市區重建局
URBAN RENEWAL AUTHORITY

15周年紀念
CELEBRATING 15 YEARS

Bringing Innovations to Urban Renewal International Conference

10 JUNE 2016

Contents

Congratulatory Message

The Honourable John C Tsang, GBM, JP
Financial Secretary
The Government of the Hong Kong Special Administrative Region

I wish to extend my congratulations to the Urban Renewal Authority (URA) on its 15th anniversary and on the holding of the International Conference on "Bringing Innovation to Urban Renewal".

Since its establishment in 2001, URA has been playing a pivotal role in undertaking, encouraging, promoting as well as facilitating urban renewal in Hong Kong. As the statutory organisation dedicated to urban renewal in Hong Kong, URA has endeavoured to rejuvenate old urban areas and improve the living conditions of the residents therein while preserving buildings of historical, cultural or architectural value. URA's contribution to and achievements in urban regeneration and promoting sustainable development over the past 15 years has been significant and far-reaching.

The Conference provides a timely opportunity for us to explore the opportunities and discuss the challenges faced by URA, the community, as well as other stakeholders in furthering urban renewal in Hong Kong. The insightful views and ideas exchanged at the Conference will serve as valuable reference for URA in mapping out its future strategy for accomplishing its vision of creating quality and vibrant living in Hong Kong.

I wish this Conference great success.

John C Tsang, GBM, JP
Financial Secretary

Congratulatory Message

Mr Paul MP Chan, MH, JP
Secretary for Development
The Government of the Hong Kong Special Administrative Region

Urban renewal is very important in the sustainable development of Hong Kong. It not only rejuvenates the built environment of our city but also gives impetus to the organic growth of the district for the betterment of the community.

Over the past 15 years, the Urban Renewal Authority (URA) has strived to achieve a dedicated balance between speeding up urban regeneration and addressing the diverse interests of various stakeholders in accordance with the guiding principles set out in the Urban Renewal Strategy promulgated by the Government. The process is not without challenges, yet we are delighted to witness the significant progress made by URA in taking forward urban renewal in a "people first, district-based, public participatory" approach.

The Conference today signifies the 15th anniversary of the establishment of URA. It also provides a useful platform to share and learn the successful urban renewal experiences among the participants from different parts of the world. I look forward to your active participation in the Conference and continuous contribution to this important work!

Paul MP Chan, MH, JP
Secretary for Development

Foreword

Mr Victor So Hing-woh, JP
Chairman
Urban Renewal Authority

Welcome to the "Bringing Innovations to Urban Renewal" International Conference organised by the Urban Renewal Authority (URA). On behalf of the URA, it is our great honour to bring forth this one-day event for experts and professionals in urban planning and regeneration to share ideas and knowledge, with the common goal to further urban renewal in Hong Kong to the next level.

For the past 15 years, the URA, as a public organisation, has come a long way in bringing forth the much needed urban regeneration to the older areas of our city, and at the same time, finely balancing our social responsibilities and keeping our finances intact. In a nutshell, the Authority has commenced 69 redevelopment projects improving the living conditions of some 17,500 households and providing nearly 23,000 new flats. The comprehensive range of rehabilitation programmes offered by the URA assisted about 2,300 buildings to undergone maintenance and repair, extending their lifespan to slow down the pace of urban decay. The URA also devoted nearly HK$2 billion in heritage preservation and restoration of buildings and structures of historical, cultural and architectural values.

As the URA celebrates its 15th anniversary, it is time to take stock and consolidate our efforts as we embark on another journey to advance urban renewal in Hong Kong. It is our hope that the conference, entitled B*ringing Innovations to Urban Renewal*, for which the URA has brought together a panel of prominent experts and scholars in urban planning and regeneration from Hong Kong, China and abroad, could give new impetus to the development of Hong Kong's urban renewal which in turn contribute to the city's quality and vibrant living.

I wish all participants a fruitful and inspiring conference, and all overseas visitors a wonderful time in Hong Kong.

Victor So Hing-woh, JP
Chairman
Urban Renewal Authority

Programme

"Bringing Innovations to Urban Renewal" International Conference

Time	Programme Rundown
08:00 – 09:15	Registration
09:15 – 09:25	**Welcome Speech** **Mr Victor So Hing-woh, JP** *Chairman of Urban Renewal Authority*
09:25 – 9:40	**Opening Speech** **The Honourable John C Tsang, GBM, JP** *Financial Secretary, The Government of the Hong Kong Special Administrative Region*
09:45 – 10:25	**Keynote Speech** **Dr Liu Thai-ker** *Senior Director, RSP Architects Planners & Engineers (Pte) Ltd., and former Chief Executive Officer and Chief Planner of Singapore Urban Redevelopment Authority* Transformation of a City The Singapore Experience
10:25 – 10:40	Tea Break
10:45 – 11:00	Questions from the floor
11:00 – 11:30	**Case Sharing (1)** **Mr Yang Chengzhi** *Director-General of the Guangzhou Urban Renewal Bureau Municipality* Urban Regeneration, Making a Better City Better
11:30 – 12:00	**Case Sharing (2)** **Mr Yuzuru Teramoto** *Director of the Development Coordination Division, City Planning Bureau, Osaka City Government, Japan* Osaka Grand Design and Zoning Development for the Umekita Area (Osaka Station)
12:00 – 13:45	Lunch
13:45 – 14:15	**Case Sharing (3)** **Professor Pamela Jerome** *President of Architectural Preservation Studio, PC, and Adjunct Associate Professor of the Historic Preservation Program at Columbia University's Graduate School of Architecture, Planning and Preservation, USA* Innovations in the Conservation of Concrete, Stone and Steel Fenestration: the Restoration of Frank Lloyd Wright's Fallingwater
14:15 – 14:45	**Case Sharing (4)** **Mr Andrey Valuy** *Head of Department of Urban Development and Department of Urban Planning Policy, Government of Moscow, Russia* Renovation of Existing Housing Development in the City of Moscow
14:45 – 15:00	Tea Break
15:00 – 15:30	**Case Sharing (5)** **Professor Teng Jin-guang** *Ko Jan Ming Professor in Sustainable Structures and Materials, Chair Professor of Structural Engineering & Director of Research Institute for Sustainable Urban Development at The Hong Kong Polytechnic University* Strengthening of Structures with Fibre-Reinforced Polymer Composites
15:30 – 16:00	Panel Discussion
16:00 – 16:30	**Concluding Remarks** **Professor David Lung Ping-yee, SBS, JP** *Registered Architect, and Lady Edith Kotewall Professor in the Built Environment, The University of Hong Kong* Measuring the Success of URA
16:30	Conference ends

Keynote Speaker

Dr Liu Thai-ker

Senior Director, RSP Architects Planners & Engineers (Pte) Ltd., and former Chief Executive Officer and Chief Planner of Singapore Urban Redevelopment Authority

Dr Liu is an architect-planner and currently a senior director of RSP, which he joined in 1992. In addition to architecture projects in Singapore, Dr Liu has provided architecture and urban planning services in around 40 cities outside Singapore. The sizes of these city planning projects range from a few hundred thousand people to 12 million people. Dr Liu is also the founding chairman of the advisory board of Centre for Liveable Cities, since 2008. The Centre for Liveable Cities is a knowledge hub created under the Ministry of National Development and the Ministry of the Environment and Water Resources, focusing on urban development related issues.

Dr Liu is often described as the father of city planning in Singapore, an accolade for his 24 years' of public service where he was chief architect and CEO of The Housing and Development Board and later Chief Executive Officer and Chief Planner of Singapore Urban Redevelopment Authority. In the field of architectural education, he served as chairman of advisory committee for the School of Architecture at National University of Singapore. Additionally, he has been appointed adjunct professor of the School of Design & Environment and of the Lee Kuan Yew School of Public Policy as well as the College of Humanities, Arts & Social Sciences, Nanyang Technological University.

Transformation of a City
The Singapore Experience

This talk would begin with a general description of the transformation of Singapore from a poor, dilapidated, backward city to a well-functioning and attractive modern metropolis. This was achieved through a multi-pronged systematic approach. The transformation process is further explained with the help of maps and data. With the urban plan as the background, some reference will be made to the contribution of public housing to Singapore's urban transformation. The talk will end with some comments on lessons learnt.

Concluding Remarks

Professor David Lung Ping-yee, SBS, JP

Registered Architect, and Lady Edith Kotewall Professor in the Built Environment, The University of Hong Kong

Professor Lung, SBS, JP, is a Registered Architect, and Lady Edith Kotewall Professor in the Built Environment, The University of Hong Kong. He was appointed to the Board of the Urban Renewal Authority from 2001 to 2008; held various chairmanship of URA projects: Kwun Tong Redevelopment (2005 to 2009), Planning, Development and Conservation Committee (2001 to 2007) and Central Market preservation cum revitalization project (2009 to 2012).

Measuring the Success of URA

The success of urban renewal projects completed in the past has been attributed primarily to the utilization of the residual or permissible plot ratio of the respective sites; hence, the cost benefit of the projects is largely measured in economic terms. Urban renewal, as the name implies, is a process that touches upon the livelihood of the residents living in the dilapidated neighborhoods or in building conditions that are hazardous to health and safety. It is a process by which the affected residents' living environment is upgraded, either through rehabilitation or redevelopment. Therefore, the measuring yardstick of URA's success should go beyond the financial or economic benefit. It should include the social cost benefit analysis and, through which, the actual social impact on the society in large can be assessed.

The international conference today, whilst celebrating URA's 15th anniversary, marks the occasion to contemplate on the future paths to take. No matter how small a stride it is in the process, it is a contributing factor towards the macro social impact on the society.

Guest Speakers

Mr Yang Chengzhi

Director-General of the Guangzhou Urban Renewal Bureau Municipality

Mr Yang Chengzhi holds a Master's degree in Law and Ph.D. in Management. He is the Director-General of the Guangzhou Urban Renewal Bureau Municipality. He is familiar with the regulations of Guangzhou urban regeneration and the trends of urban regeneration worldwide. He is also one of the key policymakers of Guangzhou urban regeneration.

Urban Regeneration, Making a Better City Better

Beginning with the analysis of the strategic position and existing problems of Guangzhou City, it points out that transformation development period from extensive pattern of growth with large scale and high speed to intensive pattern of growth with quality and efficiency, thus pushing ordered urban renewal work forward meets the requirements of urban development in Guangzhou.

This speech explains the innovative ideas of urban renewal, introduces achievements from five aspects in practices in Guangzhou, from which six main methods of urban renewal is summed up. Finally, innovational thinking in urban renewal of Guangzhou in the next step is proposed.

Mr Yuzuru Teramoto

Director, Development Coordination Division
City Planning Bureau, Osaka City Government, Japan

Mr Teramoto has been in charge of the business, such as, Osaka city planing, Urban highway planning, Kansai International Airport Planning and Kansai Regional Planning, and Maintenance of the roads, parks, sewerage facilities.

Osaka Grand Design and Zoning Development for the Umekita Area (Osaka Station)

The area surrounding JR Osaka Station ("Area") is the largest transportation terminal area in western Japan, serving approximately 2.5 million passengers daily. Home to business and commercial activities, the Area has been designated a Comprehensive Global Strategic Special Zone and is a Designated Urban Renaissance Urgent Redevelopment Area, where Osaka Prefecture, Osaka City and economic circles have been combining their efforts to promote regional development. The Umekita area (approx. 24 ha), adjacent north of JR Osaka Station, was developed mainly on the former site of Umeda Cargo Station; it serves as a core base of regional development projects. Through these projects, we aim to make the area an important hub that can furnish the driving force for the development of Osaka and other Kansai areas, while enhancing Japan's international competitiveness and national strength.

In April 2013, the eastern part of the Umekita area (approx. 7 ha), which had been developed as an advanced development zone, opened to the public as a new hub with various high-quality functions, including commercial facilities, business offices and a hotel. The Knowledge Capital, its core facility, was established to create new products and services through the accumulation of cutting-edge technologies and information, and the interaction of diverse people.

Regarding the second development zone in the Umekita area, which has not yet been developed, it has become the vacant lot by the end of FY 2014. In cooperation with the Knowledge Capital in the advance development zone, which is home to sophisticated urban functions, it is intended to build a new hub that attracts human resources and investment from around the world while enhancing Japan's international competitiveness and national strength, in addition to exerting a ripple effect on its surrounding areas and developing together with them. It is also aimed at creating a community that will in future serve as a development model, by introducing advanced technologies to secure the safety of people in the zone and its periphery at the time of a large-scale disaster and to build a disaster-resistant community capable of continuous economic activities, while giving considerations to the environment.

Guest Speakers

Professor Pamela Jerome, AIA, LEED™ AP, FAPT, F.US/ICOMOS

President of Architectural Preservation Studio, PC, and Adjunct Associate Professor of the Historic Preservation Program at Columbia University's Graduate School of Architecture, Planning and Preservation, USA

Pamela Jerome, AIA, LEED™ AP, FAPT, F.US/ICOMOS is a preservation architect with 35 years of experience. She is President of Architectural Preservation Studio, PC, a New York City-based architecture and preservation firm. She is also an Adjunct Associate Professor of the Historic Preservation program at Columbia University's Graduate School of Architecture, Planning and Preservation, where she has taught since 1995. Ms. Jerome sits on the international Board of ICOMOS (International Committee on Monuments and Sites). She is past vice president of ISCEAH (International Scientific Committee on Earthen Architectural Heritage), expert member of ISC20C (International Scientific Committee on 20th Century Heritage) and CIAV (International Committee on Vernacular Architecture). She was an elected officer of the ICOMOS Scientific Council from 2006-2014. Ms. Jerome participated on the ICOMOS World Heritage Panel for four years. She is the US/ICOMOS liaison to the APT (Association for Preservation Technology) Board. Her expertise is in masonry conservation and waterproofing, with a particular emphasis on Modernism, earthen architecture, archaeological-site preservation and cultural-site management. She is widely published and recognized as an international expert in cultural heritage. She has consulted on cultural-property conservation in the US, Mediterranean, Black Sea, Middle East, and Far East.

Innovations in the Conservation of Concrete, Stone and Steel Fenestration: the Restoration of Frank Lloyd Wright's Fallingwater

Fallingwater, the 1935-39 Kaufmann family vacation home located in Mill Run, PA about 60 miles southeast of Pittsburgh, is considered one of the most famous private residences in the world. Now a house museum, its visitation exceeded 165,000 in 2015. Recognized as a masterpiece of Frank Lloyd Wright, it is currently on the US Tentative List for potential World Heritage listing as part of the nomination dossier, *Key Works of Modern Architecture by Frank Lloyd Wright.*

Over a 13-year period from 1998-2001, the preservation staff of WASA, now Architectural Preservation Studio (APS), researched and implemented prototype repairs, followed by a complete restoration of Fallingwater. We reviewed original construction documents and subsequent repair documents and reports; evaluated conditions and probes; analyzed select materials; designed the re-roofing and re-waterproofing of roofs and terraces, as well as below-grade damp-proofing; specified the restoration for original steel-casement windows and doors; reconstructed failed concrete reconstructions; restored the masonry, and in the case of some exterior cheek walls, disassembled and reassembled them; analyzed interior paint finishes; specified interior paint-removal methodology and re-painting; designed repair methods for concrete and stucco; and developed a new coating system for the concrete. We also produced a graphic conditions assessment, consisting of 178 CAD drawings, and a preservation master plan.

Structural failure of the cantilever beams required that they be post tensioned, necessitating the gutting of the living room, the most important space in the house. In addition, Fallingwater suffered from 60 chronic leaks, all of which were cured. As a house museum, the mandate of the Western Pennsylvania Conservancy, who owns the property, is to show the house as it was lived in. Therefore, the single-glazed non-thermally broken steel-frame windows and doors are left open in good weather despite the extensive art collection. Even though these were in poor condition, we administered the restoration of doors, windows, skylights and the hatch over the stairs to the stream.

As part of a routine maintenance cycle and given its potential for World Heritage status, APS was recently retained again to work on the building. This gives us the opportunity to closely inspect and reevaluate how our repairs have stood the test of time. We are currently performing 3D-laser scanning of the interior and exterior, and working with the selected masonry contractor to train in-house maintenance staff. In addition, as five-six leaks have reappeared, we have met with the roofer and manufacturers to identify the causes and repair the roofing/waterproofing where compromised.

Mr Andrey Valuy

Head of Department of Urban Development and Department of Urban Planning Policy, Government of Moscow, Russia

Andrey Valuy was born in the city of Pskov, which is located in the northwest of Russian Federation in 1979.

The Valuy's family lived in the territory of more than 9 subjects of the Russian Federation during Andrey's father's service in the armed forces.

With his father who used to be a pilot in the air force, Andrey's family have moved from one place to another, living in a total of 9 different locations across Russia.

Andrey graduated from the secondary school in Novgorod the Great in 1996. In the same year he entered the Russian Economic Academy named after Plekhanov in the faculty of economics and management, specialising in urban development.

Andrey took his final exams with honors and graduated from the Academy in 2001. Upon graduation he joined the civil service in the Department of Urban Development of Moscow.

While still serving in the Department, he was awarded a PhD in Economics in 2014, with his thesis on the "Improvement of the organizational-economic mechanisms in experimental building".

Since 2001 Andrey has been working in various positions in the Government of Moscow in the Department of Urban Development and the Department of Urban Planning Policy.

In his positions he has been coordinating the experimental design and building in Moscow and involved in development of programmes resulted in the building of more than 200 kindergartens and schools.

In 2011 Andrey assumed the position of the Head of Department of Urban Planning Policy of Moscow, with a responsibility to ensure the implementation of programmes of building and civil engineering.

One of his key responsibilities in the position was the development and implementation control over the city government programme, aiming to demolish five-floor residential buildings and to monitor the implementation of the "Housing" programme.

In Andrey's current position, he also supervises the preparation work for the implementation of the programme to renovate old (mostly five-floor) residential buildings in Moscow.

For his successful service, he has been awarded with the Commendation from the Mayor of Moscow with a special notice from the Deputy of the Mayor of Moscow and the Department of Urban Planning Policy.

Renovation of Existing Housing Development in the City of Moscow

The Moscow city government have been implementing a program «Housing for 2012-2018 years».

The main objectives of the program are as follows:

- Renovation of the city's housing block for the safety and comfort of urban living;
- Facilitate the implementation of the organizational and economic mechanism for the urban renewal of the city and the relocation people from old residential buildings.
- Create the conditions for effective public-private partnerships in the implementation of the renovation the old residential buildings.
- As of January 1, 2015 of the total housing of 223.2 million square meters, 54.4 million square meters, or 24.4%, of which, according to the technical inventory, require special attention.

The scope of the housing includes buildings of 6 to 9 floors – 28.9 million square meters and 1 to 5 floors – 25.5 million square meters.

There are 2 stages of renovation of residential buildings:

1. The first stage – the elimination of the remaining five-storey housing of the first period of industrial housing (series K-7, II-32,1605-AM, 1-MG-300, II-35- built 1958-1960-ies).

   Demolition of the remaining 110 houses of 400,000 square meters. Over 93% of the program has been realized. The program started in 1999. In 1722 it was a building area of 7 million square meters.

   Stage 1 of urban renewal will be completed in 2017-2018.
2. The second stage of urban renewal involves five-storey buildings built in the industrial period during 1960-1968 (series I-510, I-511, I-515, II-07 and analogs thereof) and low-rise buildings (1-4 floors) comprising 25, 5 million square meters. The second stage will be implemented after 2018.

   In accordance with the Urban Planning Code of the Russian Federation the most effective tool for the renovation of existing buildings and the demolition of aging housing block is the institution of a built-up area.

Significant volume of aging housing blocks and, as a consequence, the high cost of development of the regions, are the basic cost for project investors in public-private partnerships.

For the introduction of the institution of built-up areas:

- The presence of town-planning regulations;
- The availability of targeted demolition, reconstruction of apartment buildings, located in the built-up area approved by the authority
- Conduct auctions for the right to sign agreements on the development of built-up areas,
- The organization of resettlement, the demolition of homes and new construction, with the costs covered by the investor-auction winner.
- For working of the mechanism urban renewal we selected 45 districts and selected 1 pilot project of urban renewal:

This project involves the demolition of 40 buildings of five-storey buildings of 300,000 square meters.
The construction may offer an area of 1 million square meters in new buildings.
However, there are problems hindering the urban renewal in Moscow:

1. Low economic attractiveness of most of the projects due to the high density of existing buildings and not enough high rate of reconstruction (<2).

   As a solution to economic problems it is encouraged to increase economic efficiency, including:
   - An increase in the allowable building density of new construction;
   - The participation of the city government in the resettlement of citizens and / or construction of social, transport and engineering infrastructure.
2. Social.

   Not settled order to move people – problems with resettlement of citizens by investors, a large number of vessels with the owners and the delay timing of resettlement.

   Currently, work is underway in the Moscow Government on a solution to the problematic issues in preparation for the implementation of Phase 2 of the urban renewal of five-storey buildings.

Guest Speakers

Professor Teng Jin-guang

Ko Jan Ming Professor in Sustainable Structures and Materials, Chair Professor of Structural Engineering & Director of Research Institute for Sustainable Urban Development at The Hong Kong Polytechnic University

Professor Jin-Guang Teng holds the positions of Ko Jan Ming Professor in Sustainable Structures and Materials, Chair Professor of Structural Engineering & Director of Research Institute for Sustainable Urban Development at The Hong Kong Polytechnic University. He has conducted research over the past three decades on a wide range of topics within the broad field of structural engineering, including the structural use of fibre-reinforced polymer (FRP) composites in construction and steel & thin-walled structures. He has authored/co-authored some 190 SCI journal papers, leading to over 6,700 citations and an H-index of 41 according to the Web of Science Core Collection. His work has impacted significantly on relevant design guidelines/codes in China, Australia, Europe, the United Kingdom and the United States. He was elected a Fellow of the Hong Kong Academy of Engineering Sciences in 2013 and a Corresponding Fellow of the Royal Society of Edinburgh in 2015.

Strengthening of Structures with Fibre-Reinforced Polymer Composites

Fibre-reinforced polymer (FRP) composites, formed by embedding continuous fibres in a polymeric resin matrix, have many advantages over traditional materials, including their excellent corrosion resistance and high strength-to-weight ratio; the former ensures durable performance while the latter leads to ease of installation. In addition, the material properties of FRP composites can be tailored to be directionally dependent to suit a particular strengthening situation (e.g. FRP jackets with all fibres oriented in the hoop direction for column strengthening through lateral confinement). Due to these advantages, the strengthening of structures, particularly concrete structures, with externally bonded FRP systems has become widely accepted over the past two decades.

This presentation will first provide a brief historical overview of the FRP strengthening technology, covering research, development of design guidelines, and practical implementations. A summary of recent research to address deficiencies in the existing design guidelines for the strengthening of concrete structures will next be presented, with particular attention to the issues of durability and fire resistance. Future research needs will also be briefly outlined.

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Quality Living Sustainable City


重建 Redevelopment


復修 Rehabilitation


保育活化 Preservation and Revitalisation

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