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Cover page Image:

Dr Peter Cookson Smith

Enervating Conservation Precincts

Hong Kong
ABOUT U + U

How can you read the city where you live and work? Let’s start from a blank page where we can all draw, write, read and share how we feel and dream that this city can be read and shared by all.

Urbanie and Urbanus, or U+U for short, is a periodic journal and communication tool to develop a dialogue between the institute members, related professions, decision makers and the local community. Commencing with a focus on the city and community of Hong Kong, from this local perspective it will outreach to China, Asia and internationally. With the limitless reach an online resource can offer, the e-journal will offer learned critique to increase participation and engagement through understanding and ‘below-the-line’ debate on issues large and small, from state-building to street furniture.

The core aim is to develop a better understanding of our cities in their varied and multiple scales and aspects, written by and considered for the widest range of users and key actors possible. We will associate with universities, the building profession and the public, with articles combining the scope and immediacy of serious everyday dialogues and communication with anyone who wants to participate in the precision and depth of debate. As such the expected outcome and purpose of the publication will be to raise awareness of the potential for updated design tools and methods, particularly within Hong Kong, China and the broader Asian region.
Preface
Dr Hee Sun (Sunny) Choi
U+U journal Editor

The impact of climate changes brought about through rapid urban development and infrastructural growth should be a matter of grave concern for all those working across this urban spectrum. Countries within Asia on average dedicate 41% of total energy consumption towards building construction.

How can the built environment respond to the need for a more sustainable approach? Whilst involving a complex range of issues, one key aspect is understanding the relationship between each element of the built environment and sustainable development policy. The built environment is largely determined by the communities that dwell there and the buildings reflect the needs of the individuals and different key actors, physical and social structure, and the physical location of the structures (Bentley, 1999; Carmona, 2003; Lee, 2002).

The 2030 Agenda for Sustainable Development Goals (SDGs), published by the United Nations last year in 2019, include 17 focus points that emphasize how sustainability should mean more than the direct focus on the protection of the environment. Following their publication many countries are aligning their national policies and institutions behind the SDGs in order to improve people’s lives in the face of armed conflicts, humanitarian and environmental crises, as well as economic, financial and climate challenges.

These goals advocate a long-term vision for catalyzing positive change for sustainable cities and communities, in a way that can address the current lack of change in public and private investment in sustainable development. It is crucial to think critically and precisely how to achieve responsible and sustainable communities, environment and cities.

Given the need for a collective determination for achieving sustainability in urban visions, this issues of the U+U journal provides a series of short articles from scholars and practitioners for discussing new models and new possibilities for both designers and decision makers, and also guide sustainable design alternatives in relation to architecture, urban design, planning theory and practices.

The notion of sustainability can be defined not as some fixed perfect state, but rather an evolving one that responds to both ecological change and change in the form production process. This means that sustainable development is a process of change in which exploitation of resources, the orientation of technological developments and institutional change are all in harmony. This process is about creating a learning environment in which all participants strive to improve the situation that exist for the needs of today and tomorrow, acknowledging aspirations as well as needs and therefore engaging the drive for change and improvement within society. This vision is also an expression of the integrated values and perspectives the inhabitants of each city have for what should be sustained.

In conclusion, the creation of a sustainable city requires a consideration for a more sustainable version of urban life that shares a common purpose among different users, designers, decision makers and the natural environment. Each of the papers within the journal take a different perspective on these multiple facets and hopefully will give you a picture of where the sustainable city is currently standing.
Urbanie and Urbanus

Prologue

By Joel Chan
HKIUD President
Has the rather compact development of our city truly brought us the identity that we aspire Hong Kong to possess? Has our city provided the liveability that the majority of the population wish to enjoy and can have an equal share of? Facing complex challenges in our developed city, urban design is the integrative approach to deal with multi-scale and cross-disciplinary issues. However, the value of “DESIGN” is the one missing aspect in Hong Kong’s common ideology today. It needs the ability to observe and think creatively across the scales before genuine solutions could be found through design. Therefore, one of HKIUD’s biggest goals is to promote urban design as an important professional mindset.

Our aim of heightening HKIUD’s positive influence in Hong Kong’s urban ecology led us to the idea of establishing an URBAN DESIGN PROTOCOLS / COMPENDIUM to guide the timely exercising of professional talents and creativity. Thus, we believe that a compen-
dium would be the right start. The betterment of urban livelihoods of any city at any stage, should always start with visions. A compendium has to be unique to the city’s context while capitalising on international standards and recognition. It is anticipated to play a catalytic role in mainstreaming urban design into the city’s decision-making process.

The world is changing rapidly. Hong Kong should no longer stick to our “outdated” procurement method. Liveability is no longer numbers but qualities such as equality, diversity, sustainability and adaptability. With increasing public awareness and parties working hand in hand, cities have advanced greatly in putting their visions into actions. It is high time for Hong Kong to review its genuine needs and encourage changes to our city fabric. It is my belief that changes have to reach into the current bureaucratic systems, fields of practice, and the awareness of project clients and the public. With optimistic spirit, I sincerely welcome friends with the same passion to join HKIUD and I in this creative discourse.
Sustainable Cities: The Need for Regenerative Urban Design

By Dr. Peter Cookson Smith
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Designed Integration of Historic Places
Kowloon

Functional Animation of Urban Edges
Sai Kung
In a broad sense ‘sustainability’ is about maintaining and enhancing the quality of life while respecting the carrying capacity of the biosphere, the supporting eco-system and resource base. At a more detailed and specific level, spatial planning and urban design need to be set within the urban and city planning context of natural resource conservation and the achievement of environmental quality. As part of this process urban design must be concerned with the careful stewardship of the resources of the built environment in the creation and maintenance of the public realm.

Efforts to improve the environmental performance of cities is possibly the most pressing issue to be addressed in the 21st century, and global initiatives reflecting sustainable concerns for the planet have, in recent years, helped to develop a clear ecological dimension for strategic and local planning.

In Asia this really comes down to what sort of cities we want and the priorities we set. The term ‘City’ is derived from the root word for civilisation, meaning ‘befitting a citizen’, and in general cities are the result of people’s persis-
tent pursuit of a more liveable environment. Wherever they are, this is indispensable to the development of society. Edward Glaeser in ‘Triumph of the City’ stated that studying cities is so engrossing because it poses fascinating but often troubling questions, but he also raised the question ‘why do so many smart people enact so many foolish urban policies? So this subject is very pertinent. Any design model for a Liveable City must focus on the long-term well-being of its citizens, and policies must be well thought out, they must be implementable, and must be acceptable to stakeholders.

This touches on many issues – identity and belonging, and the future of the city that is not just about redevelopment of inner districts but about the edges, the boundaries, the connections, the ecology and the urban design. And where the citizen is at its very centre.

What we must transcend in asian cities, is the perennial laissez-faire linked system of speculative accumulation, narrow economic focus, the power of large development interests, and the concept of the city as simply a matrix of opportunity, because what this leads to in practice is increasing inequality and polarisation of society. We need to bring together policy making areas that are directly related to regeneration of the city, and which are now often segregated into silos. This includes urban planning, urban renewal, infrastructure, highways, transport and the environment. And we might add another – new technologies to drive the creation of a new kind of city – liveable, connected, global and sustainable.

As Jonathan Barnett, the American urban design commentator has observed, while the forms of most world cities might be unintentional, they are not accidental. They are the products of innumerable decisions made over varying periods of time, for single and separate purposes – but where the combined consequences of all these decisions are unpredictable. When you look at this we are bound to agree that it could never have been intentional. Great urban design is unlikely to happen purely by chance, but an almost constant process of change is inherent in the way cities function – physically socially and economically.
Our historically great cities come down to their endowment of physical capital, their hard infrastructure of buildings and spaces coupled with the more elusive qualities of place and history, which in many Asian cities is now strikingly absent. Healthy communities need healthy urban places. But the modern city must look to the future and add another dimension – that of responsiveness to the challenges of growing urbanisation, eco-awareness, urban efficiency, and resilience to climate change. In this sense, urban performance no longer depends purely on physical capital but on social and knowledge capital.

For the most part the primate cities far exceed other national cities in terms of population, business investment and industrial production. Around 60 percent of national GDP in Asia is now produced within mega-urban regions that are tending to double their populations every 15 years. The metropolitan regions of Bangkok, Manila, Jakarta and Tokyo generate anything between 35 and 60 percent of their national GDP. On top of that, development corridors are expanding beyond metropolitan boundaries, emphasising the regional or mega-city dimensions of the urbanisation process whose parts are interdependent but still evolving such as the Greater Bay Area in Southern China with a population of some 70 million in its integral
cities. Asian countries contain 60 percent of the global population, and the asian city has for some years been on the rise. The steady stream of influences on its cities is now being superceded by a surge of commonalities generated through the dominant forces of globalisation and competition for international investment.

The massive programme of urbanisation itself requires some understanding of historical, cultural and political dynamics that have created the physical conditions, the changing value systems and the contested identities of the modern asian city, and that is contributing to a spatial, social and economic transformation which is giving rise to expanded urban footprints.

At the end of World War II only 17 percent of Asian populations lived in cities. By 2020 this has grown to more than 50 percent, one of the main influences being the pre-eminence of pri-mate cities which in certain situations have evolved into mega-urban regions as a result of concentrated economic development and investment. The latter situation includes densely populated rural enclaves on the peri-urban fringe which have been drawn into the city ambit through industrialisation while also embracing lingering rural characteristics. This has created on one hand a requirement for mass housing at relatively high densities, at a time when civil society is asserting changing social and economic agendas.

In most asian countries the state assumes a major role in transforming urban space and delineating its symbolic qualities. The expedient process of redevelopment over regeneration obliterates the technically inefficient or uneconomic at the expense of heritage, or at best juxtaposes it with the evident prerequisites of modern cities – the traffic artery and the superblock. In the process city making and renewal procedures have become more absolutist and expedient.

The goals behind the Sustainable City, the Liveable City, the Smart City and even the Resilient
City are not mutually exclusive, but the future urban emphasis must be on quality, not merely quantity. This touches on many issues – identity and belonging, boundaries and connections, the ecology and urban design. We must however resolve the central issue of Contestation. This represents a realm of uncertainty brought about by conflicting priorities related to aspects such as conservation, maximisation of land value and heritage tourism, housing tenure and public engagement, and requires careful moderation as to the rate of economic change.

Asian cities do not necessarily have the formalist configuration of spaces and the highly defined public realm bequeathed to Western cities. Instead the asian street, the progenitor of asian city form, tends to reflect a heterogeneous assembly of types that display a range of complex interactions, including an emphasis on social rituals, ceremonial uses and market trading that relate more to patterns of activity than conceived physical form. These need to be acknowledged and retained within city regeneration exercises.
The sense of dissonance common to the traditional city still remains – interaction and encounter, the complex and indeterminate, the bazaar economy that has traditionally evolved around market places and mobile vendors, specialised trades and products associated with active streets and indigenous cultural institutions. These create opportunities to retain ad-hoc aspects of place with distinctive forms of expression that relate to the underlying grain, and help to break down uniformity.

In areas that do not have to meet increasingly high operational specifications, persistences carry through - the sacred places, gathering spaces, palace compounds, speciality markets and bazaars together with indigenous mixed use quarters – the ‘locales of complexity’ that characterise many older neighbourhoods. These remain according to their capacity to adjust to conditions within the new contested urbanism, where different interest groups compete for priority and space, and where the ‘high’ and ‘low order’ components often experience a less-than-stable relationship, usually existing together in informal allegiances through layering and overlap.

Contested Forms of Urban Expression

UNESCO World Heritage extended conservation and preservation activities to Asia in the 1970s at almost the precise time that many cities were undergoing modernisation. Attempts to reconcile these different forces tend to differ considerably. On one hand cities need tangible and symbolic forms of expression related to identity, memory and continuity. On the other hand there might be a tendency to obliterate traces of ‘alien’ colonial intervention? The fundamental issue is the cultural value and understanding put on places of historic character by local populations. ICOMOS – the International Council on Monuments and Sites, an advisory body to World Heritage, now accepts “intangible heritage” in Asia as having an equal and possibly even greater cultural relevance than physical traces in transmitting authentic urban value.
Contested Forms of Tenure
The concept of private property and urbanisation are inextricably linked. Access to urban land is through one of four means: through family relations; administrative means (public housing); the real estate market or illegal occupation. This implies that to regularise the situation, all land must be properly registered. In some situations urban populations are made up of different ethnic or economic groups, with disparities in land tenure. Both occupation of public land and rental of lots on private land make tenants vulnerable in the face of urban redevelopment and urban expansion.

Contested Space
Open space for the most part has traditionally functioned as layered networks of ‘unofficial’ economic transactions or exchange through mobile traders. This informal sector and the varied entrepreneurial skills associated with it form part of an informal labour market that is necessary for economic survival. As the asian city undergoes both physical expansion and changes in economic direction, the informal sector is likely to grow in parallel. In some South Asian cities the pasar malam forms a traditional means of equating temporary food stalls with local employment and social interaction. Street vendors occupy space at a specifically
agreed time, while specially demarcated outdoor areas are set aside for vendors under hygienic conditions.

**Urban Regeneration**

Urban regeneration must be a key focus for public policy geared towards city betterment. The key to its sustainability is the approach taken by an amalgam of participants: local authorities, developers, investors and other stakeholders in the community that should reflect the current tools and metrics used by public, private and NGO sectors. Wherever it occurs, this requires a comprehensive and integrated vision aimed at achieving lasting improvement to both the private and public realms, with an effective interface between them. It is best implemented through small one-off projects that are meaningful to the community and consolidate local identity. The complexity of Asian cities coupled with their increasing land values, indicate that improvements need to be carried out in an adaptive way to provide for continuity of urban character. Successful regeneration must therefore have a long-term strategic purpose, and should represent all stakeholders who have a legitimate interest in the city.

Successful examples have to a large extent centred around physical revitalisation, improve-
ment, upgrading and ‘walkability’ initiatives, commensurate with new ‘liveability’ agendas. This has tended to produce an enhanced city image with direct, indirect and induced effects through increased cultural and symbolic values, and in the process has helped to promote inward investment. Such measures also tend to induce further environmental action including landscape improvement of the public realm, refurbishment of older buildings, walkability and environmental management. It might also include such aspects as revitalisation of historic centres. A transition towards urban regeneration needs to reflect a means to tackle problems associated with a long-term strategic purpose of urban betterment. It must therefore be simultaneously aimed at physical fabric, social structures, the economic base and environmental conditions. This calls for integrated strategies that deal with the resolution of problems in a balanced and comprehensive manner, but at the same time ensure that programmes of implementation are developed which make a positive contribution to the city as a whole.

In terms of urban design and its relationship to planning and regeneration we can set out a number of aspects that are attuned to city betterment, ecological issues, social traditions and the resolution of economic polarisation.

Clearly we cannot resolve these problems at the same time, but we need to recognise them and possibly prioritise them.

We need to:
- assimilate what is characteristically embodied in the local morphology – the essential values of the street, city block, sacred place and space configurations, and how these can be translated into typologies that satisfy changing community structures and ambitions, and that extend cultural definition to urban form. In the process this needs to establish or consolidate around a more cosmopolitan type of urban regime.

- use available planning mechanisms with vision and creativity, that can effectively regener-
ate the city through incrementalism and adjustment by opening up urban development and expansion possibilities while retaining cultural and intangible heritage. Without this urban renewal processes are skewed towards perpetual redevelopment, resulting in massive displacement and undifferentiated urban quarters.

-ensure that land economics, ownership patterns, commercial and servicing requirements do not dictate a course-grained structure of new urban layouts across the city. We must protect and reinforce the older more fine-grained environments in multi-ownership with their commensurate ability to informally adjust their ownership and use mix, and in the process produce an integrative urbanism.

**Strengths we can build on**

**Complexity and Correspondence**

Despite economic imperatives that often drive planning programmes towards segregation and separateness, the asian street and place functions in several dimensions (social rituals, ceremonial, informal and transactional) that intensify both levels of use and opportunities for economic exchange.

We need to encourage an urbanism of
high adaptability embedded in the complex framework of everyday life, even if the price to pay is disjointed image.

**Intangible Associations**
There is often an adverse relationship between the advent of city planning departments and the use of development control and management mechanisms which make cities increasingly efficient and functional but at the expense of liveability and communality. Memory of the city is embedded not merely in its solid fabric but in its responsive-ness to change, and a co-existence of cultural types, imprints, overlays and interactions.

We need to respect the advantages of use mix rather than segregation of single use enclaves through rigid zoning.

**Articulated Margins**
A central tenet of the asian street is its versatility, combining the functions of meeting place and market place. The street margin tends to act as a transitional ‘threshold’ rather than a rigid demarcation, and invites...
a reciprocity between different interests and rituals. These engage users through overlays of use and display, that dissolve the boundaries between private and public space.

We need to encourage aspects of improvisation and adjustment that stem from discernable and practical values.

**Temporal Transitions**
Temporal transitions reflect a relationship between the passage of time and the programmatic change of uses throughout the day and evening. This generally involves different sets of users who inhabit public space, often quite intensively at different times for different purposes, sometimes with a high degree of overlap. Locations are shared on a time basis rather than being used intensively but intermittently by one particular interest group.

We need to respect the necessary qualities of change, mutation and invention as measures of use, variety and diversity.

**Urban Markers and Delineations**
A number of aspects contribute to identity and legibility in the asian city that emphasise transition, convergence and foci rather than spatial demarcation in a compositional sense. For example pailou and torri gateways that delineate approaches to sacred places and processional routes.

We need to recognise the importance of incorporating traditional socio-cultural elements as reference points within the connective framework of the city.

**Workable Typologies**
The relationship of traditional city-making elements such as adaptable Chinese t’ang lau and shophouse typologies, open to sub-division and constant re-fitting, has been fundamental to the long-standing absorption of high population densities and intensive patterns of economic activity in many cities. This acts as both a cultural and social model with an important street making and economic dimension, representing dominant street typologies with a variety of interpretations in terms of form and style.
We need to preserve and conserve these elements as both historical markers and as city-making contributors to contemporary urbanism, in particular street formation.

**Environmentally Sound Technologies**

The condensed nature of city cores together with increased levels of private vehicle use and road-based transport has severely compromised the liveability of cities and a time when urban populations are increasing. The strides that are being made in electric vehicle technology, autonomous transport, create the medium-term potential for urban energy efficiency and cleaner emissions, which have significant ramifications for urban planning. This in turn creates increased opportunities for restrictions on private car use and a more people-centred urban design. This can entail extended patterns of pedestrian movement and connectivity with integration of cycle-tracks and forms of people movers appropriate to effective city planning.

We need to increasingly match changes in transport and traffic technology, with improved pedestrian connectivity, comfort and access in our condensed and compact urban cores.
The Sacred Place

Spiritual heritage necessitates a reciproc- ity between different interests and customs, and also between complementary forces which echo philosophical theories of social organisation and geomantic diagnosis.

The asian sacred place and its urban ‘fit’ is the antithesis of the absolutist position. Instead of dominating the street, the temple normally establishes a low-key presence. Sacred places therefore become incorporated into city fabric as part of daily life and cultural ritual rather than merely acting as sites of veneration.

We need to respect the relaxed co-existence between ceremonial space and social gathering space, and the spiritual quality this exerts on the public realm.
Dr. Peter Cookson Smith’s Biography

Dr. Peter Cookson Smith is an architect, planner and urban designer. He has been resident in Hong Kong since 1977 when he founded URBIS Limited one of the first specialist, planning, urban design and landscape consultancies in South-east Asia. Over the past 43 years the company has carried out more than 3,000 projects in Hong Kong, Mainland China and throughout Asia, winning more than 250 local and international awards. He was among the first urban planners from the West to carry out studies for the PRC government in the early 1980s following the ‘Open Door Policy’. For several years he was Professor at the University of Hong Kong Faculty of Architecture, and is an Adjunct Professor at the Chinese University of Hong Kong. He has also been a Visiting Scholar at the HKU Centre for Asian Studies, and has sat on a number of government commissions on strategic development. He is a Past-President of both the Hong Kong Institute of Planners (2011-2013) and the Hong Kong Institute of Urban Design (2014-16), and is the author of six books on Urban Design.
Urbanie and Urbanus

Smart and Sustainable City Framework with Smart Cultural Precinct as Case Study

By Dr. Sujata Govada,
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Abstract    The Smart and Sustainable City Framework (SSCF) redefines the idea of ‘Smart City’ to having “Smart Thinking, Planning and Design” as fundamental for smart and sustainable city development. The framework focuses on the core values of “Smart People, Smart Place, and Smart Planet” that helps shape the city through innovative solutions with technology embedded as an enabler to create a more liveable, walkable, resilient and happy cities for all. Six elements of the Smart and Sustainable City Framework are discussed, which consists of “Smart Living”, “Smart Environment”, “Smart Mobility”, “Smart Infrastructure”, “Smart Governance”, and Smart Economy”.

Smart Cultural Precinct (SCP) with the Cultural Triangle at its core in Central, Hong Kong will be used as a case study to demonstrate the use of the SSCF, together with recommendations for Hong Kong and suggestions for the broader application of the SSCF to help shape better cities.

Keywords:   Area Based Cultural Heritage Conservation, Smart Cultural Precinct with Cultural
1. Introduction
Smart City represents the vision of the future urban development (Song et al, 2017). Many cities worldwide have adopted such principles. Often the concept comes with the digitization of services including the use of information and communication technologies to monitor, assess, disseminate and manage cities. Smart city aims to create a productive, efficient and growing city while making the best use of the existing resources.

Although there are many different definitions, frameworks and approaches regarding the components of Smart City, they mostly focus on technology as the key driver. Without emphasizing the importance of good planning and design to create great places for people while safeguarding the environment, technology alone cannot create cities that are truly smart and sustainable. Therefore, a comprehensive Smart and Sustainable City Framework (SSCF) has been developed by the Institute for Sustainable Urbanisation (ISU) and UDP International to emphasise the importance of smart thinking, planning and design with a focus on people, place and planet.

2. Smart and Sustainable City Framework
SSCF rethinks the idea of Smart City involving Smart Thinking, Planning and Design as the fundamental concepts. Smart Thinking includes the initial ideas, thoughts, visions and processes of developing smart and sustainable cities with different stakeholders working together to make sound decisions to implement and manage the city. It reflects the principles and values of people and communities with a vision to create smart and sustainable cities in the future. Technology is important as an enabler and should be treated as a tool, so the fundamental premise of planning and designing the city well will not be lost (Govada et al, 2017a).

With Smart Thinking as the foundation of Smart City, the core values of Smart People, Place and Planet will help shape the city through the use of innovative solutions to build a walkable, liveable, affordable and resilient city for everyone to enjoy. The concept of Smart People refers to citizens having a Smart Thinking mindset and behaviour as it has direct influence on the development of a smart and sustainable
city. A Smart Place means that city is planned, designed, and built for the human scale and has considered Smart Thinking and Smart People in the planning and design process. Smart Planet refers to the harmonious and resilient relationship between the natural environment and the built environment, in which adverse impact of development is limited and mitigated as far as possible.

The SSCF emphasizes the importance of incorporating People, Place and Planet as the fundamental core values of a smart and sustainable city. It is a more holistic and comprehensive approach than focusing solely on technological advancement in creating new and transforming existing cities to be smart and sustainable. With the core values in place and technology as an enabler, six smart and sustainable city elements should be considered, which include Smart Living, Smart Mobility, Smart Infrastructure, Smart Environment, Smart Governance and Smart Economy.

2.1 Smart Living
Smart Living focuses on all aspects of human life affecting one’s happiness and health considering people first, as a top priority. Access to affordable housing and decent living environment with high quality public space for all is fundamental for Smart Living. In addition, offering education, employment and leisure opportunities for all combined with community and health care facilities are key while promoting heritage, art and culture to improve the quality of life of people.

Smart Living aims to offer an active and healthy lifestyle with social cohesion, equity and equality to encourage people become more responsible, collaborative, compassionate and spiritual by connecting mind, body and soul as well as treating everyone equally. Resources including education and healthcare should be available and accessible not only for the current but also for future generations. Moreover, a safe and secure environment both during the day and at night is essential for people to feel comfortable living in, working and experiencing the city.

2.2 Smart Environment
Smart Environment concerns resource efficiency and the sustainable city development with the built environment sensitive consideration of the natural environment. A smart environment should aim to provide plentiful public open space with smart resource management, ecological protection and biodiversity (Govada et al, 2019). People have social interactions, leisure, recreation, and entertainment activities in open space, facilitating a diverse and cohesive society, ensuring physical, social, psychological well-being and mental health which is essential for people and beneficial for the community as well.

Smart Environment encourages sustainable built environment beyond green building design and sustainable neighbourhoods. Negative environmental impacts should be reduced for better quality of life by using energy efficient technologies and sustainable materials to manage water, waste and electricity effectively. The
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To integrate the different elements in Smart Mobility, SSCF with a central focus on mass transit and NMT is fundamental. Transit and Pedestrian Oriented Development (TPOD) should become the development model for the future to ensure smart and sustainable cities.

2.4 Smart Infrastructure

Smart Infrastructure provides for high quality infrastructure including the physical and non-physical elements. Physical infrastructure refers to road network, utilities, public realm and sensors, while non-physical infrastructure refers to the ICT. Physical and non-physical infrastructure should be integrated and inter-connected, which enables communication and data transfer for efficient resource management. For example, the use of smart grid and sensors to monitor the usage of public utilities facilitates smart resource management for water, energy and waste.

Moreover, the use of smart application and Internet of Things (IoT) provides transparent data management for all parties including the public, the government and businesses through the internet and various smartphone applications. In addition, all infrastructures should be resilient to disasters and emergencies, so the city can react promptly and has sufficient level of security to deal with cyber-attacks. Citizen engagement education, awareness and preparedness for resiliency are key for a smart and sustainable city.

government should implement and monitor environment protection in close collaboration with society and various stakeholders to raise the awareness of the importance and benefit of sustainable policies and regulations to ensure that the built environment is protected and in harmony with the natural environment.

2.3 Smart Mobility

Smart Mobility aims to promote the efficient and sustainable movement of people and goods locally, regionally and internationally with sustainable modes of transport such as public transit, walking and cycling. Multi-modal public transit should be primary to address the mobility needs to support the large number of people movement within the urban environment, supported by clean non-motorised transit (NMT) options as the basis for last mile connectivity. Moreover, public transportation integrate with information and communications technology (ICT) services to provide traffic and transport information including schedules, routing and real time tracking is essential. Smart Mobility aims to reduce the use of private vehicles through multi-modal transport options as the most inefficient traveling mode. Cities should promote the zero-carbon emission such as electric vehicles for cars, taxis and buses, or even driverless cars to reduce the negative impacts of motorized transport. The roadside Green House Gases emission will be further reduced while the walking environment for pedestrians will be greatly enhanced as a result.
2.5 Smart Governance

Smart Governance requires strong leadership and commitment to ensure good governance with an agreed common city vision and proper decision making process supported by the political will, administrative skill and resources to implement. Public sector should offer proper services and work together with multiple stakeholders’ engagement including private sector, civil society, professional, academia, NGOs and community to make sound decision-making processes to achieve the common city vision and ensure smart and sustainable city development. Smart Governance is achieved with proper, transparent and inclusive management that ensures information is accessible to all sections of society.

Sustainable policies should be implemented efficiently and effectively in order to inspire the positive improvement and ensure impartial policy implementation. E-governance is an important tool for government to strengthen community engagement, public participation and public welfare (Govada et al, 2017b). It ensures that all citizens can enjoy adequate and appropriate public services with high quality efficiency, in person engagement through workshops and forums with face to face interaction, which allow government decisions to be more transparent to all citizens with integrated and accessible information, thereby enhancing the efficiency of public services.

2.6 Smart Economy

Smart Economy refers to a diverse economy that is open and transparent including multi-sectorial, flexible market opportunities for business and employment, as well as promoting entrepreneurship, innovation and higher productivity through local, regional and global collaborations. These characteristics reflect a strong local, regional and global competitiveness within a well-connected economy.

Smart Economy promotes an effective and efficient business environment for the entrepreneurs and encourages innovation in the industry. It also ensures a stable skilled labour force with rich resources and ability to transform the city as well as enhance the livelihood of its citizens while promoting a healthy lifestyle. It is essential that government should be locally proactive and innovative with locally sensitive with regionally and globally connected policies in order to enhance and maintain the attractiveness and competitiveness in the regional and global economic environment.

3. Smart Cultural Precinct

The Smart Cultural Precinct (SCP) is a comprehensive conservation and revitalisation concept initially proposed by UDP International and more recently involving bottom-up public engagement activities together with the ISU and in collaboration with YWCA to create a great place in Central and enhance the heritage and cultural conservation and support the government’s “Conserving Central” Initiative.

At the core of SCP is the Cultural Triangle formed by the three historic landmarks, Police...
Married Quarters (PMQ), Central Police Station (CPS) and Central Market (CM) in Central. All three landmarks are part of Government’s conservation policy promoting adaptive reuse of buildings of cultural significance with compatible uses. PMQ was successfully completed in 2014 and is considered a landmark for creative industries (PMQ, 2018), and CPS, also known as Tai Kwun, was completed in 2018 and is now a popular centre for Heritage and Arts (Tai Kwun, 2018). CM is currently under renovation and will be completed by 2021/2022, which will be transformed into a landmark for market and leisure activities including affordable and unique retail for everyone to enjoy (Central Market, 2018). Currently the three buildings are functioning in isolation, which limits heritage conservation at a building scale and does not capitalise the full potential of revitalising the district as a whole. SCP will help further strengthen the Cultural Triangle and the linkages between these three building(s) and also integrates the area in between, including Pak Tze Lane, Yu Lok Lane, Graham Street Market, and Wing Lok Lane to form a cultural precinct. Existing connections such as the Mid-Levels Esca-
lator, Staunton Street and Hollywood Road will be key pedestrian linkages of the cultural precinct. SCP aspires to be a catalyst to re-energise and transform Central into one of Hong Kong’s most vibrant areas filled with culture and local character. (Figure 2)

3.1 Preserving the Cultural Heritage
Aside from the three key buildings, Central District is unique with its combination of the old and new developments juxtaposed right next to each other within the district. Moreover, the district is a vibrant place full of heritage, culture and creativity with many art galleries and street art including art works, paintings and graffiti within the area, drawing both local and international visitors. The cultural precinct area has been a distinct and major component contributing to Central’s vibrant characteristic contributing to the unique image and identity of Hong Kong.

Rebranding PMQ, Tai Kwun and CM as the Cultural Triangle at the core of SCP will bring together all the important sites together along with the Mid-level Escalator, H6 Conet, and Dr Sun Yat-Sen Historical Trail physically and virtually to bring Hong Kong’s culture and heritage back to life. The SCP takes on a more holistic approach to develop an area based cultural and heritage conservation plan including streetscape improvement with community and place making initiatives to further enhance and revitalise the district. SCP is a demonstration of Smart Living, creating a walkable cultural precinct to improve the quality of life that is socially inclusive, integrated, smart and sustainable for the enjoyment of the local residents and visitors alike. SCP could become a model for revitalizing other areas such as Sham Shui Po and Yau Ma Tei in Hong Kong and beyond.

3.2 Enhancing the Environment
The SCP envisioned a walkable and pedestrian-friendly environment that showcases the local heritage and culture within the cultural precinct in Central. Currently, many of the streets within the cultural precinct are car-oriented and congested with traffic, which leaves pedestrians with narrow sidewalks and creates an unpleasant environment that is uncomfortable and unsafe for people to walk. There is also a lack of users and activities within open spaces of the area as they are not properly connected with the pedestrian network. The current environment of the area is very utilitarian and of poor quality in terms of streetscape and open space.

As a result, the three landmark building(s) within the Cultural Triangle together with the streets and open spaces can become integral part of an open space network within SCP. The street activities in the area create a favourable social environment to build a platform for collaborations in various forms between community, businesses, culture and performance. Paved pedestrianised and shared streets along with traffic calming measures as well as wayfinding and signage would help create a more walkable and pedestrian-friendly environment to attract locals and tourists to enjoy the Cultural Triangle and SCP. Staunton Street is proposed to become
Figure 3: SCP Master Plan (ISU & UDP International, 2019)

Figure 4 & 5: Artist Impression of Hollywood Road (ISU & UDP International, 2019) & Staunton Street (ISU & UDP International, 2019)
a pedestrianised street given its vibrancy and direct linkage between Tai Kwun and PMQ. Hollywood Road is identified to have the potential to become a shared street as a main street in the cultural precinct. Gage Street and Aberdeen Street are also suggested to become shared streets to offer better connectivity for pedestrians and reduce the current vehicle dominant situation to build a safe and pleasant walkable neighborhood. Also, landscaping should be provided as much as possible, for example Queens Road Central can be transformed into a landscaped boulevard. Technical assessments would need to be conducted for the feasibility of the suggested streetscape improvements as well as a mindset change among Hong Kong people to make this vision a reality.

3.3 Improving Walkability

The SCP also aims to overcome the poor walking condition by improving the permeability and legibility of the area. Currently, the Mid-Levels Escalator has demonstrated smart mobility as a highly effective response to the hilly topography of Central District and provided a walkable, continuous connection with gradual level changes (Cho et al, 2015). It also enhances the permeability and legibility of the area to the needs of the locals and visitors as well as it functions as a tourist attraction. It not only serves as a viewing platform to observe the city life on the various streets that cross within the area, but the Mid-Levels Escalator has also proven successful in organically regenerating the area as a result of the many street level connections.

On the other hand, the revitalisation and adaptive reuse of PMQ, Tai Kwun and CM, have proven to be useful as way-finding cues because of their local character and unique built form. This can be further improved by linking the Cultural Triangle and the area in between and beyond digitally through a public sharing platform, such as an app and/or blog of the precinct to provide information on local heritage,

Figure 6 & 7: Mid-Level Escalator (ISU & UDP International, 2019) & Central Market Public Passageway Exhibition (ISU & UDP International, 2019)
tourist attractions and shopping area. Users can learn and explore the area while improving the precinct’s wayfinding.

The SCP can become a walkable and connected precinct within the Cultural Triangle, the precinct and beyond. This will help create a smart and sustainable precinct that is pedestrian and environmental-friendly for people to live, work, play and learn. It also helps to create a healthy, happy and liveable environment, enhancing people’s quality of life and achieving principles in Smart Mobility, Smart Living and Smart Environment.

3.4 Community Engagement
More recently ISU and UDP International worked together with YWCA, with funding support from the Central and Western District Council, to host a series of events and activities in 2019 to educate and raise awareness of SCP and the Cultural Triangle in Central among the local community. The SCP Kick-off Event, Walk and Workshop, Walk and Building Tours, Community and Place Making Event, and Arts and Crafts Workshop as well as the Public Forum on Walkable Cities were very successful in engaging the local community in raising awareness about the cultural heritage and getting positive feedback regarding the cultural precinct in Central.
The walk tours and workshops were held to introduce SCP and gather feedback from the local community by introducing the different aspects of the cultural precinct to allow the public to re-imagine the possibilities of this area in Central. Elderly participants were engaged and shared about the local cultural heritage from their childhood stories and experiences. A number of topics were discussed, including ways to improve the walkability within the cultural precinct by making it more pedestrian-friendly; provide a better linkage between the three building(s) and the area in between physically and digitally to strengthen the Cultural Triangle as the core of the precinct; more cooperation between key stakeholders such as residents, shop owners and renters to emphasize a sense of community within the cultural precinct; promoting local F&B, arts and crafts; promoting other programs, events and activities through social media; realizing SCP at Central to help enhance the overall city image and identity; and becoming a model for other areas in Hong Kong and beyond.

A Community and Place Making Event was held in Lok Hing Lane Temporary Sitting-Out Area on a Saturday afternoon. Using simple decorations such as balloons, mats and bean bags in vivid colors, the sitting-out area was transformed into a lively place that is attractive and welcoming. The Community and Place Making Event aimed to demonstrate the potential of underutilized spaces that can be used as a more engaging and active space for the community and visitors with games, food and music attracting people passing by as well. In addition, a map of SCP was provided to engage participants to find key street features and buildings within the area, thereby initiating discussions and raising awareness of the local culture and heritage within the cultural precinct. The event has successfully attracted the local community, students, tourists, and professionals to experience a different Lok Hing Lane Temporary Sitting-Out Area than they are normally accustomed to. Many of the participants appreciated the change in environment and had expressed interest in making this a regular event in the future.

Figure 9 & 10: Walk Tours and Workshops (ISU & UDP International, 2019)
The Public Forum and Walkable Cities event presented the Cultural Triangle and SCP vision and shared the various public outreach and community engagement events undertaken by ISU and UDP International together with YWCA. During the event, elderly and young participants performed, shared their experiences and celebrated the cultural heritage in Central and Hong Kong. In addition, the Public Forum became a platform to discuss how to use SCP as a model to promote cultural precincts in other districts in Hong Kong and beyond. A SCP Map illustrating the heritage and culture of the precinct was showcased to the participants for their feedback. All guests and participants received a SCP T-shirt as a souvenir that is designed with hand sketches of the three key landmark buildings showcasing the Cultural Triangle as the core within SCP, the walkable cultural precinct in Central.
Figure 15: SCP Map (ISU & UDP International, 2019)

Figure 16 & 17: ISU UDP & YWCA Team (ISU & UDP International, 2019) & Hong Kong Biennale of Urbanism\Architecture (ISU & UDP International, 2019)
To further engage the community and raise awareness of the concept of SCP, ISU and UDP International have teamed up with AIA Hong Kong along with THEi’s support with the students’ model of the larger Central area to showcase SCP as an exhibit in the 2019 Hong Kong Biennale of Urbanism\Architecture that is currently underway. Walk tours and workshops are planned to be organized to raise awareness and receive further feedback from a wider audience.

4. Conclusion
The SSCF shows that Smart Cities should not be just technology-driven, but through ‘Smart Thinking, Planning and Design’ focus on Smart People, Place and Planet smart and sustainable development can be ensured. Key elements such as smart Living, Environment, Mobility, Infrastructure, Governance and Economy can help shape the city through innovative solutions with technology embedded and enabled to create more walkable, liveable and enjoyable places to be in.

Using the SCP with the Cultural Triangle at its core as a case study, we hope to showcase SSCF as a tool to assess cities systematically and strengthen the good qualities; address the weaknesses and shape better cities. SSCF can also be further developed to incorporate different assessment and measuring tools such as rating system and performance indicators. It can be used to assist in policy development as well as planning and design process in the initial planning and design, implementation and evaluation stages. The SSCF can provide a clearer direction on Smart and Sustainable City development and help shape better cities that are more inclusive, liveable, walkable, resilient and happy cities for all.

Dr. Sujata Govada’s Biography

- CEO and Managing Director, UDP International
- Founding Director, Institute for Sustainable Urbanisation (ISU)
- Adjunct Associate Professor, School of Architecture, Chinese University of Hong Kong
- Global Trustee, Urban Land Institute
- Past President, AIA Hong Kong
- Founding Vice President, Hong Kong Institute of Urban Design
- Registered Architect, Council of Architecture India

Dr. Sujata S. Govada is an award winning urban designer and town planner with over thirty years of diverse international experience in urban design and planning. Her work has been recognized for innovation and influence in increasing awareness on sustainable development that shapes livable and walkable cities. She has received over 10 major urban design and planning awards for projects including the HBF’s Harbour-front Connectivity Study, the Graham Market Area – WCC Alternative Proposal and Designing Hong Kong’s Central Waterfront Planning and Urban Design Competition Award Winning Entry, “Central Harbourfront Promenade – “Emerald Necklace”, a joint submission with RTKL.
References


Urbanie and Urbanus

Sustainable High Density Cities: Empowering Practitioners with Digital Technologies

By Dr. J. Huang¹, M. Guo¹, A. Zhang¹, T. Hao¹, Y. Sun¹, P. Jones²
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Background
Over the course of history, the density of human settlements resembles a hockey stick graphic: A hunter-gatherer society rarely exceeded 1 person per 25 km² due to limits in primary productivity and ecological resources, while farmlands average 100 times that [1], thanks to the increased carrying capacity of cultivated land. The Industrial and information revolution made contemporary cities denser, larger, and have led to growth at an unprecedented speed: the top 101 mega cities are home to 11% of the world’s population, and the percentage is expected to reach 23% by the end of this century [2]. Our civilization appears on-track to turn Earth into an urban planet [3].

Hong Kong is an exemplar of high density cities and a favored case study. The city’s 7 million+ people occupy a built-up area of 280 km², with an average population density of 27,330 persons per km² [4]. New York City can match that if all its population is squeezed into Queens, one of its five boroughs. Close proximity of people fosters exchange of goods, services, information and ideas, making cities efficient, vibrant, innovative, rich, and healthy [5,6]. The claim is largely supported by statistics: Hong Kong ranks consistently high globally in indicators ranging from economic competitiveness to life expectancy. The city operates a world-class public transit system, its public housing system accommodates nearly half of its population and receives wide citations [7,8], and so on.

Packing a large population into a small area can however bring unprecedented risks to human health and quality of life. Hong Kong and other dense cities have been combatting weather extremes, environmental pollutions, and outbreaks of infectious disease for decades. The concrete jungle of buildings can stagnate air movement and trap exhaust heat, air pollutants, and pathogens inside street canyons. The recordings for urban heat island effect (UHI) in Hong Kong reach 4-6 ºC above those of the surroundings [9], and excessive heat is linked to higher population mortalities and morbidity globally [10][11]. Hong Kong’s on-street
PM2.5 exceeds 40 μg/m3 [12], above the WHO threshold of 25 μg/m3, and the majority of air pollutants are contributed by local sources, i.e. motor vehicles, marine vessels and power plants [13]. Air pollution, environmental noise, waste are among the top three source of complaints received by Hong Kong’s Environmental Protection Department in recent years (Fig. 1). The frequent flow of people and materials, i.e. transit ridership, banknotes, makes a high density city particularly vulnerable to infectious diseases: SARS, MERS, influenza, and the recent outbreak of the coronavirus.

Hong Kong resorts to a combination of regulations, incentive schemes and guidelines to protect wind, light, view, and other “public goods”. Most are voluntary, non-binding instruments lead by the public sector and intended to transform market behaviors. Examples include the Air Ventilation Assessment (AVA), a regulatory procedure for major development and redevelopment projects aimed at enhancing air ventilation [14], The Sustainable Building Design Guidelines (SBD) and Hong Kong BEAM Plus Assessment (BEAM Plus) [15] are non-statutory, incentive-based standards intended to trans-
form design and development practices, and the HKGBC Guidebook on Urban Microclimate Study is a voluntary guideline that aims to empower professionals and to raise the awareness of the general public [16]. Pilot projects have been implemented by the public sector. Examples include the award-winning Upper Ngau Tau Kok Estate Phases 2 and 3, a purposefully designed housing estate to facilitate breeze, light, view, and comfort (Fig. 2). The outcomes are improved thermal comfort and overall satisfaction in the neighborhood [17].

Despite forward-looking policy agendas and innovative projects spearheaded by the public sector, a large proportion of urban planning and design practices are not responding. Much of the policy initiatives are yet to trickle down to the private sector. Take AVA for instance, a total of 157 projects have been registered at the Hong Kong Planning Department’s AVA database since the inaction of policy in 2005. 133 projects, or 84% of the total, were conducted by the government itself. The total number of AVA registered projects account for less than 1% of total floor area during the same period [18]. A mere 8% of Hong Kong’s total energy inputs are from non-fossil fuel sources, largely nuclear power from mainland China. Locally produced non-nuclear renewable energy account for 0.5% of the total energy input (Fig. 3). Business as usual is no longer an option, but the industry needs new thinking and tools in order to drive bottom-up innovations.
The Sustainable High Density Cities Lab (SHDC) was established as a response to challenges that arise from the environmental risks of a high density city. As a multi-disciplinary research establishment within the HKUrban Lab in the Faculty of Architecture at the University of Hong Kong, SHDC is dedicated to research in multi-scale environmental modelling and built-environmental sciences that advance sustainable planning and design practices. Multi-scale means building interiors, single buildings, clusters of buildings, spaces between buildings, up to the entire city envelope, mega-city regions and systems of cities. The research offers new thinking and tools to the industry and practitioners in implementing a vision for a sustainable city. The work described in this article represents a new phase in managing urban environmental risks with precision: simulation-based tools for diagnosis and prognosis of environmental driving factors of urban form; linkages of driving factors to outcome measures such as energy, human health and wellbeing; optimization of urban form, building massing and the design of open spaces to advance sustainability goals. The on-going work demonstrates the following
pathways through which digital technologies can empower professionals and advance sustainable planning and design.

- Evaluate planning and design performance
- Measure environmental exposure and health
- Protect communities against climate change
- Optimize design schemes
- Web-based mapping of urban dynamics
- Envision low-carbon high-density future
- Reflect on classic theories

1. Evaluate planning and design performance

In high density cities, large development projects modify environmental attributes in systematic ways, to an extent that exceeds the capacity of guesswork or personal experiences. Performance simulation software can be powerful tools for sustainable planning and design. They are especially suitable to answer the “what if” question, allowing decision makers to assess environmental performances of proposed developments. Existing assessment software, however, is often computationally expense and overly complicated for non-technical users. As a results, performance simulations have often been left to external consultants at the end stage, after most design decisions are made.

The SHDC researchers have developed a series of software tools in support of urban planning and design practices at early stages. These tools were based on self-developed numerical models published in peer-reviewed scientific journals, rigorous field evaluation studies, and equipped with Graphical User Interface as Plugins for popular design software such as Rhinoceros and SketchUp. Planners and designers can operate the software tools using early-stage inputs, i.e. building massing models and site information. These software tools are used by leading design practices in projects both locally and overseas.
and they were applied in the teaching of master-level curriculum at the University of Hong Kong. Examples include CityComfort+ [19], a ray-tracing model for urban microclimate and outdoor thermal comfort, the urban-scale building energy assessment tool Virvil [20], and the coupled simulation model for urban microclimate and building energy UrBEC [21].

2. Measure environmental exposure and health

The built environment is considered the “first cause” for chronic disease. The rapid change of lifestyles and health-related behaviours such as walking or leisurely activities drastically alters patterns of health in contemporary cities. In the UK, the ensuring of public health in Industrialized cities was the primary driving force in the shaping of urban planning. The Public Health Act was enabled in 1875, before the promulgation of the Housing and Town Planning Act of 1909, which marked the beginning of modern urban planning. The focus on healthy cities has returned to the frontier of planning research in recent decades. SHDC has contributed to this by conducting interdisciplinary research with collaborators from the Faculty of Medicine and Engineering to map environmental exposure of noise, heat, air pollution and linkages to health outcomes (Fig. 5).

3. Protect Communities Against Climate Change

The overlap of the urban heat island effect and global climate change imposes new challenges to the urban environment, such as stagnant ventilation, lack of daylighting, urban heat, air pollution and poor hygiene. Those challenges...
were driven by the modifying effects of dense cities, such as the “urban canyon effect” and numerous anthropogenic heat sources, i.e. traffic and building HVAC systems. Stagnant air raises the concentration of heat exhaust and air pollutants on streets, increasing risks for infectious diseases. Researchers from SHDC used new software tools to forecast the impact of future climate change on people and the urban environment as well as to evaluate the effectiveness of mitigation measures.

4. Optimize Design Schemes
Advancement in digital technologies such as simulation and urban big data provides new opportunities for practitioners. The increasingly sophisticated tool begs the question of how can analysis lead to diagnosis and eventually drive design innovation. The SHDC team have experimented with a new design-simulation workflow, in which human designers are empowered by simulation results in a rapid feedback loop; performance evaluation results drive design revision, and the process repeats iteratively until it converges (Fig. 7).

5. Web-Based Mapping of Urban dynamics
Urban systems are among one of the most complex subjects in scientific research. Cities are under constant transformation and evolution, yet traditional urban research often relies on small, discrete, or static samples. Urban big data provides new means for measuring city dynamics. The SHDC team developed new digital tools for data-mining, topics modelling, and sentiment analysis; the new tools are used to monitor resident response to urban environ-
Fig. 7 A prognostic simulation-design workflow to optimize design options for Hong Kong Urban Renewal Authority. Source: Jianxiang Huang, Tongping Hao, Shan Shan Hou, Phil Jones

Fig. 8 Spatial Distribution of Twitter Data and Noise-Related Public Nuisance Petition in the Greater Taipei Area. Source: Mengdi Guo, Jianxiang Huang, Yiming Sun, Lishuai Li, Rong Juin Shyu
mental pollution and to support urban environmental management.

6. Envision Low-Carbon High-Density Future
Signatory states of the 2016 Paris Agreement accelerated the decoupling process from fossil fuels. To date, more than 70 cities worldwide have pledged to become “carbon neutral” by 2050. For instance, Copenhagen vows to reach the zero carbon target by 2025 using green transport and on-site renewable energy. A high density city, however, is disadvantaged in a number of ways: for example it will generally not have sufficient roof surface to collect solar energy to meet its demand, due to mutual shading from high-rise buildings. The challenge remains: how can Asian cities embrace a low-carbon, high density future?

SHDC have been exploring pathways to achieve low-carbon, high density in Asian cities in three steps: 1) reduce the energy demand from buildings and transport systems; 2) increase supply of renewable energy on-site and at the urban peripheries, such as solar, wind, and waste-to-energy; 3) adopt a systems’ approach via integration of design, building technologies, smart grid, energy storage, etc.
7. Reflect Classical Theories
Urban theories are the cornerstones of planning and design education. The majority of classic urban design theories taught in schools globally emerge in the Anglo-American context[22]. In the Greater Bay Area, the cultural, social and climate context differ significantly from those of the Anglo-American cities; advancement of technologies and lifestyle changes further add to the theoretical challenges. To test the relevance and applicability of classic theories in the digital age remains a pressing issue for practitioners and educators. SHDC applies novel data to reflect, evaluate, and advance planning and design theories pertinent to relevant urban context. On-going research puts the following theories to test: Jane Jacob’s “The Death and Life of Great American Cities”, Kevin Lynch’s “Image of the City”, and thermal comfort and adaptation theories in urban open spaces.

Discussion
The SHDC approach constitutes one aspect of what “sustainable city” entails. Parallel insights can be argued from political, social, and economic perspectives. The SHDC believe that management of environmental risks is important to sustain a high density city. As a living laboratory, Hong Kong’s lessons and experiences can contribute to the future of the urban planet that humanity as a whole is heading towards. Aside from top-down policy agendas, the SHDC advocate that bottom-up innovations, industry buy-ins, and the trickling down to communities are equally important in order to deliver a lasting impact to society. The perceived gap between the top-down and bottom-up approaches presents major opportunities for the industries and practitioners, for urban designers, planners, architects and developers alike to embrace new technologies. It is also an opportunity to reflect on the education of designers to which SHDC as an academic unit is dedicated to. Future practitioners need to be better bestowed with these news skills, tools and mind-sets.

Reflection
The Sustainable High Density Cities Lab (SHDC) is a response to challenges arise from environmental risks of a high density city: pollution, heat, disease, etc. Such risks are expected to escalate when global metropolises grow larger, denser, and, by necessity, taller. Our research offers new thinking and tools to the industry and practitioners in implementing the vision of a sustainable city. The work described in this article represents a new phase in managing urban environmental risks with precision: simulation-based tools for diagnosis and prognosis of existing and proposed development schemes; harnessing the power of new data sources to capture dynamics of cities; optimization of urban form, building massing and the design of open spaces to advance sustainability goals.

Despite forward-looking policy agendas and innovative projects spearheaded by the public sector, we believe spearheaded by the public sector, we believe bottom-up innovations, industry buy-ins, and the trickling down to communities are equally important in order to de-
liver lasting society impact. The perceived gap between the top-down and bottom up approaches presents major opportunities for the industries and practitioners, for urban designers, planners, architects, developers alike to embrace new technologies. It is also an opportunity to reflect on the education of designers to which SHDC as an academic unit is dedicated to. We need to better bestow future practitioners with the right skills, tools, and mind-sets.

The SHDC approach represents one aspect of what “sustainable city” entails. Parallel insights can be argued from political, social, and economic perspectives. We believe the environmental aspect is important to sustain a high-density city like Hong Kong, a living laboratory for other dense cities or dense-city-to-be. Hong Kong’s lessons and experiences will contribute to the urban planet future that the humanity is heading towards.

Dr. Jianxiang Huang’s Biography

Jianxiang Huang is an assistant professor in the Department of Urban Planning and Design at the University of Hong Kong (HKU). He is interested in the shaping of the built environment to enhance human well-being and resource efficiency. At HKU, he leads research projects to assess the thermal, acoustic and building energy performances in high density cities. He is the author of CityComfort+, a computer simulation tool that is equipped to simulate pedestrian comfort in outdoor urban spaces. Huang holds a Doctor of Design from Harvard University, a Master in City Planning from MIT, a M.Arch and a B.Arch from Tsinghua University.

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Re-thinking the Hong Kong Tramway as a Rooted but Future Orientated Form of Sustainable Transportation

By Dr. Hee Sun (Sunny) Choi, Mingyu Cui

Agenda 21 is a non-binding action plan of the United Nations focused on sustainable development and the outcome of the Rio de Janeiro Earth Summit from 1992. In it, transport was identified as a key aspect of sustainable development, and reframed the discussion by acknowledging that while transport promotes economic and social development, adverse issues such as air quality, noise, and safety issues that impact negatively on economic productivity and overall quality of life need to be mitigated against (OECD, 1995).

As Hong Kong’s most sustainable form of public transportation, the tramway has been in operation across the northern districts of Hong

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<td>Passenger</td>
<td>83,942</td>
<td>82,009</td>
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<td>78,960</td>
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Kong Island (see figure 1) for more than a hundred years (Hong Kong Tramway, 2019). With the continued development of public transportation, including the mass transit railway (MTR) line running directly below the tram route, and some inherent restrictions in how the tramway can be used and accessed, the tramway in Hong Kong is facing a questionable future with passenger figures falling (see table 1).

Whilst the Hong Kong government has recently stated that “trams perform an important supplementary function on the North Shore of Hong Kong Island” (Transport and Housing Bureau, 2017), the question of how they fit into the future of Hong Kong is less clear. For example in the document Hong Kong 2030+ (Planning Department), the vision for Hong Kong for 2030 and beyond includes no specific planning and design strategies for development of the tramway.

Based on the data for daily public transport patronage (Table 2), the preferred options for journeys in Hong Kong are the mass transit railway (MTR) and the bus, with the tramway only serving 1% of journeys. However, studies have shown that although the percentage of usage for the tramway is small, it can provide a useful and appropriate service to fill the gap in capacity and journey distance between the bus and the MTR, at a construction expense of about a tenth of a metro system. (Topp, 1999). Tram stops are more closely spaced than MTR stops, with a distance between tram stops in the range of 400-600m and MTR stations spaced at 800 metres or more. (Figure 2).

Looking at the typology of the tram stop and its relationship to the vehicle roadway, there are seven different types within the tram network, including variations from two to eight vehicular lanes (see figure 3) of street layout on the current tramway road, with the number of car lanes from two to eight. On the narrower roadways from two to five lanes there tends to be a shared lane for both trams and vehicles.
Considering the platform position and how it is accessed, there are currently four different types of tram station. Firstly by entering directly on the roadside from the pavement, secondly using a zebra crossing to enter stations in the middle of the road, using a footbridge to enter and using both footbridge and zebra crossing to access (see Figure 4). And we had measured the average distance that people need to walk to the stations. Figure 4 indicates that the footbridge requires the longest walking distance, 65 meters on average which is...
only about one or two minutes to reach. A tram service is generally considered to be slow on a shared road (Flanhardt, 2018). From the public statistics, the highest speed the tram in Hong Kong can reach is 40 km/h, making it the slowest form of public transport when compared with the MTR (80 km/h) and bus (100 km/h). From a research into travel time (see Figure 5), comparing the journey time taken on a longer journey route from Kennedy Town to Shau Kei Wan, the tram takes almost three times as much time as the metro and is 9 minute slower than the bus. However, when it comes to a shorter journey route from Wan Chai to Causeway Bay, the tramway is the fastest.

Figure 6 is a diagram that records thirty passengers from the Shek Tong Tsui terminus to the Causeway Bay terminus, recording which station they got on and off the tram. From this map, we can see that people are not likely to travel a long distance by tram. More than 95% of those recorded took a tram journey of less than 9 stops, or the equivalent distance of one
or two MTR station stops. Another notable point from the recording is how the tram stations that are near the MTR stations are the most popular arrival and destination points, which indicates how the two forms of transport are used together.

Together with these advantages over journeys of shorter duration, the tramway is also the cheapest form of transportation of the three types studied, at a price of HK$2.6 per adult journey, in comparison with a sliding price scale of HK$4.1-8 for the bus and HK$5-11.5 for the MTR (see figure 7).
3.2 Closeness
The tram station has a strong connection to the roadside and street frontage and this relationship is influenced by the building usage. The street frontage along the tramway can be categorized into five different spatial structures, including small retail shops, residential building without active frontages, commercial building with a podium, office building and public facilities (see figure 8). The areas with more active shopfronts and street level activities are more popular entry and egress points for the tram. This character of usage can offer an indication of how the tramway could be integrated into future planning to revitalize the atmosphere and economy of the streetscape, with the tramway increasing the quantity of passers-by at street level.

From the perspective of energy consumption, the tramway uses significantly less than a fuel-driven bus, and when you factor in the environmental cost of tunnel production, significantly less than the MTR also. If vegetation can be integrated along the tramway this can also improve the air quality along the street.

In the contemporary context of a renewed interest in sustainable transportation systems, and local revitalization, it is important to review how a tramway system may contribute to a revitalization of the street and new urban activity structures. In order to assess this, an analysis was made of two different sites:

1. Des Voeux Road in Sheung Wan. A dense urban area including a range of commercial activities including office space, retail and restaurants (see figures 9-10)

2. Queensway in Admiralty. A transport hub with a range of commercial activities, governmental departments and other institutional uses (see figures 11-12)

The data and analysis show that each of the tramway sites studied have fencing to separate the platform from the roadway, with pedestrian access to platform limited to a single narrow zebra crossing at Sheung Wan, and a pedestrian Bridgeway in Admiralty, separated with fencing from the adjacent roadways and pavements. From the perspective of closeness and betweenness, the tram stations are very well-oriented and structured, but the connectivity to the street and pedestrian access could be improved and increased.

5 Social value of Hong Kong Tramway
In order to better understand the social impact of the tramway, this research surveyed thirty-five tram users. This small sample indicated that the main users of the tramway are aged between 40 and 60, with more than 70% living on Hong Kong Island. The majority of those surveyed thought the tramway was cheap. When it comes to the frequency of use and the purpose of use, 60% of those surveyed used the tramway at least once a week, one-third of the people rarely use the tramway and 7% of people had only used the tramway once. Of those traveling, more than half were on a relatively short tram journey of less that 30 minutes in duration. As
a negative point to the tramway some of those surveyed highlighted that the system was currently inaccessible for wheelchair users.

To the neighbourhood in Hong Kong, the tramway is not only a means of transport but also carries the collective memory of a generation. (Flanhardt, 2018), many people in Hong Kong are huge fans of the tramway and many societies have been set up, such as ‘The Tram Club’ and ‘The Tram Chasers,’ to share information and experiences of the tramway. There are special trams that are offer private functions, and also tour trams.

In summary, the tramway can be seen to have advantages in low energy use and pollution emissions, also the tramway can reduce the economic burden for government and citizens on low income as the ticket price and construction fee is lower than other forms of public transportation. However, the research, highlights some drawbacks and negative points for the current tramway system, such as bad street condition, inaccessibility for the the wheelchair bound and those with prams, and the current typology for tram stops has less potential for intergrating together with other functions and forms of transportation. is too simple that stations only serve people that get in or off the
Can there be a way to enhance the benefits of the tramway system whilst addressing its negative points. Figures 13 and 16 are two possible design solutions aimed towards doing this.

6 Conclusion
In conclusion, the Hong Kong tramway has a long history of over one hundred years within the city and the community, and similarly to the star ferry has become part of the identity in Hong Kong. Whilst there are design challenges to be faced in making the narrow tramway accessible for all, including wheelchair users and those with pushchairs, once this can be overcome the tram has the potential to be both rooted and future-oriented.

The Tram offers a useful alternative in Hong Kong, particularly for short journeys, where the data proves that there are both cost and time savings over other forms of transport. It helps to protect the environment by reducing the urban pollution caused by fuel-driven cars, taxis and buses, and offers the cheapest form of public transport for those on a low income. As part of a sustainable design strategy the tram can form part of a redesigned urban space that is more accessible and walkable. In this way the tramway can become an important component of the development of a more sustainable Hong Kong.
Figure 13 Admiralty Masterplan

Figure 14 Admiralty Design Proposal

Figure 15 Sheung Wan Masterplan

Figure 16 Sheung Wan Proposal
Dr. Hee Sun (Sunny) Choi’s Biography:
Hee Sun (Sunny) Choi Following higher education at RMIT in Melbourne, the AA School and UCL in London, Dr Sunny Choi completed her PhD in urban design at Oxford Brookes University and conducted Post-doctoral research at Oxford University. A specialist in digital infrastructure, cultural identity and environmental sustainability, she has practiced as an urban designer and architectural designer in the UK, Hong Kong and in Seoul, South Korea, and within the design and master planning department of the United Nations Headquarters in New York. Currently she is working as an editor of U+U journal, adjunct assistant professor at Polytechnic University of Hong Kong and founding partner at CHOI-COMER ASIA Ltd, and architecture and urban design practice and research lab in Hong Kong.

Mingyu Cui’s Biography
Mingyu Cui is a research assistance in the Faculty of Architecture at the University of Hong Kong. She received a bachelor’s degree in Urban Planning from Zhengzhou University and master’s degree in Urban Design from the University of Hong Kong. She is interesting in urban design strategies, sustainable urban development and public urban infrastructure. Her current research is about urban design and public realm design impacts on livability and vitality.

Acknowledgement
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A Corporate Roof Garden Designed for China’s Millennials

By Michael-Yifei Wu
Design Principle, CAPOL

Vast and rapid urbanization across China over the last couple of decades has resulted in greatly increased housing prices and growing living cost in tier-one cities. These factors, together with slow salary growth, extremely centric social welfare (education, health care etc.) and the recent Sino-US trade war, contribute to a general increase...
in social anxiety and uncertainty. Many of China’s young workforce migrate to large cities seeking higher income and better living quality over less populated cities. This has resulted in a huge non-local working class who find themselves balancing a relatively increased income with a higher cost of living, and unlike many locals, they struggle to survive the competition whilst maintaining a positive outlook to the future.

The Initiative
In early 2019, CAPOL, a leading Chinese architectural & engineering consulting firm with over 4,000 employees across China, initiated an internal program to promote social engagement and life-work balance among its employees, the majority of whom are aged under 30. The program commenced with a conversion of the company’s own 2000 square-meter roof to a rooftop garden accessible to all staff.

The idea of being able to step out to a garden and breathe fresh air while enjoying a panoramic view sounds like a nice break for any individual who sits at their desk for extensive hours. And yet, these young millennials, who are often labeled as self-centered, consumerism obsessed and so-
cial media-crazed, showed little enthusiasm in the beginning of the design process. Through persistent communication, active engagement and several rounds of open discussion, the design team were eventually able to produce an outcome that was well received by all.

The Design
A design process involving the simple alteration of a physical form cannot hope to respond to these complex social issues, but with a clear understanding of the issues, the team was able to draw some clues to help steer the concept for transforming an underused common area into a pleasant space where corporate employees can relax and rejuvenate.

Fully Functional Social Space
Since sports and recreation, group activities & team building were the most popular demands, nearly half of this amenity space was dedicated to these needs, including a 200-meter track and multiple open lawns, with lockers and a shower facility. Three pieces of narrow pocket space by the track are used for warm-up and stretching, while the main lawn provides enough space (over 250 square meters) for multiple outdoor group training sessions simultaneously. Through the survey we were made aware that sports activities such as jogging, yoga practicing and group training sessions with personal trainers are extremely desirable as social gathering across the board. A designated outdoor dining area is equipped with a BBQ stove, outdoor kitchen, dining countertop and stools is also provided as another popular feature.

Roof Garden
A space for individual contemplation was also a popular request. Three corners of the rooftop were chosen as vantage points and locations for three discreet seasonal gardens, each with a unique 270-degree view of the city, the mountain and the skyline of Guangzhou CBD. All plant rooms, shafts and vents are fenced from common area via wire mesh covered with climbers to create a continuous vertical green wall. A carefully positioned pergola creates a
covered break out area designed for the heat and humidity in summer. The roof garden includes raised timber decking that allows for corporate events, cocktail parties and other business-related functions. At a later stage, a steel framed glass box with double glazed folding doors will be added to provide a convertible interior to offer protection from the elements.

**Conclusion**

Compared to their predecessors raised in the 80s and 90s, where self-awareness was to be explored and social identity was to be discovered, one can consider the millennial generation as growing up in a more generic culture; eating the same food, watching the same shows and wearing the same school outfits. When individuality is strived for, this can help form independence, self-assurance and self-confidence. The goal of this common space is to be flexible enough to cater to both individual and group recreational needs, while reflecting a strong corporate spirit that emphasizes equality and balance.

Following the internal survey during the design stage, a follow up query was carried out among a group of active participants. This time the conversation dived deep into the social realm of modern Chinese capitalism and its impact on the daily lives of average Chinese youth. One conclusion could be drawn: China’s decade long double-digit economic growth is facing unprecedented challenges and the effect is taking a toll on the younger generation, who are now caught in a social dilemma. This calls for a deep, meaningful design approach where physical form, functionality and aesthetics are no longer of top priority; a sense of belonging, sense of security and promotion of social equality should come first when creating public and privately-owned open spaces for shared use.

**Michael-Yifei Wu’s Biography**

Michael Wu is a design principle at CAPOL, a multi-award winning architecture and engineering design practice with main offices in Shenzhen and Guangzhou and multiple regional offices across China. His passion in urban design and landscape architecture propelled his pursuit of design excellence in 16 years of professional practice, spanning across Asia and Australia. He specializes in China related urban planning and urban design projects, and is currently heading a multi-disciplinary landscape architecture department at CAPOL.
Sustain and Co-Sustain

By Xinyue Zhang
Researcher, China Academy of Urban Planning & Design - Shenzhen
(ARB UK, AADip.)

Urbanization along the Coast of China (Yellow: populated areas)
(Base map: World Digital Elevation and Bathymetry; Populated areas: Openstreetmap)
Sustainability is about resilience, security, and politics. It is essentially a human-oriented mission to ensure that our societies withstand risks and challenges further into the future. Climate change is an exemplar of the crisis of human civilizations marginalising the nature, which is gradually recognized as a central element for our very existence on the Earth. On the other hand, urban development continues to drive the global economy, cities are still the vital decision makers in leading international progress on sustainability.

For urban governance, orchestrating a sustainable future is a complex task with difficulties in striking balances both technocratic and administrative. As a neighbour to Hong Kong, Shenzhen has undergone tremendous urban transformations within a limited timeframe. Such changes were propelled by a radical political reform and Shenzhen will continue as one of the focus areas for urban transformation in China. From the economic development since the 1970’s, to becoming a Pilot Demonstration Area for China in 2019, Shenzhen’s position is being redefined as a city concerned with sustainability in urban life, culture and ecology. In this way Shenzhen can offer some transferable lessons in urban development for a large group of Chinese cities that are commencing their own journey of growth and development.

Reaching a certain level of balance between economic and ecological development can be considered as a significant lesson and achievement that Shenzhen can offer. Situated at the mouth of the Pearl River Estuary, Shenzhen’s ecological system is both diverse and fragile. As the fluvial sediments of the river delta are hardened into the concrete edges forming the Pearl River Delta Metropolitan Region (PRD), can the ecology of the delta survive such fast and heavy transformations to the urban region taking its name?

Ecology
Hong Kong and Shenzhen share the same ecological system within the PRD territory. Unlike other administratively defined developments, ecology operates with its own natural boundaries beyond any urban borders. Mitigating adverse effect to the natural environment requires regional collaboration, therefore inter-municipal alliance is crucial to safeguarding the natural environment of the PRD. Planning is an effective tool to deliver this goal, yet each city’s administrative and development goals can contain diverging visions.

In Shenzhen’s case, the first official “Comprehensive Plan” for the Shenzhen Economic Zone (SEZ), launched in 1986, envisioned a linear arrangement of 5 parallel clusters along the west-east axis. In order to prevent uncontrolled sprawl, 5 “green fingers” were introduced between these clusters. This structural map was significant from the perspective of sustainability in that it signalled the necessity of urban ecology through preservation and a utilization of the existing natural elements on the site. As part of the SEZ Comprehensive Plan, this “green” strategy was ensured with a legal basis, and remained as a critical component in guiding the subsequent urban plans for Shenzhen that seek to strike a balance between urban develop-
The neighbouring cities of Hong Kong and Shenzhen are both ecologically connected and administratively distinct. Perhaps these ecological bonds; the ever moving air, the shifting waters and the border-crossing flora and fauna can provide the basis for some common ground and common goals in urban policy to overcome the differences in the administrative and political systems.

**Inter-governmental Cooperation on Climate**

Coordinating the ecological protection threatened by individual city demands an outstanding effort that must stretch beyond the boundaries of the city, and in many cases requires interna-

The 50-50 principle:

half of Shenzhen to development and half reserved for nature

Map of Shenzhen Basic Ecological Control Zones, updated in 2013 by the Government of Shenzhen
tional agreements across national borders. This is particularly clear for the PRD, as individual cities continue to expand into their outermost boundaries, and soon will greet, or already have collided with their neighbours, such as the case between Hong Kong and Shenzhen. As such this demand for inter-governmental cooperation will expand, yet the difficulty in mitigating administrative differences is equally high, as we have already witnessed in the repeated failures of the Climate Change project.

However, climatology still sheds a light in the realm of cooperative organization. The World Meteorological Organization (WMO) has successfully managed to establish and maintain a truly international network in order to provide the world with crucial and timely climate information and services. From the 1872 Leipzig Conference that gave rise to the 1873 Vienna

Contemporary network of global climatology
(Base map: World Digital Elevation; White lines: Submarine telecommunication cables in 2014; Yellow dots: Regional climate centres; Black dots: Synoptic surface weather stations)
Illustration drawn by author
Congress to the contemporary world meteorological network, the WMO has carried out tremendous work in promoting international and inter-governmental collaboration in both technocratic and administrative directions. Agreeing on standards and methodologies, establishing permanent bodies across international communities, organizing supports for collaborations and infrastructural constructions, these are just a few items on the to-do list for achieving inter-governmental cooperation to coordinate information of our one and only Planet Earth.

Sustainable governance secures sustainable cities. As countries including USA and China consider increased levels of protectionism in their foreign policies, the world will also need to proceed with more frequent exchanges and higher mobility in relation to the environment. The complex and uncertain future contribute to multi-faceted connotations for sustainability as a concept. It is important that we embrace these connotations with extreme care, and envision our cities with true respect for all this entails.

**Xinyue Zhang’s Biography**

Xinyue is a practicing architect and urban researcher currently based in Shenzhen. Her works are specialized in spatial strategies for contemporary cities in various contexts. She deploys a wide range of skills and technologies to analyze and visualize urban conditions for propositional design from policy to physical infrastructures.
New Urban Design Book introduction

Automated and Autonomous Spatial Mobilities: Transport, Mobilities and Spatial Change series
Author: Aharon Kellerman

In this ground-breaking book Aharon Kellerman explores a rapidly developing aspect of contemporary life: automated and autonomous spatial mobilities and their social and urban implications. Distinguishing between automation, or self-doing, and autonomy, or self-government, at both the conceptual and practical levels, this book also draws a distinction between spatial mobility and automated spatial mobility. Automation processes for transportation and communications media and their controls are discussed in light of these differences. Presenting a wide-ranging discussion on autonomous vehicle (AV) development and its future adoption, as well as of social and spatial dimensions of the AV-age, this highly topical book points to the emergence of autonomously mobile cities and the new mobility landscapes they will present. Academics, as well as practitioners, in the fields of mobility, transportation, urban planning, geography and sociology will find this an essential read.

Dense + Green Cities: Architecture as Urban Ecosystem
Author: Thomas Schröpfer

In which ways does a “green building” contribute to the ecology of its surroundings? And how can ecologically designed urban districts, with their green and blue networks, link up with the elements and technologies of building design? All dimensions of “green building” are investigated in this book in an effort to understand and evaluate some of the most recent and innovative Dense+Green Cities in Asia, the Americas and Europe.
New Urban Design Book introduction

Sustainable Nation: Urban Design Patterns for the Future
Author: Wiley Douglas Farr

: PROSE Award Finalist 2019 Association of American Publishers Award for Professional and Scholarly Excellence As a follow up to his widely acclaimed Sustainable Urbanism, this new book from author Douglas Farr embraces the idea that the humanitarian, population, and climate crises are three facets of one interrelated human existential challenge, one with impossibly short deadlines. The vision of Sustainable Nation is to accelerate the pace of progress of human civilization to create an equitable and sustainable world. The core strategy of Sustainable Nation is the perfection of the design and governance of all neighborhoods to make them unique exemplars of community and sustainability. The tools to achieve this vision are more than 70 patterns for rebellious change written by industry leaders of thought and practice. Each pattern represents an aspirational, future-oriented ideal for a key aspect of a neighborhood. At once an urgent call to action and a guidebook for change, Sustainable Nation is an essential resource for urban designers, planners, and architects.

Urban Grids Handbook for Regular City Design
Author: Joan Busquets, Dingliang Yang, Michael Keller

: Urban Grids: Handbook for Regular City Design is the result of an eight-year research project undertaken at the Harvard University Graduate School of Design. The book emphasizes the value of the regular city as an open form for city design, and specifically insists that the grid has the unique capacity to absorb and channel urban transformation flexibly and productively. Research into existing cities and projects is revealing new emerging conditions for the urban grid, presented here as possible paradigms for the city of the future. The work is organized into six parts: 1. The Atlas of Grid Cities; 2. Grid Projects across History; 3. The Twentieth-Century Dilemma; 4. The Emergence of New Urban Grids; 5. Projective Design Tools; 6. The Good Grid City as Open Form.

The New Companion to Urban Design
Author: Tridib Banerjee, Anastasia Loukaitou-Sideris

: The New Companion to Urban Design continues the assemblage of rich and critical ideas about urban form and design that began with the Companion to Urban Design (Routledge, 2011). With chapters from a new set of contributors, this sequel offers a more comparative perspective representing multiple voices and perspectives from the Global South.

The essays in this volume are organized in three parts: Part I: Comparative Urbanism; Part
The New Companion to Urban Design
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The essays in this volume are organized in three parts: Part I: Comparative Urbanism; Part II: Challenges; and Part III: Opportunities. Each part contains distinct sections designed to address specific themes, and includes a list of annotated suggested further readings at the end of each chapter. Part I: Comparative Urbanism examines different variants of urbanism in the Global North and the Global South, produced by a new economic order characterized by the mobility of labor, capital, information, and technology. Part II: Challenges discusses some of the contemporary challenges that cities of the Global North and the Global South are facing and the possible role of urban design. This part discusses spatial claims and conflicts, challenges generated by urban informality, explosive growth or dramatic shrinkage of the urban settlement, gentrification and displacement, and mimesis, simulacra and lack of authenticity. Part III: Aspirations discusses some normative goals that urban design interventions aspire to bring about in cities of the Global North and the Global South. These include resilience and sustainability, health, conservation/restoration, justice, intelligence, access and mobility, and arts and culture.

The New Companion to Urban Design is primarily intended for scholars and graduate students interested in cities and their built environment. It offers an invaluable and up-to-date guide to current thinking across a range of disciplines including urban design, planning, urban studies, and geography.
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