scenery. A regional central city of China's Yangtze River Delta, Suzhou has a land area of 8,488 sq km and a resident population of over 10 million. Suzhou, with its long history and rich culture, is one of the important economic and cultural centres of ancient China, with a history dating back 10,000 years, and this heritage has been integrated well into the city's modern development, says Mr Zhou, speaking at the Lee Kuan Yew World City Prize Lecture at the World Cities Summit 2014.

Special emphasis was placed on the preservation of the old living areas in the city, as well as on their revitalisation, reorganisation and promotion.

Through its long history, the city developed a profound cultural background and amassed a rich heritage, with nine of its classical gardens entering the World Cultural Heritage list. Native artforms such as kunqu opera and guqin music were established as representatives of the intangible cultural heritage of humanity.

One model area within the city is the Jinji Lake Central Business District, at the heart of the China-Singapore Suzhou Industrial Park. This CBD of 5.6 sq km has established its own distinctive features. In terms of layout, construction and development revolve around the area's lakes. Jinji Lake CBD has become Suzhou's economic hub, the secondary business centre of the Yangtze area and China's first pilot district for business and tourism. The key factors that led to the success of the Jinji Lake CBD are adherence to regulations, a stay-ahead formula and strict implementation of other related regulations. The authorities in Suzhou learnt from the experiences of Singapore and other developed nations and abided by a "plan first, build later" approach, supported by bottom-up assessments and validation of what the city needs. They followed a system that meets current regulations while leaving space to address the potential for future development.

Another area, Pingjiang historic district, is part of the ancient Suzhou city. It covers an area of 1.17 sq km and is teeming with many different types of cultural relics. In 2002, a series of environmental conservation and restoration projects was launched, to carry out investigation, excavation and organisation works on the various types of relics and resources, preserving and restoring old buildings and providing a complete set of basic infrastructure. This achieved significant results in areas such as preservation of the traditional style of the region, improvement of citizens' quality of life and encouraging development of the ancient city.

The preservation of the Pingjiang historic district won the United Nations Asia-Pacific cultural heritage

CASE STUDY

**SUZHOU, JIANGSU PROVINCE, CHINA:
THE VALUE OF HISTORY AND CULTURE**

preservation honorary award and was elected to the list of top 10 historical and cultural streets of China. Reverence for history was observed in the overall preservation process. In 1998, a detailed control plan was developed for the ancient city and in 2002, the Pingjiang historic district preservation and remediation plan was completed. Core preservation areas were marked out, controlled areas were established, the historical spatial pattern was strictly preserved, and the ancient city was preserved complete, with its tangible cultural heritage like streets connected by water, monuments and building communities, along with intangible cultural heritage in performances, traditional crafts and local customs.

Concepts of authenticity were used to guide the restoration of the district. Based on antiquated principles, the cultural relics protection units exerted control to protect the architecture of valuable buildings. For normal districts that were more well-preserved, the exterior was restored to improve internal functions. While retaining a consistent style throughout, the citizens' living conditions and environment were effectively improved and there was overall improvement in basic infrastructure. Dredging of rivers, pier renovation, shore restoration, afforestation and reforestation, building of attractions and other such works were also carried out to create a realistic appearance of a pattern with consolidation of housing that leads to secluded, tranquil ancient alleys. The history behind cultural heritage and innovation allows the Pingjiang historic district to display harmony between tradition and modernity, for a rich cultural experience.

Throughout the developmental process, special emphasis was placed on the preservation of the old living areas in the city, as well as on their revitalisation, reorganisation and promotion. At the same time, the city's new, old and westernised areas were all integrated together to make Suzhou what it is today. Harmony between old and new is being sought-after once again, as it has always been in Suzhou, with heritage and culture remaining at the heart of it all, as it should be.



CASE STUDY

PENANG, MALAYSIA: HERITAGE TO THE RESCUE?



Penang, regularly voted by the tourism media as the street food capital of the world, is a popular travel destination. But now, issues of urban sprawl are surfacing new problems. Heritage might be what can come to its rescue once again, says Mr Hamdan Abdul Majeed, Executive Director of Think City Malaysia, a subsidiary of the sovereign wealth fund Khazanah Nasional Berhad, to steer urban regeneration projects.

Penang, like many cities around the globe, has gone through a cycle of urbanisation and is probably now nearly fully urbanised, with very little of hinterland still in agriculture. It has been transformed from a port city established in the British days into a free trade zone. Penang was compact when it was a port city. But urban sprawl has brought with it familiar urbanisation problems of congestion, deterioration of the environment and constant calls for more affordable homes, says Mr Hamdan, speaking at the World Cities Summit In-Focus Forum on Southeast Asia.

Heritage plays a crucial role in revitalising a city.

Penang is losing its charm, and the change is even making headlines. Traffic has become a nightmare particularly at peak hours. Car ownership in Penang is probably four to five times more per capita than in Singapore because there is under-investment in public transportation. The previous city authorities gave up on public transport and moved towards private transport.

What is important is that your geography is not tradable, your identity and environment is important.

Penang consumes twice the amount of water per capita as Singapore, and generates twice the amount of waste. Flooding stresses the urban infrastructure. More than six million people visit Penang annually, adding stress to the local population.

Part of the strategy to reinvent Penang as a “sticky place” attractive to talent is what is called the “Penang Project”, to make it a carbon-neutral metropolis. This is a long-term vision to make Penang one of the top 25 most liveable places by 2030. This will include identifying catalyst projects to make Penang a laboratory for urban solutions to make the city more competitive. For example, to get people to participate in a crowd-sourcing approach, incentives were given to the people to restore old buildings. This included adaptive reuse of parts of the old port.

Heritage plays a crucial role in revitalising a city. The community connects through festivals, and through research and publications which develops pride and people become proud of their city, bringing more youthful energy into the city to celebrate heritage in the state capital, Georgetown. It is also about trying to connect Penang to the larger context, how Penang has been important as part of what has happened globally. For example, Penang had an important dimension in establishing modern China. How Dr Sun Yat Sen, founding father of the Republic of China, started the revolution against the Qing dynasty from a base in Penang is just one of many stories to create place identity. Digital technology can also be used more, to transform and showcase heritage buildings.

Festivals are a very important part of city life, and effort has to be put in to make them even more inclusive, to get the community to be more involved with festivals, through a bottom-up approach. This includes forging partnerships with stakeholders such as building owners and communities on the ground, Mr Hamdan says. “What is important is that your geography is not tradable, your identity and environment is important. Liveability is the key to competition; however, it has to be planned. Collaboration is key, particularly in a multicultural, multi-stakeholder environment. Always leverage what you have. Enhance the present and shape the future.” As the example of Penang shows, in revitalising a city, the past will be crucial for the future.

CASE STUDY

VARANASI, INDIA: HOW TO MANAGE HERITAGE BETTER



The ancient Indian city of Varanasi is crumbling. But it can be brought back for the 21st century by truly appreciating its heritage, says Mr Sanjeev Sanyal, a global strategist at Deutsche Bank.

Varanasi, built on the River Ganga, is one of the world's oldest cities, at least 3,000 years old. As one of the most sacred places for Hindus, it is a major tourist hub but it is now falling apart and dirty, and really in need of rejuvenation, says Mr Sanjeev, speaking at the World Cities Summit 2014 In-Focus Forum on India.

Varanasi has all kinds of winding lanes going everywhere and these are identified by the conventional urban thinker as being a problem. Local officials say that if only one could somehow drive these nice big highways right into the middle of these areas, to be able to drive in and out of them, and build more flyovers, all the problems could be solved. However, there is now greater awareness and consensus that denser cities are more ecologically friendly and should also be more walkable. All the lanes and by-lanes of Varanasi are terrible for cars but are perfectly fine for walking. The real problem is stray cats and dogs, overlaying wires and all kinds of other such things but these can be cleaned up with relatively little effort. So, actually, the problem of density and walkability is not a problem in Varanasi. In fact, this is what the city was precisely designed for.

Like most cities in India, Varanasi's real issue is a management problem, not a planning challenge.

On the factors of mixed-use diversity and urban buzz, Varanasi already has all of these. It has a completely random mix of shops, temples, houses, all kinds of things mish-mashed in a variety of interesting ways, attracting people from all across India to come and live, work and visit. There is continuous buzz. Singaporean planners and designers, for example, would know that a huge amount of effort has to be made to create buzz in a city and how difficult it is to build up buzz. In Varanasi, buzz already exists, and has existed for 3,000 years.

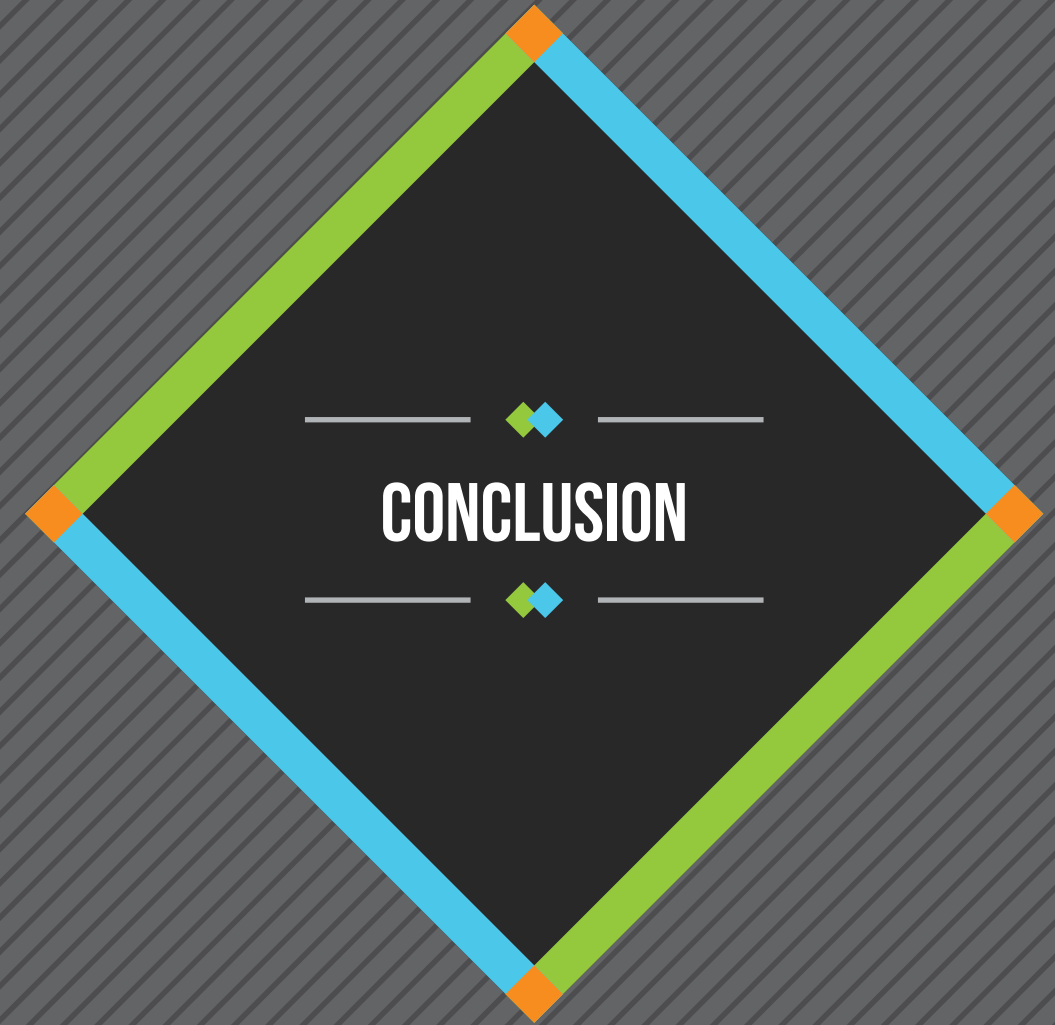
As for public spaces, there are very few cities in India which use open public spaces like Varanasi does, with its street carts that line up for several kilometres along the River Ganga. This is one of the few Indian cities that uses its riverfront in any sensible way. These spaces are open to all segments of society and create an extraordinary area, with people from all around the world coming to experience it.

As for cultural heritage, what Varanasi has may be crumbling but it is not just about the buildings, as there is a huge amount of urban social capital embedded in Varanasi. For example, the place continues to be a major centre of learning, with the Benaras Hindu University being Asia's largest residential university and just one of various institutions in Varanasi. The city is also at the heart of India's transportation system, the place where two of India's most important highways cross – National Highway 2 and National Highway 7, both very old highways going back to the iron age, cross all the way from what is now Pakistan to Bengal.

Looking at all the ingredients that one would want in a great 21st century city, these are actually already all there in Varanasi – a city that is walkable and dense, with a lot of character, has conserved its heritage, with great universities, and at the hub of the transportation system. Like most cities in India, Varanasi's real issue is a management problem, not a planning challenge. Its basic design actually works, which is why it still exists after 3,000 years.

What is needed is to clean up the city, with some new infrastructure, and better municipal management of existing networks. The old city also needs to be pedestrianised, with perhaps a monorail system added, running parallel to the river. Investment in research education and other institutions will create more human capital by building on Varanasi's traditional strengths.

Also important is preserving the architectural heritage of the city, including the city's two rivers, Varuna and Assi, which are dying rivers – which is, again, a management problem, as Mr Sanjeev stresses. "Much of the problem of India since 1947 is that whenever we think we have to do something, we think we need to have some sort of a five-year plan. Much of this is rubbish. What we need is just better management."



CONCLUSION

SOME THOUGHTS
FOR THE FUTURE

Cities will face more challenges, big and small. Some will be on an unprecedented global scale. Climate change and natural disasters will pose threats – from flooding to rising sea levels – that actually require fundamental changes to current practices. But the paradox is that the more long-term such dangers are, the more urgent are the compensatory actions, and yet, the more likely that those in charge will postpone action. The example of nations, like the Netherlands, who have done much to prepare themselves in advance, offers much to be shared with the rest of the world.

Meanwhile, other global shifts are slightly more obvious and immediate. As more people move into cities, the cities will need to do more to prepare and improve their living environments, and to welcome and integrate new residents. Some of these migrants will arrive from other regions in the same country. Some will be from the countryside, adjusting to city life for the first time in their lives. Some will be from other cities in other countries, bringing with them new cultural norms and expectations. City populations will become much more diverse in all aspects, from age and ethnicity to socio-economic background and nationality. The citizenry is being stretched at both ends. A more affluent middle-class is demanding more of the cities that they inhabit and partially own. At the other end of the wealth inequality divide, more demands are also being made in terms of common amenities and social support. Cities will need to become more people-centred and more inclusive to embrace more diversity across all spectrums, from reaching out to poorer communities as in Medellín (Colombia), to providing support to ageing seniors as in Kashiwa City (Japan).

Even as the world of the future will be more congested, complicated and challenging, it should also become more resourceful, responsive and resilient.

As the information revolution continues to empower citizens with more data and a louder voice, the demands on city authorities will increase. Good governance will be expected as a given. Technology will help provide solutions to the most pressing demands, especially in the area of mobility, to enable people and goods to move efficiently to their desired destinations. More cities will be able to gather data on a scale and speed like never before, as is being done in places such as Manila (Philippines). This, coupled with other initiatives such as vehicle-sharing schemes in places like Philadelphia (USA) will help mitigate the rising pressure on the transport infrastructure of cities.

Beyond hardware, liveability will increasingly extend beyond the physical aspects of infrastructure and mobility to more intangible facets such as equitability, respect for diversity and care for heritage. These are the strands of the new capital – natural capital, cultural capital, social capital – that will be the future currency of liveability. Cities with ancient heritage, like Suzhou (China) and Varanasi (India), will have an advantage, if they can put together sound management and align the old with the new well.

Except for small states, where power may be held more centrally, mayors in most cities should gain with more devolved authority and responsibility, as national governments come to recognise that the will of the people must be factored-in more than before. When some city authorities are going so far as to put everything that they do online for every resident to monitor, it should become harder for other city regulators to withhold information or data.

The most successful cities will have to learn to connect more. Mayors will have to truly be in touch with their residents, especially through social media on smartphones, like in Bandung (Indonesia) or Rio de Janeiro (Brazil). Cities will also have to connect and collaborate more, with other cities, to stay abreast of the best practices in new areas of urban development such as building “smart cities”.

With all these developments underway in cities across the globe – mayors and city authorities working with the people and with the private sector to implement shared solutions to common challenges – there can be an assurance that even as the world of the future will be more congested, complicated and challenging, it should also become more resourceful, responsive and resilient.

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MR ZHOU NAIXIANG, Mayor, Suzhou, China
Lee Kuan Yew World City Prize Laureate 2014

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