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AUTHORITY

To make Singapore a great city to live, work and play

A DISTINCTIVE & DELIGHTFUL CITY



**A DISTINCTIVE & DELIGHTFUL CITY**

SINGAPORE URBAN DESIGN GUIDEBOOK

# **A DISTINCTIVE & DELIGHTFUL CITY**

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## FOREWORD AN INTERNATIONAL PERSPECTIVE ON URBAN DESIGN

Since their emergence through the 19th century, cities were designed as carefully as individual buildings: the Greek agoras, Roman *Cardo Maximus*, city squares, and boulevards. Individual buildings were building blocks of the city. The Architect's role was to contribute to the cohesiveness of the whole. Until the modern era, we took this for granted.

In contrast, recent decades celebrated the era of "the market knows best." Developers built mostly as they wished, controlled by minimal zoning. With few exceptions, efforts to design the public realm were not a priority. The cacophony that emerged reawakened the belief in urban design – the responsibility of governments to design the public realm. Singapore, through the URA, has been a world leader in this renaissance. With infrastructure provided ahead of demand, the URA has the authority to plan, initiate landfill, and transform waterways, as tools of urban design. Evidence of the power of urban design is the transformation of the Singapore Harbor into an enclosed bay, acting as both water reservoir and amenity, with active promenades from the Singapore River to the bay.

Towards that end, the URA has developed a system of urban design guidelines that go beyond quantitative zoning, determining the form and clustering of buildings, the treatment of their perimeter, and the relationship to the public spaces to which they define, and to each other.

Moreover, their design reviews are an essential component in creating a dialogue between the advocacy of the public realm, i.e., the URA, and the individual developer and architect.

Our international practice enables us to compare planning and urban design procedures. Singapore stands unique, both in its ambitions and results of affirmatively controlling and guiding development. It began with an inspiration: to make Singapore a green city, making plant life an integral part of urban design. The URA also leverages the infrastructure initiatives to generate and guide development. "Make no little plans. They have no magic to stir men's blood... Make big plans, aim high..." (Daniel Burnham). Of our many Singapore projects, Marina Bay Sands stands as a case study, demonstrating the fundamental contribution of the URA. As architects commissioned by the Las Vegas Sands, we were directed by them, however, the Marina Bay Sands' selection process was set up to provide the URA with special authority. The government chose a design that most contributed to Singapore, both aesthetically and programmatically – by fixing the land cost and not making it a factor in the selection!

The URA published detailed urban design guidelines which included the requirement of a promenade along the newly-formed bay, two view corridors and a series of pedestrian and vehicular connections. It linked the site

by a pedestrian bridge prior to the beginning of construction to the marina area, and it set other requirements for green spaces and public access to roofs. We seized on the guideline, integrating the spine of the project, the commercial Galleria, with the bayfront promenade, resulting in a unique, one-of-a-kind, indoor-outdoor public place. The two East-West view corridors connecting the hotel wings to the waterfront, are a major contribution to the legibility. Responding to the URA's requirement to achieve pedestrian scale on the waterfront, we set the hotel back to the east, thus minimizing the impact of the towers. A series of frequent design reviews with the URA assured that the qualitative objectives would be maintained.

The URA has proven its value to the quality of life in Singapore. The challenge of the coming years will be how to expand and refine quality control methods, how to accommodate the transportation revolution we will undoubtedly experience as the privately-owned automobile gives way to new innovations. We wish the URA continued success and public support.

**Moshe Safdie**  
August 2023



## FOREWORD

### CRAFTING PLEASANT, DELIGHTFUL AND DISTINCTIVE CITIES

How do we perceive cities and what draws us to some cities, but not to others ?

Successful cities are built upon two key foundation stones – good urban planning combined with thoughtful urban design – upon which functional and aesthetic architecture rests. Collectively, and together with other social and cultural factors, they enable a positive experience and an emotional connection to a city.

Urban planning is essentially two dimensional, laying out the land use that is well synchronized with infrastructure to achieve coordinated and orderly development.

Urban design complements urban planning. It is the art that shapes the city at a larger city or district scale. This process ensures that buildings, iconic landmarks, streets and public spaces blend harmoniously to form a visually enchanting cityscape. Careful attention to connectivity helps us to navigate smoothly around the city. Urban design also prioritises the human experience by creating and transforming public spaces into delightful hubs and engaging places that promote social interactions. By balancing modernity with the preservation of heritage and social memories, the city's rich cultural tapestry and the identity of unique locales are enhanced.

Architects further add 'pizzaz' to the entire city at the project level with their unique expression of architecture.

The power of combining the 3 elements of comprehensive urban planning, thoughtful urban design and excellent architecture has been well understood by the key development agencies in Singapore. For example, the Urban Redevelopment Authority (URA) as the national planning agency, has integrated the three processes across urban scales and successfully transformed many development areas, as seen in the contrasting examples of the historic Singapore River and the new city image at Marina Bay.

Another important agency is the Housing and Development Board (HDB), the master planner and developer who houses about 80% of the population in 27 towns and estates. Its adoption of urban design impacts the lived experience of many residents. The juxtaposition and form massing of high-rise HDB blocks with low-rise developments and open spaces mitigates the high densities in our small city state. Town squares, three-generation playgrounds and community living rooms at the town and neighbourhood domains serve as centres of community life that strengthen social cohesion in our multi-racial society. Since 2011, HDB renewed its focus on urban design for the new areas at Punggol, Bidadari, Tengah and Caldecott to achieve a distinctive character and quality environment for each area. Sensitive urban design was also carefully applied in rejuvenating older areas like Bedok Town, as HDB is cognizant of protecting the place identity that has been established over the years.

While many cities start with lofty ambitions, achieving them is challenging as cities are developed over decades and shaped by many hands incrementally over time. It is therefore important to set out and document the intended vision, planning and urban design intents upfront. URA's publication on urban design guidelines is an important step. It is educational in building a common understanding of our city, and a tool kit that will help us to work together towards shared city goals.

I have also encouraged HDB to prepare town guides to explain the master planning intent and key urban design considerations for each town. With the devolvement of some development functions to Town Councils and private sector architects, these guides will be a useful reference for all stakeholders to work in unison to keep the structure and the character of each town intact.

After some four decades of working on Singapore's urban transformation, I am convinced that the best city requires all of us – planners, urban designers, architects, developers and the community – to be urbanists at heart. Only then can we forge together the macro to micro elements that make our city one that is pleasant, delightful and distinctive – both as a global city and an endearing home.

#### **Cheong Koon Hean**

*Former CEO of URA (2003 to 2010)  
Former CEO of HDB (2010 to 2020)*



## PREFACE DEMISTIFYING URBAN DESIGN

Urban design is not easily defined or understood. There are various reasons for this. Urban design involves looking at the city at the macro, meso and micro scales from urban pattern to building forms to pavement design. It complements urban planning and is not easily separated from it. Depending on the scale and complexity of the urban design work to be undertaken, it could involve a multitude of disciplines like transport planning, landscape design, infrastructural and environmental engineering, placemaking, lighting design and heritage management - to name a few.

Urban design is also about the process of analysing the characteristics of a place and its people, and co-conceptualising with stakeholders on what a place should be, can be and how to make it such. There is no prescribed formula to create a "successful" urban design plan as it is highly contextual and can only succeed when it addresses specific needs of the area of study. Furthermore, urban design is a long term and iterative process which requires different solutions as a place evolves over time.

In land scarce Singapore, urban design is especially important - to ensure even as we build denser and higher that our people have access to a good quality living environment: one with place identity, with differentiated types of spaces, connection to natural and built heritage, good accessibility to public transport and amenities, conducive for walking and cycling and where people can find their own place in the city to call their own.

This guidebook series reveals the hand of the urban designer in shaping the spaces and environments we love and cherish in Singapore, through selected case studies. It will explain the rationale for URA's urban design guidelines and policies. A series of guidebooks have been planned to cover the wide spectrum of considerations urban designers contend with in shaping a more liveable and loveable Singapore:

- Distinctive and Delightful City
- Green and Liveable City
- Connected and Inclusive City

The last book "From Plans to Reality" explains the various policy levers and initiatives that urban designers formulate to translate vision and ideas into implementable plans.

The work of urban designers would not be possible without collaboration with architects, planners, developers, landscape designers, placemakers, engineers, builders, allied professionals, our partner agencies and the support of the people whom we aim to serve. Their contributions have also been profiled in this series of guidebooks, to inspire us all with their creativity and commitment to good design.

I would like to acknowledge the contributions of the many generations of urban designers in URA starting from 1974 when URA was formed, that gave this generation the strong foundation for us to hone our craft and which without their collective vision and effort, this publication would not have been possible.

It is my hope that this series of guidebooks will demystify urban design as a practice, and encourage more stakeholders to join us in shaping Singapore into a great city to live, work and play in.

**Fun Siew Leng**  
*Chief Urban Designer*  
*Urban Redevelopment Authority*





**Editors:**  
 Fun Siew Leng  
 Yap Lay Bee

**Lead Writer:**  
 Nicholas Li

**Illustrations by:**  
 Andrew Teo  
 Chan Huiyuan  
 Chan Junhao  
 Chan Yushen  
 Claire Wong  
 Clifford Auyong  
 Lim Xiao Wei  
 Keith Law  
 Chew Shanwei

**Layout by:**  
 Janet Er  
 Mohamad Iswadi  
 Muhammad Hairul  
 Wang Youquan

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# How to read this publication

Each chapter covers a different Urban Design topic

Online links to key policies and guidelines

**2.2 SKY TERRACES**

**How should sky terraces be designed?**

**2.2.1: Size them sufficiently for public use**

Sky terraces shall be of a meaningful size and configuration for communal use - as general guide they should have a minimum depth of 5m.

Sky terrace areas are exempted from DPA computation up to an area defined by a 45-degree sloping line taken from the edge of the overhanging structure.

The 45-degree line principle encourages developers to provide taller sky terraces, as higher volume spaces are visually more attractive and promote healthier plant growth. The 45-degree line will be measured from the edge of any overhanging permanent or temporary structure (including glass panels).

Developers are encouraged to provide larger sky terraces (also known as predominant sky terraces) occupying more than 60% of the building floor plate through additional DPA exemption and height relaxation.

**Sky terrace guidelines**

Developers should also consider if and how to use the sky terrace area to encourage better green and urban development, including building occupants' communal spaces to gather with elevated views of the city in a garden setting.

The sky terrace guidelines were introduced in 1997, and early examples included One George Street and many other buildings in the city. Under the DPA exemption, these covered spaces are not counted as GFA.

Each chapter explains 3-4 key considerations around each topic / policy

**2.2.2: Ensure communal access and lush landscaping**

Sky terraces must be accessible to the public or building occupants. There shall be at least one set of common lifts or staircases serving the sky terrace.

Sky terraces shall also be generously landscaped with a preference for sunken planting beds for better spatial and visual openness. Planter beds should have sufficient soil depth for healthy plant growth.

As popular gathering spaces, sky terraces account for a higher occupancy load factor and

**2.2.3: Keep open and unenclosed for good views**

To ensure good views from the sky terrace and to allow the greenery to be visible from outside, sky terraces must remain unenclosed with at least 40% of the perimeter of the sky terrace kept open.

The perimeter is considered open as long as parapet walls are kept 120m or below in height. For predominant sky terraces, at least 40% of the perimeter shall be kept open.

Extensive clear walls should also be maintained within and along the boundaries of the sky terrace space, as they reduce the sense of openness for public enjoyment.

Planner beds can be exempted from occupancy load calculations if raised above 30cm. It shall be supported from the structure and each public seating.

Water features higher than 30cm are also exempted from occupancy load calculations.

Clear features: fixed glass panels.

Fire escape requirements.

Nevertheless, landscaping features such as planter beds can be omitted from occupancy load calculations provided they have a minimum height of 30cm and fully covered in planting to ensure they are used for planting rather than as occupiable spaces.

Where taller raised planters are proposed, they should be designed in a manner that ensures the sky terrace remains a generally open and unenclosed space with contiguous and thoughtfully sized gathering areas.

Architects and designers have to balance between spatial design outcomes, plant growth and the safety considerations, to ensure that sky

Case Study on successful built examples

Interviews with planners, urban designers and industry practitioners

**The World's Largest Green Wall**

The construction and maintainability of a green wall of this size were key concerns.

While proprietary systems at the time such as sodless hydroponics were considered, a simpler, cheaper and more effective system was ultimately chosen: the conventional planter and container system, modified to allow easy maintenance access and ensure lush green coverage.

Several species of creepers were used for the green wall: the fast-growing climbing grandiflorahibiscid establish green cover quickly, while the slower-growing climbing Acacliana (a woody vine) ensured a longer lasting layer of greenery. A third species, a parasitic ivy was used to attract pollinators like butterflies and bees.

As creeper plants can typically only grow up to 5m, the planters were located at every two storeys to ensure good coverage of greenery. The soil beds are also 40cm deep to allow for better root and plant growth.

Each planter was designed with its own aluminium maintenance cat walk access, with access balconies interspersed along the planters to create points for pruning and cleaning debris.

Sky terraces were introduced at 8-storey intervals, so that maintenance workers would only have to walk up and down 3 storeys to access all parts of the green wall.

The landscape consultant also advised for a metal plate to be discreetly installed at the top of the green wall, which would help up in the sun and act as a natural barrier to creeper growth. This was to prevent the greenery from growing beyond accessible areas for maintenance.

As a finishing touch, the architects added a xylam inspired white aluminium lace pattern to the green wall.

The architects were not aware they had designed the world's largest green wall. Acting on a hunch, the developers contacted the Guinness World Records and made the discovery only after it was completed.

**A Naturally Ventilated Basement**

Taking advantage of the topography, with slopes of 6m across the width of the site and 12m across the length, the architects created a semi-subterranean parking which was partially open for natural ventilation.

The soil beds are also 40cm deep to allow for better root and plant growth.

Strategic openings were introduced to bring in fresh air to avoid the need for mechanical ventilation. These voids also brought in daylighting and created views of the gardens above it for the carpark.

**Water Management Features**

Soled on sloping terrain, rainwater would be channelled towards a bio-retention basin at the lower southern end of the site, which would only have to walk up and down 3 storeys to access all parts of the green wall.

Trehouse condominium raised the bar in skyrise greenery and innovation, demonstrating how the world's largest green wall could be achieved using simple design and maintenance approaches. It is also a showcase of how sustainability requires a comprehensive approach, to consider environmental and ecological outcomes in the design.

**BEHIND THE SCENES**

**Pushing the boundaries of living with Nature**

Jiangnan, this and Raymond (R) are the project architects at ADOP who worked on the Trehouse Condominium project. They reflect on the challenges they face in realising skyrise greenery for their projects, and where we are as a society moving towards becoming a City in Nature.

**It is a remarkable feat that a private condominium development in Singapore holds the Guinness World Record for the world's largest Vertical Green Wall, how did this come about?**

Kok Thay (KT): Getting the record was not our objective. We have to thank our collaborator from the developer's side for this. We worked on it with us from the concept stage and when it was completed, he asked if we had a chance to submit for the record. It wasn't our intention to get the 'world's largest green wall' - and maybe because of that we had less pressure doing it, but had a lot of fun instead.

Raymond (R): When we conceptualised the green wall we intended it to bring nature from the Bukit Batok Nature Reserve into the development. The original idea was to have the green wall every block but we scaled this down to one due to concerns of inviting too much wildlife into the residential development.

**Can you share more about taking a holistic approach to sustainable design?**

KT: We use GreenMark and URA's LUSH (policy) as a guide - these are strong fundamentals that align our products to sustainability. As architects, we have to find the balance between sustainability and the bottom line.

From day one, we set a target to get GreenMark platinum [certified]. We placed the blocks in a staggered manner so that they do not overshadow each other and allow wind penetration through the site. This was supported by the wind studies we did. We were a little too successful in that we ended up with a problem of wind driven rain.

The other thing was the basement - the site was undulating, sloping down from the north side to the south. Hence we were able to design the basement to be naturally ventilated - we did not need any mechanical ventilation.

**Over time we seem to be seeing lush greenery outcomes in condominiums. What in your opinion led to this trend?**

KT: We have been doing condominiums for many years. The early focus was on creating facilities like barbecue areas, swimming pools, etc. but in the past five years or so the focus has been more on biophilic and nature.

This developer shift is due to a shift in buyer preferences. Whether for HDB or condos, people seem to want to have more nature in their surroundings. Another driver was URA's LUSH requirements but I think that that was also driven by public desire to have a greener environment. Hopefully down the road there will be more and more new ideas on skyrise greenery and I am sure URA is keen to see how they can be availed too.

The larger version of this interview can be found at this link.

Online links to full versions of interviews

# About this series

Behind the many places that are loved and cherished across Singapore are careful and concerted efforts and strategies to shape them, sometimes hidden from plain sight. This series on urban design aims to demystify the work of urban designers and illuminate the impact of their work in shaping Singapore.

It will provide insights into URA's planning and urban design policies, explaining the rationale and interpretation of various guidelines through 3D visualisation. It also provides best practice guides on the application of these guidelines, highlighting successful examples by architects, developers and government agencies in shaping positive urban outcomes.

Through a curated selection of projects and initiatives, this series will unpack the insights, innovations, learning points and outcomes of urban design efforts that have shaped the physical environment of Singapore.

Different books are planned within the Urban Design Guidebook series to cover the range of issues urban design efforts address in the city.

**DISTINCTIVE & DELIGHTFUL**

This book looks at the urban design strategies used to enhance the legibility and imageability of the city's districts and urban form to make Singapore distinctive and delightful. It also looks at placemaking strategies that enhance the "sense of place" and result in endearing places that people are emotionally connected to.

**CONNECTED & INCLUSIVE**

Urban design plays a key role in shaping effective walking networks that are functional and enjoyable in the city. This book looks at the various scales of connectivity in the city and how comprehensive walking and cycling networks are realised through different mechanisms.

**GREEN & LIVEABLE**

This book looks at the ways greenery is integrated into the urban fabric at various scales to enhance the liveability of the city, covering planning and urban design efforts to help Singapore transition from being a "Garden City" to a "City in Nature".

**FROM PLANS TO REALITY**

Realising urban design outcomes requires careful navigation of complex development frameworks and processes. This book examines how good urban design is realised through guidelines, incentives, promotion and education efforts, with close collaboration between public and private sector entities.



## How is urban design realised in Singapore?

Urban design entails the complex act of bringing together many elements of the built environment to create a coherent and cohesive whole, such that the city is made more functional, attractive and liveable.

URA uses three main levers to realise urban design outcomes across Singapore:

### Development Control

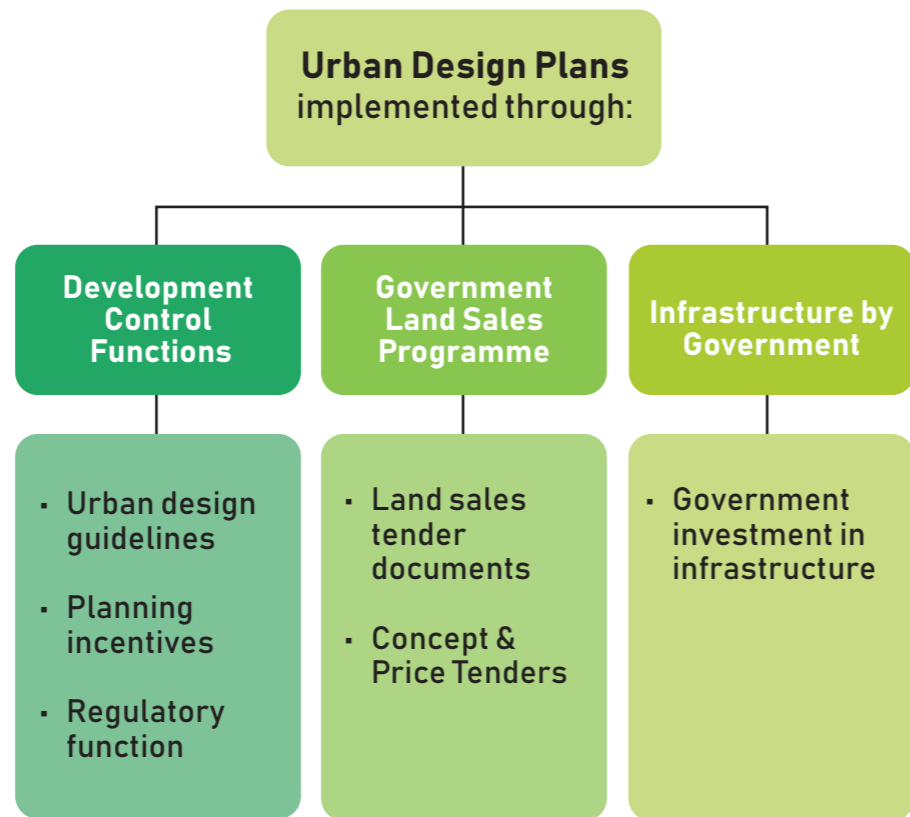
Development and building works are regulated through the Development Control arm of the URA. As the planning authority in charge of planning and development approvals, URA is able to ensure that urban design guidelines and conditions are adhered to before planning permission is granted for development and building works. This means that every time new buildings are built or buildings undergo redevelopment and major alterations works, they are guided by a set of urban design guidelines relevant to their site context.

### Sale of Sites

Secondly, URA is also the land sales agent for the government and is therefore able to include urban design guidelines as part of the tender conditions issued for the sale of sites, and ensure that they are complied with as part of the development approval process. In addition, URA may convene a Design Advisory Panel to guide the design of strategic developments in the city.

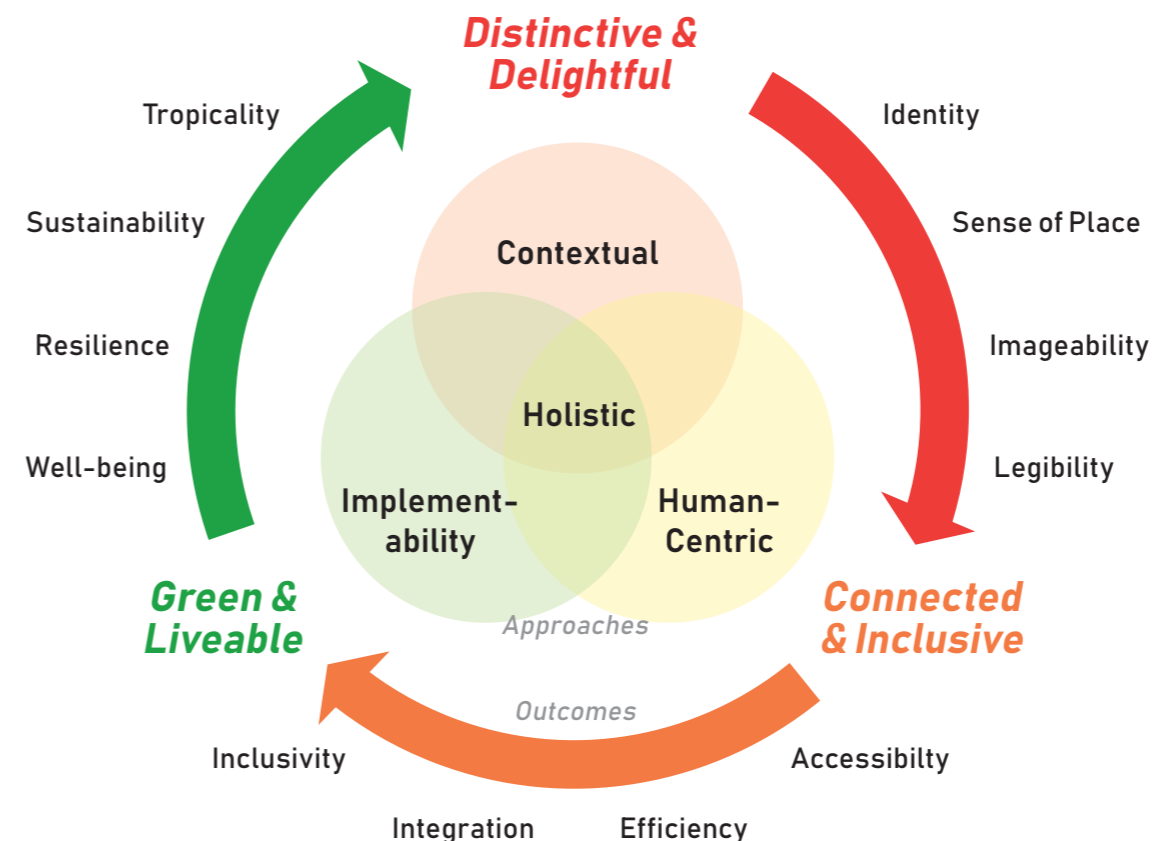
### Infrastructure

Thirdly, where necessary, URA also implements works to enhance the city, such as environmental improvement works at key streets and public spaces. These works help to improve the image of the city or create conditions for developments to achieve better design outcomes.



## URA's urban design framework

URA's urban design framework can be summed up in the diagram below:



**Contextual:** Urban design always starts by having a thorough understanding of the unique demands of each site, resulting in proposals and interventions that respect and enhance the existing physical, social and economic context.

**Human-centric:** Urban design focuses on people – shaping environments that are safe and comfortable to be in and to move around to conduct daily work and social life.

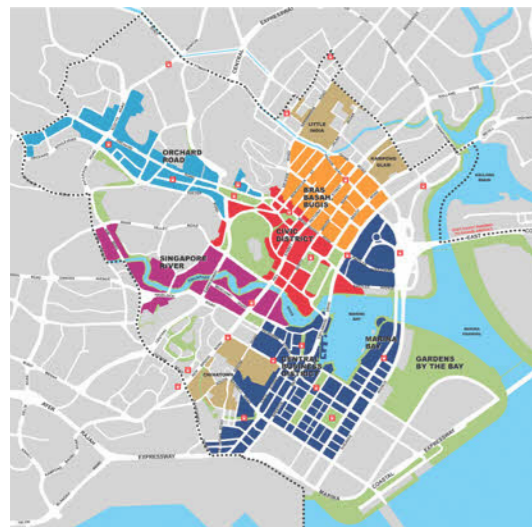
**Implement-ability:** This is what separates plans from reality. Urban design guidelines are grounded in realities like development costs, timing and market conditions, often requiring private sector participation.

It is also part and parcel of urban design work to develop procurement mechanisms and incentives to encourage good design outcomes.



## The guiding plans for urban design in Singapore

Over the years, URA has developed several key plans which serve as the guiding framework for its urban design work.



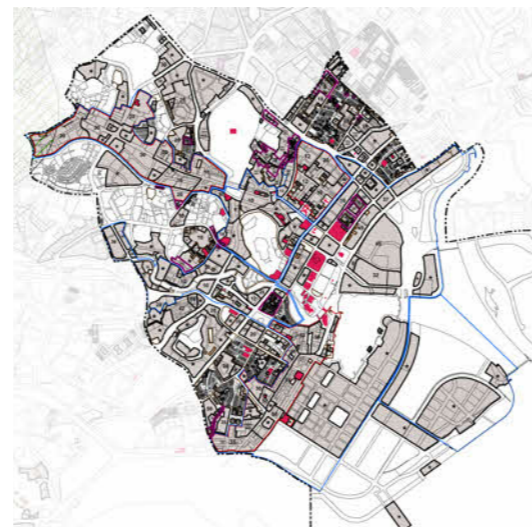
### District Character Plan

This plan outlines the various districts in the Central Area which are distinctive due to their unique positioning, land use, built form and history. Detailed urban design guidelines have been developed for each district to enhance their character and identity.



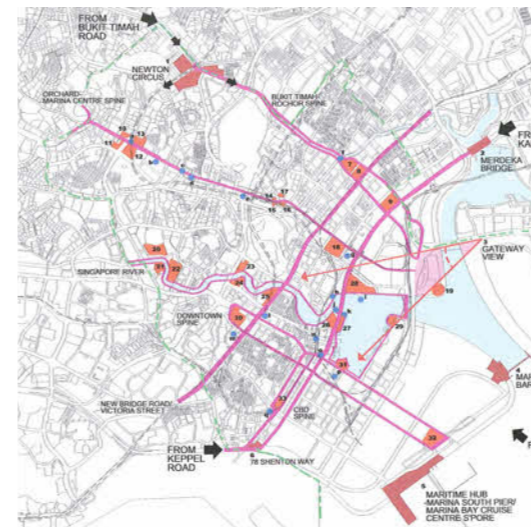
### Parks and Waterbodies Plan

This plan maps out where existing and future green spaces and open spaces are envisioned, and how they will be connected by comprehensive walking and cycling networks. Developments are required to contribute to the network of parks and open spaces as part of redevelopment or major additions and alterations work.



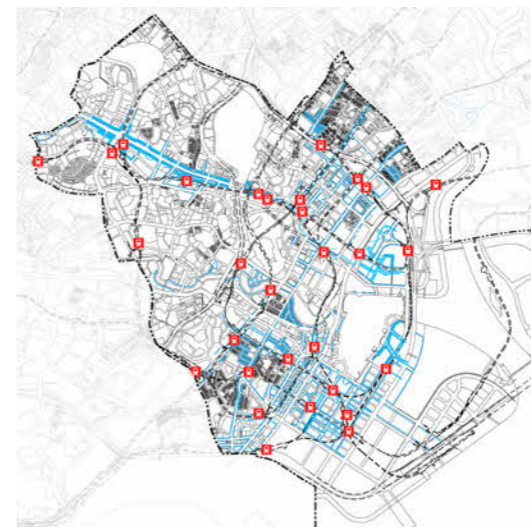
### Building Height Plan

Certain sites or districts are subject to building height controls to shape legibility in the urban form. For example, building heights may be guided to relate to natural features like hills and waterways to avoid overshadowing them. Higher heights may be stipulated around transport nodes to optimise development density around transit.



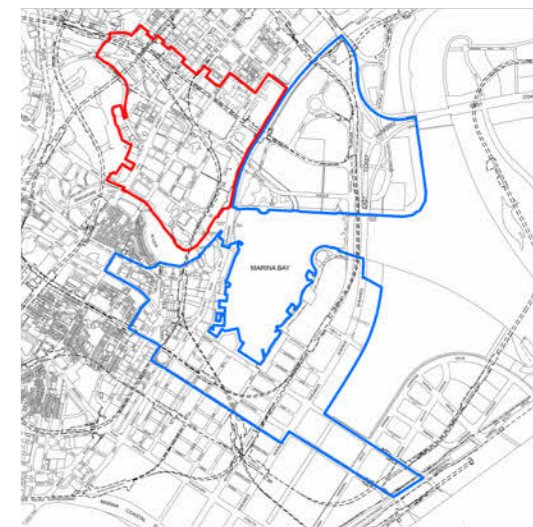
### Landmark and Gateway Plan

This plan identifies strategic sites that mark key locations and approaches in the city where landmarks and gateway developments are desired, to strengthen a sense of orientation and structure for the urban fabric. These sites are subject to special urban design guidelines and design evaluation through different mechanisms such as Design Advisory Panels or Concept Price Tenders.



### Activity Generating Uses Plan

This plan identifies where activity generating uses (AGU) such as shops and restaurants are required along the 1st storey of developments to enliven key activity corridors in the city, such as along pedestrian malls and waterfront promenades.



### Nightlighting Master Plan

This plan identifies areas where there are requirements and guidelines for external building lighting, to contribute to the character of each district.



## Explaining the urban design elements

The nine urban design elements were developed as a toolkit for URA's urban designers to better identify and organise the components of the built environment for intervention and guidance.

The initial list started with seven elements and expanded to include Nightlighting and Greenery to reflect the importance of these aspects as URA developed plans and policies around them in later years.

The elements form the basis of urban design guidelines which have been developed for various areas around Singapore.

### Urban Design Guidelines

Urban design guidelines have been published for different areas in Singapore such as Central Area districts and the Regional Centres. They can be found at this [link](#).





# What makes a city distinctive and delightful?

**Distinctiveness** refers to having a strong image and identity in the cityscape such that it is easily recognisable and memorable to locals and visitors alike. URA pays attention to enhancing the character of different areas so that they have a strong "sense of place". The legibility of the city is also important, making the city easy to understand and navigate.

**Delight** comes from having places and activities in the city that resonate with people and help them form uplifting emotional connections to the city.

Without both qualities, a city can feel dull or even confusing. Urban design strategies are developed at various scales to help craft our city in our own image into one that has global appeal as well as local attachment.

## City-wide structure

At the macro scale, urban design strategies look at shaping a clear and legible structure for the city to aid in orientation and wayfinding.

Urban designers look for defining characteristics of each district and ensure urban design strategies work to enhance these characteristics and retain their authenticity.

One of the key plans that was developed is the Identity Plan which maps out regional level corridors and nodes to recognise, retain and enhance their distinctive characters. The Landmark and Gateway Plan was also developed to enhance the legibility of the overall urban structure.

## District character

At the meso scale, urban design looks at shaping the holistic environment of districts and nodes to enhance their imageability.

This covers a wide spectrum of elements in the built environment such as building form, roofscapes, streetscapes and nightlighting, to create coherent and coordinated identity outcomes.

## Endearing places

At the micro scale, urban designers shape the public realm, to create endearing streets and public spaces that engender a sense of belonging and attachment.

Elements at this scale are most immediate to human perception and can be shaped to create delight, such as creating sensory experiences through landscaping and incorporating art in public spaces.



This book is thus structured into three sections to look at how urban design strategies shape the city at three scales, from the city to human-scale.

### City-wide structure

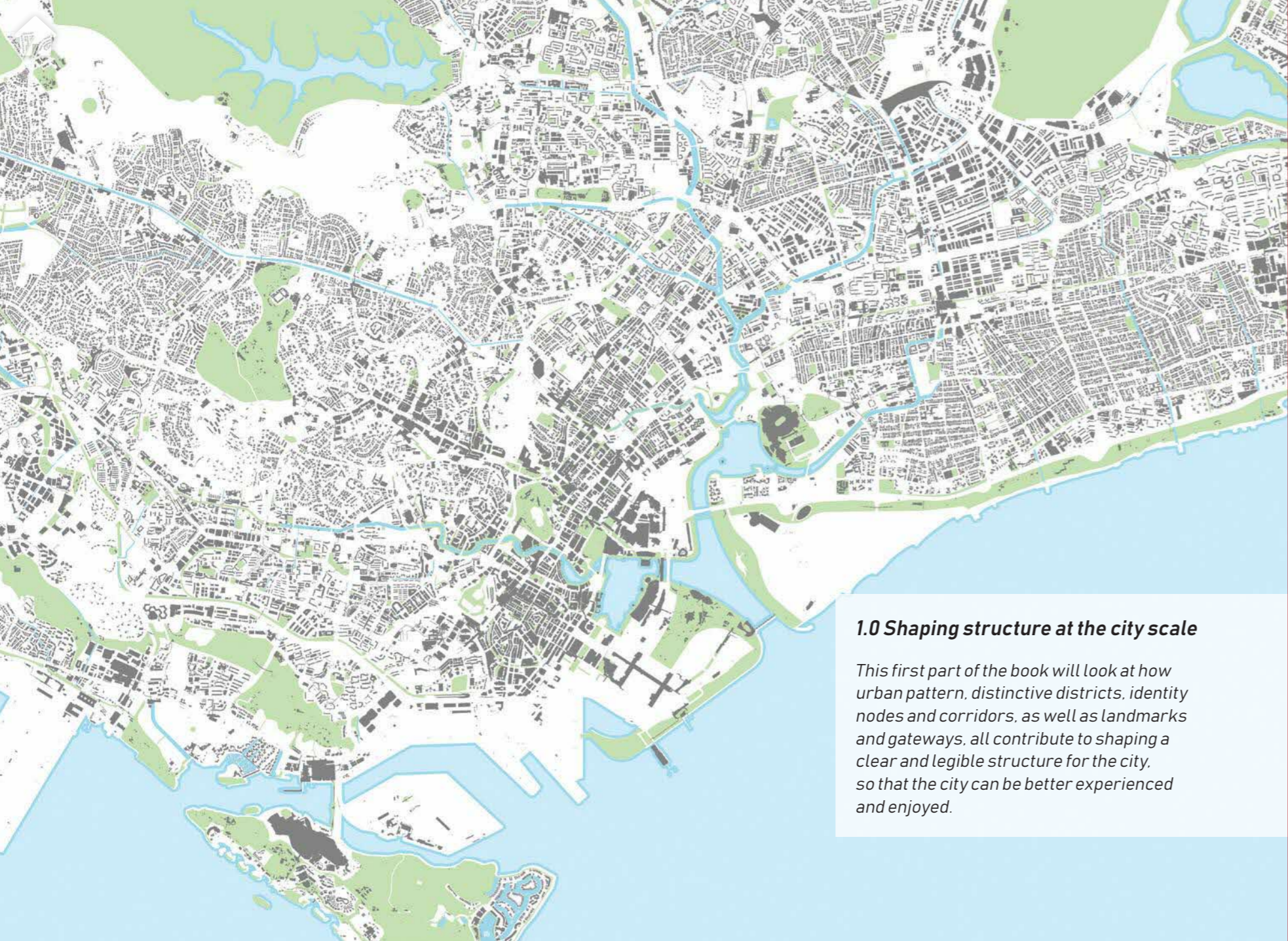
- Urban Pattern
- Distinctive Districts
- Nodes and Corridors
- Landmarks and Gateways

### District character

- Building Form
- Streetscapes
- Roofscapes
- Landscapes
- Nightlighting
- Signages

### Endearing places

- Public Spaces
- Streets
- Placemaking



# 1.1

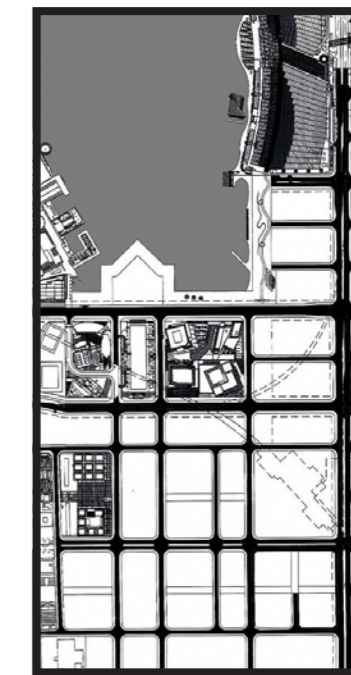
## URBAN PATTERN

Like thumbprints, every city has a unique urban pattern, which defines how the city is shaped, organised and experienced.

The urban pattern is the starting point for shaping urban design outcomes in the city. If well-designed, it ensures that the city functions well, is liveable and delightful to experience.

### 1.0 Shaping structure at the city scale

*This first part of the book will look at how urban pattern, distinctive districts, identity nodes and corridors, as well as landmarks and gateways, all contribute to shaping a clear and legible structure for the city, so that the city can be better experienced and enjoyed.*



*Different urban patterns found in Singapore with different grain: from fine-grained in Little India, to medium in the CBD and coarser-grained in Marina Bay*

### *Why is the urban pattern important?*

#### **1.1.1: Provide the framework for ordering the physical environment of the city**

The urban pattern refers to the way the physical form of the city is organised, by providing a structure to distribute and place different functions and elements of the city.

It seeks to organise the city in a legible and efficient way by establishing synergistic relationships between the various elements.

Urban pattern can be read at different levels of the city. At the macro level, it refers to how the overall structure of the city is organised. At the micro level, it refers to how various districts and neighbourhoods are structured and laid out. Examples include grid-iron / orthogonal patterns, radial / concentric or linear systems.



## How does URA shape the urban pattern around Singapore?

### 1.1.2: Support land use and transportation needs

On a macro level, the urban pattern is shaped by the arrangement of land use and transportation systems required to serve the different functions of the city.

#### Meet diverse land use needs

Singapore's land use needs are assigned to different parcels of land through zoning as reflected in the Master Plan. As a principle, incompatible uses are kept separate, such as pollutive industries and housing. Compatible uses are allowed or even encouraged to mix, often within the same site.

This is how Singapore has been shaped into a decentralised, polycentric city – employment areas like commercial and business park zones have been distributed around the island to be closer to housing areas, sometimes in mixed-use developments, while heavy industrial uses and ports have been consolidated to the island edges and in off-shore islands to minimise their impact on residential areas.



A Decentralised, Polycentric Pattern

#### Ensure close integration with transportation

Transportation is critical to the functioning of the city, ensuring that people and goods can move efficiently.

To a large degree, the urban pattern is shaped to ensure close integration of land use and public transportation to keep the city car-lite, with services and amenities and higher intensity developments concentrated around MRT stations for good accessibility.

As every development requires some form of road access, road networks form a key part of the urban pattern. Grid patterns, which are easy to navigate and favour walking, are found in older parts of the city. With the rise of the automobile and expansion of the city into satellite towns in the 1950s, roads began to be laid out in a collector-distributor system to efficiently manage traffic.



Concept Plan

### 1.1.3: Support development needs with clear parameters

#### Create flexible and viable parcels for development

Beyond catering to land use and transportation needs, the urban pattern has to cater for viable development outcomes by managing site parcellation and planning parameters.

When formulating the parcellation of new development sites, URA ensures that the sizes and configurations of the land parcels meet the functional requirements of the land use and can be supported by road and service infrastructure.



Master Plan

#### Shape Planning Parameters for liveable outcomes

Next, URA works out the allowable planning parameters for the site, such as allowable land use, density, building height, building typology, etc. These parameters ensure that the physical forms of developments align with the allowable land use and development intensity of the site with reference to the surrounding context and intended urban character of the area.

Establishing limits on development intensity, height, spacing, and other parameters is often meant to ensure that the built environment remains liveable, with spatial relief, views of the sky and good access to greenery.

### How the Master Plan and Long Term Plans work together

URA uses the Long Term Plan and Master Plan to chart and guide Singapore's physical development. The first Master Plan was drawn up in 1958 while the first Long Term Plan (then known as the Concept Plan) was developed in 1971 with the help of United Nations planning experts.

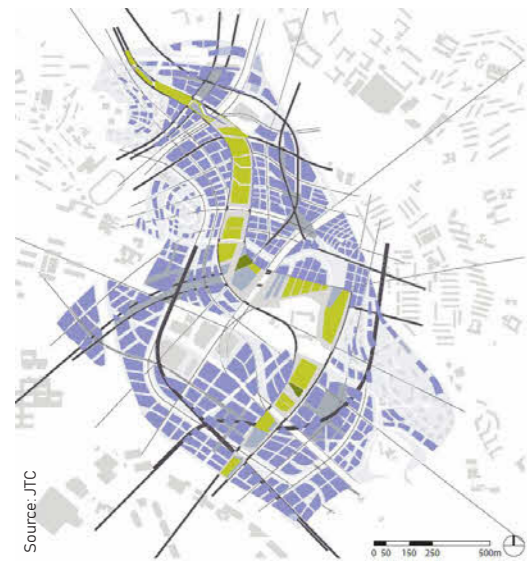
Long Term Plans are drawn up to map out development scenarios on a 50-year horizon to address strategic issues like economic growth.

The Master Plan is a statutory plan that then translates the strategies of the Long Term Plan into the allowable land use and development intensity in Singapore to facilitate development for the next 15 years.

They work in concert with each other to translate strategic development objectives and provide a framework for timely and orderly development in Singapore.

#### Master Plan and Long Term Plan

The Master Plan and Long Term Plan is reviewed approximately every five years and ten years respectively. The Master Plan and accompanying Written Statement can be found at this [link](#), while the Long Term Plan can be found at this [link](#).



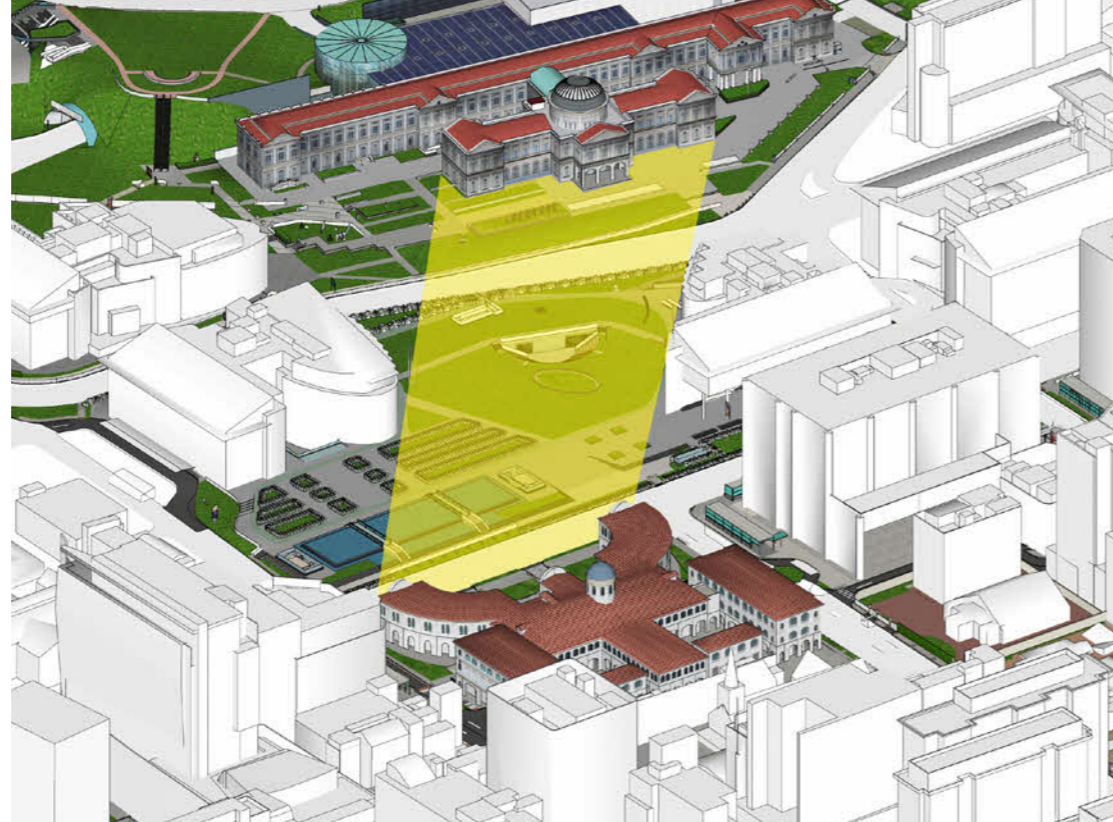
The urban pattern at One-North is a response to its hilly site topography

### 1.1.4: Take a contextual approach and ensure good integration

Good planning and urban design ensures that pieces of the urban pattern relate well to each other, have good connections in the form of seamless walking and road links, comfortable transitions of development scale and form, etc.

#### Respond to site context sensitively

It is important to take a contextual approach to ensure that the urban pattern integrates well with the site. For example, the pattern for the One-North business park cluster is based on



Spacings in the urban pattern to accommodate important view corridors

a “bent grid” which was the result of adapting a grid structure to the hilly terrain. This allowed the topography and greenery of the site to be preserved, giving One North its lush and undulating landscaped character<sup>1</sup>.

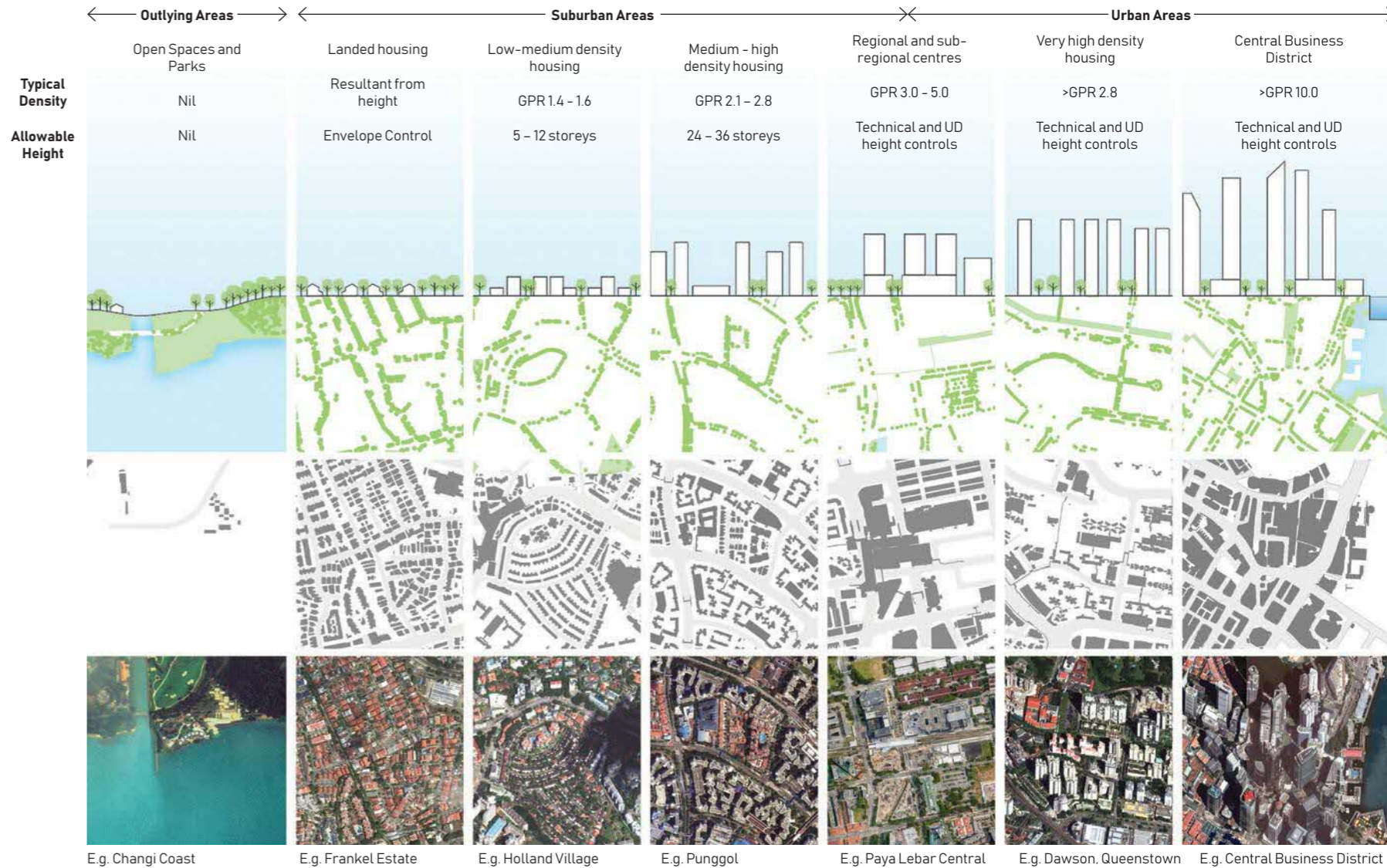
Another consideration is responding sensitively to the urban context. For example, an open space was retained within the Singapore Management University to allow for the creation of Bras Basah green. The extent of the open space was based on view corridors between two national monuments, i.e. the National Museum of Singapore and Singapore Art Museum (formerly St Joseph’s Institution).

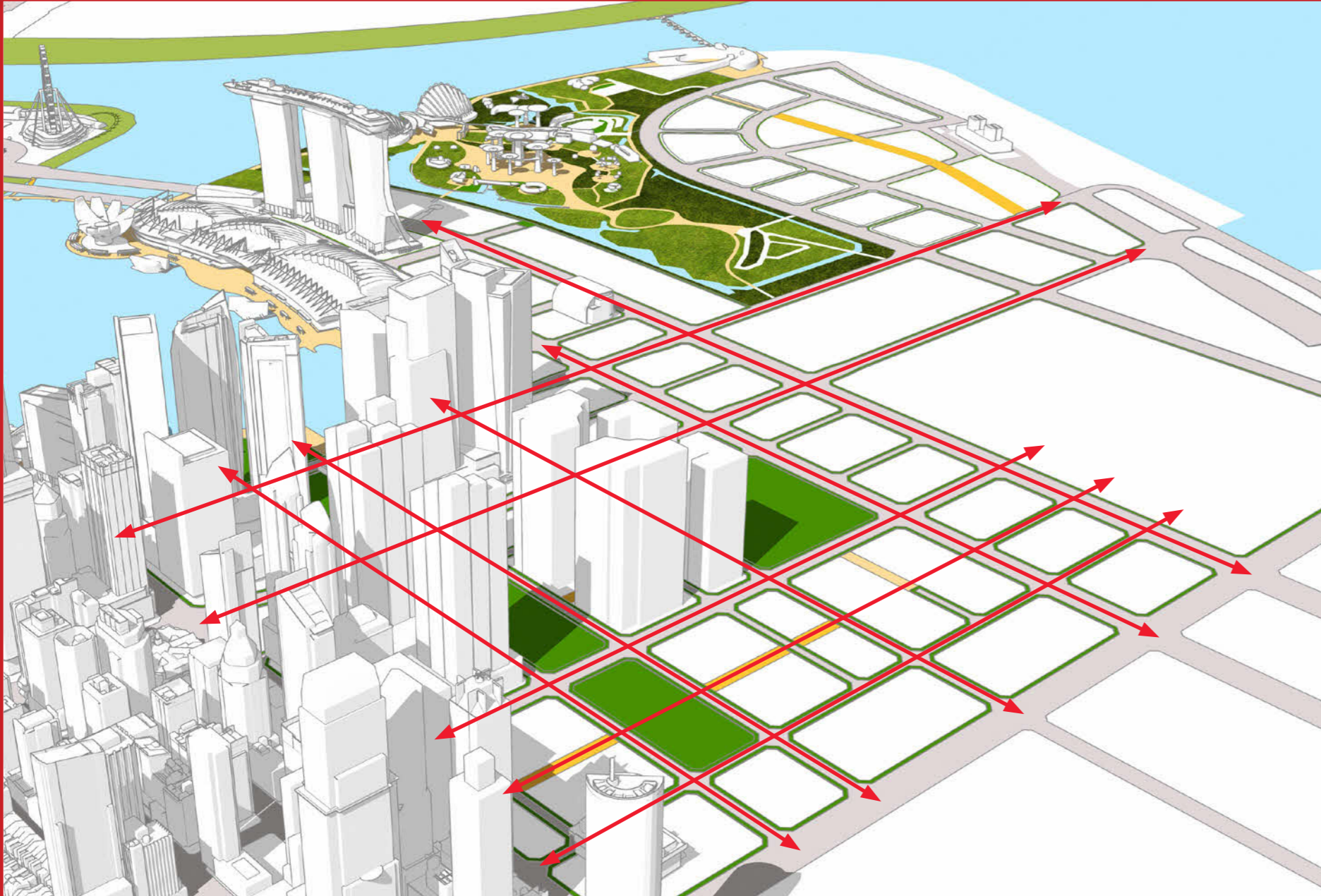
#### Mitigate transitions between different densities

Responding to the urban context also requires the careful mitigation of transitions in scale and density.

Development parameters vary according to the zoning type and intensity or Gross Plot Ratio (GPR). At lower GPRs, buildings are capped at lower heights, and vice versa. Building spacing requirements are calibrated according to the level of privacy expected in urban and suburban environments.

### Mitigating transitions according to development intensity





## CASE STUDY

### How was the urban pattern of Marina Bay developed?

The urban pattern of Marina Bay takes the form of a formal grid. Its simplicity belies the complex considerations and adaptations needed to meet the challenges of developing the New Downtown. What were some of these considerations?

#### Comparing grid and radial urban patterns

Marina Bay was created when early planners at URA decided to expand reclamation works initially meant to support the building of the East Coast Parkway into sizeable areas that could accommodate future growth of the city.

As part of the planning of Marina Bay, URA invited world renowned architects Kenzo Tange and I.M. Pei to develop masterplan concepts in 1983 for an area dubbed as the "New Downtown". Pei's plan envisioned a grid as the base of the new city while Tange proposed a radial pattern.

Pei's plan was adopted due to the flexibility it provided for staging and development – allowing the New Downtown to look complete enough at any stage of development, as compared to Tange's curvilinear waterfront which had stronger geometry and required completion of the entire frontage before people could appreciate the overall structure of the area. The developments would also not need to observe as much design uniformity as they would have had to in Tange's layout.

URA's planners and urban designers built on this plan to shape the land use, transport and development patterns for the area.



*I.M. Pei's Grid Plan*



*Kenzo Tange's Radial Plan*

**Further refinements to the plan**

Over the years, URA undertook multiple reviews of the Marina Bay plan. A 1996 study positioned Marina Bay as a "City of Tomorrow" which would see an integrated environment with a comprehensive pedestrian network. In 2003, the American firm Skidmore Owings and Merrill (SOM) refined I.M.Pei's grid into more rectangular parcels and emphasised layering of heights for a more human-scale waterfront.

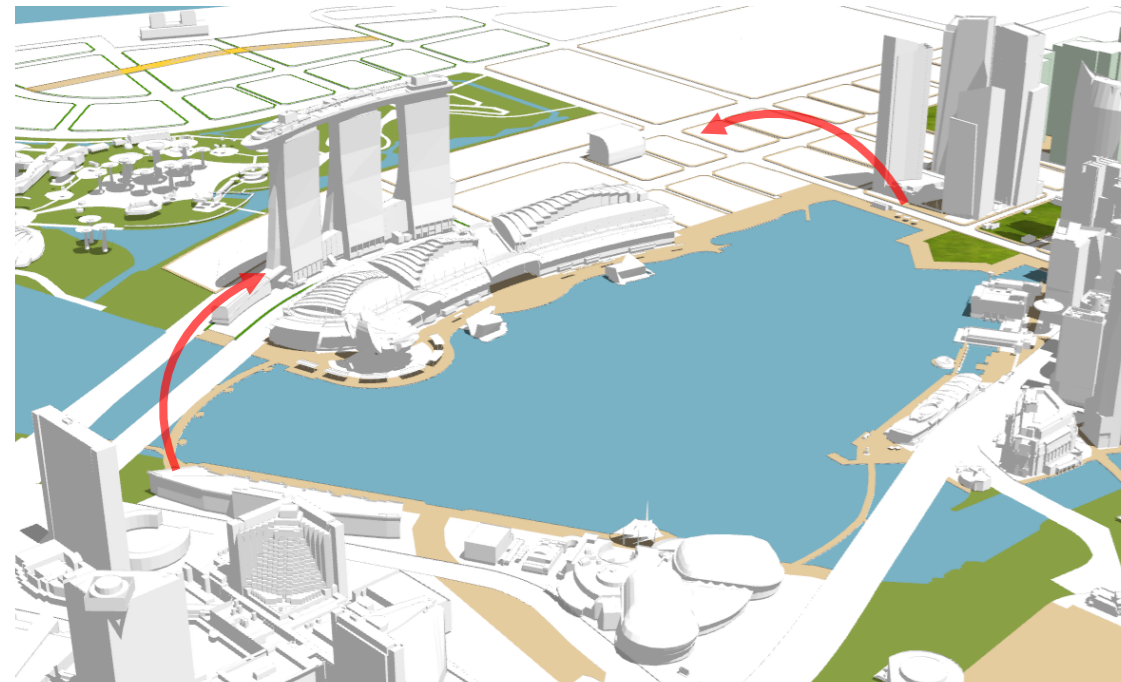
These studies allowed URA to make informed decisions on the final form and implementation approach for Marina Bay when the time was right for development to commence.



1996 Cities of Tomorrow Plan



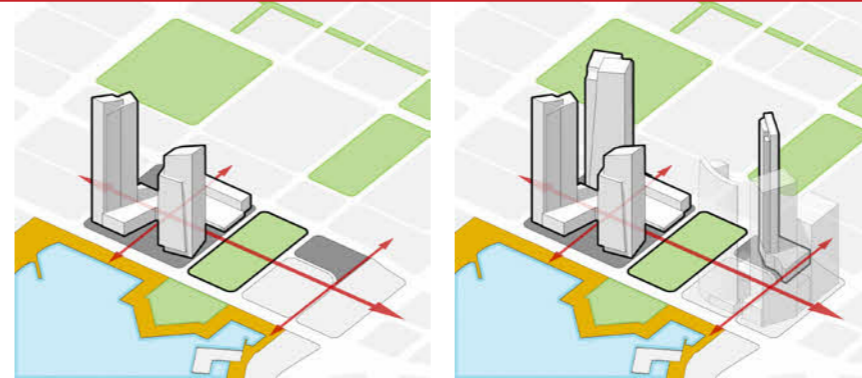
2003 SOM Plan



**Seamless expansion of the CBD**

One of URA's key decisions was to grow the New Downtown contiguously from the existing CBD so that it could leverage the benefits of adjacency to a matured and well-established CBD. This was to avoid an initial "ghost town" effect that other cities often experienced when developing satellite CBDs, and ensure that the new developments did not have to wait to build up their own critical mass of activities for vibrancy.

This resulted in the adoption of a "pincer concept" to develop Marina Bay from two directions starting at both the existing CBD and Marina Centre to gradually envelope the bay. The streets of the existing CBD were extended outwards to support the first developments of the New Downtown and laid the foundation for the grid to grow.



**Flexibility for development**

The grid also provided flexibility in parcellation options, allowing URA to amalgamate or divide land in response to market demand. This proved useful when larger parcels were needed for the development of the Marina Bay Financial Centre (MBFC) and Marina Bay Sands. The 2001 economic recession also meant that URA had to allow the developer of MBFC the option to develop in phases, with flexibility to carve out remaining sites for independent redevelopment - this was made easier with a grid as any left over parcels would still have viable development configurations and access from surrounding streets.

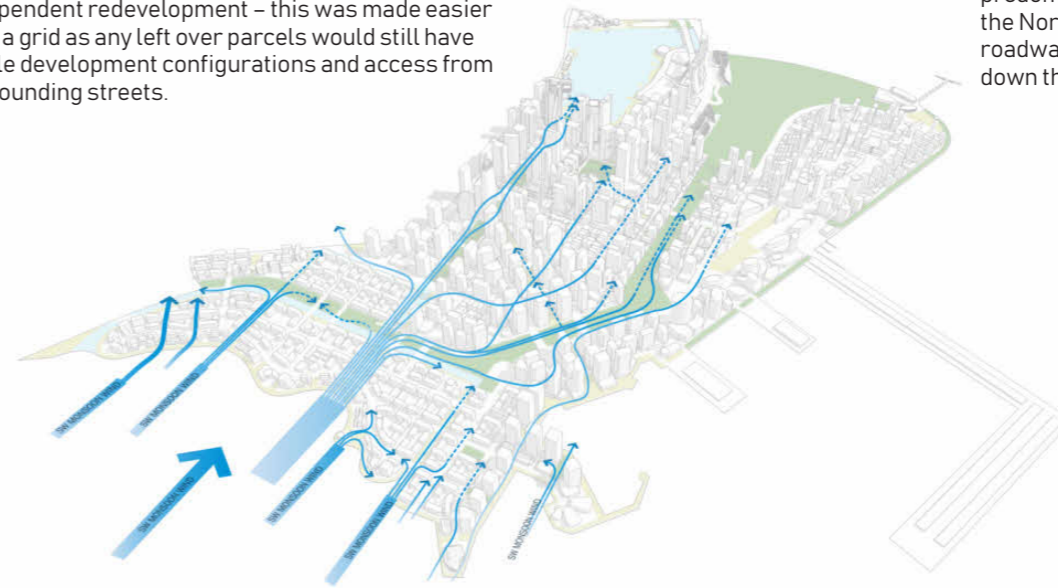
**Promoting walkability**

Grid street networks are also easy to understand and navigate, as they are predictable structures that offer many routes to desired destinations. If certain streets are blocked, human and vehicular traffic can filter to the adjacent street.

To enhance the walkability of the grid network at Marina Bay, URA introduced a parallel network of pedestrianised thoroughfares and through-block links, which reduced block lengths and increased intersection density, resulting in a more permeable urban fabric.

**The grid as a wind channeling system**

By continuing the orientation of major avenues like Shenton Way, the grid also aligned with the predominant monsoon wind directions from the North-east and South-west, allowing the roadways to function as wind corridors to cool down the new city.



Starting from I.M.Pei's plan based on the grid, each evolution of the plan has led to the outcome we see today, a vibrant mixed-use business and financial centre that has proved resilient over time to various challenges. It is a reminder that beyond developing design guidelines, URA also has to consider implementation mechanisms for viable development and liveability outcomes.



# 1.2

## DISTINCTIVE DISTRICTS

Urban design looks at enhancing the imageability, legibility and vibrancy of districts so that they add colour to the city, forming areas of unique character that make them memorable to locals and visitors.

*Why are distinctive districts important to the city?*

### 1.2.1: Add colour to the city and support diverse lifestyle aspirations

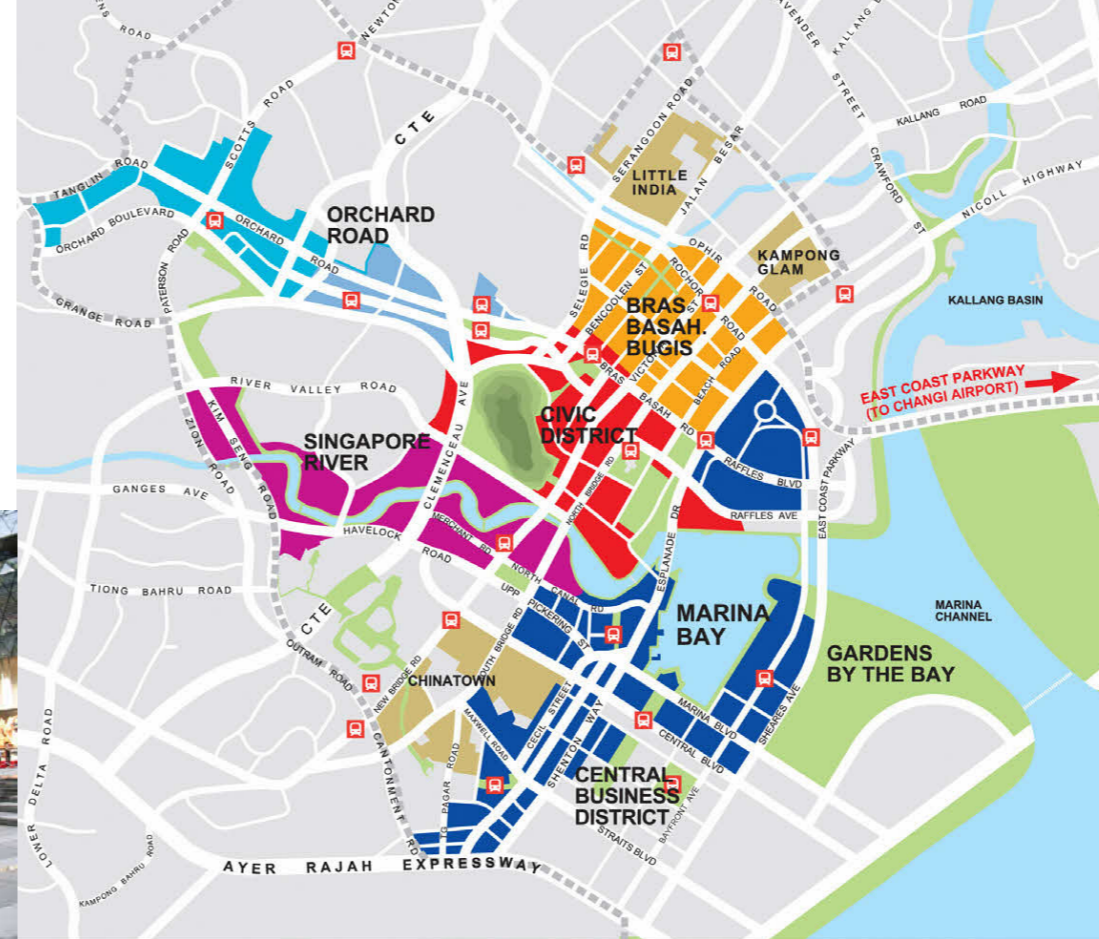
Certain districts or areas of Singapore have a certain charm and strong "sense of place". This is usually the result of a confluence of factors such as the urban form, landscape, streetscape and even types of activities found within them.



Smith Street, Chinatown



Orchard Road pedestrian mall.



Distinctive districts in the Central Area



Marina Bay and the Central Business District

Distinctive districts enrich the city by supporting a diverse range of land use, economic and functional needs, as well as providing lifestyle options for people to live, work and play in.



Robertson Quay, Singapore River



Albert Mall, Bras Basah Bugis

Through urban design and placemaking, the positioning of various districts can be enhanced to differentiate them from each other. Urban design guidelines aim to reinforce the unique qualities of the district and enhance the place character over time.

## How are distinctive districts shaped?

### 1.2.2: Reinforce their uniqueness and imageability

Urban planner Kevin Lynch explained the concept of imageability in his influential book "The Image of the City". It refers to the mental image of a place, district or city that exists in the minds of people, which is shaped by how they are perceived, experienced and remembered<sup>2</sup>. Districts that have their own sense of place tend to be more memorable and therefore distinctive.

#### Understand the site context

The starting point for urban designers is therefore understanding what makes the place special and developing strategies to reinforce its unique attributes. This requires careful understanding of the site context, which can be established through site visits and talking to local stakeholders. Urban designers take stock of the factors that make a place special, be it physical or non-physical, before formulating the appropriate urban design strategies.

#### Emphasise significant natural features

Significant natural features such as hills or waterbodies often play a major role in shaping the district identity around it over time. One strategy is ensuring that such features are not obscured by newer developments but continue to inform the local character.

For example, along Singapore River, buildings are capped at 4 storeys immediately fronting the river and 10 storeys one street block away to relate to the low-rise historic warehouses along the waterfront.



*The sense of place for Marina Bay comes from the water – it has become the focal point for events and celebrations in the city*

This allows the visual relationship between Singapore River and Fort Canning Hill to be preserved.

Around Marina Bay, as illustrated in the overpage, through-block links and view corridors have been safeguarded through developments around the waterbody to create physical and visual access to the water, recognising the central role it plays in the identity of the area.

#### Reinforce unique urban forms

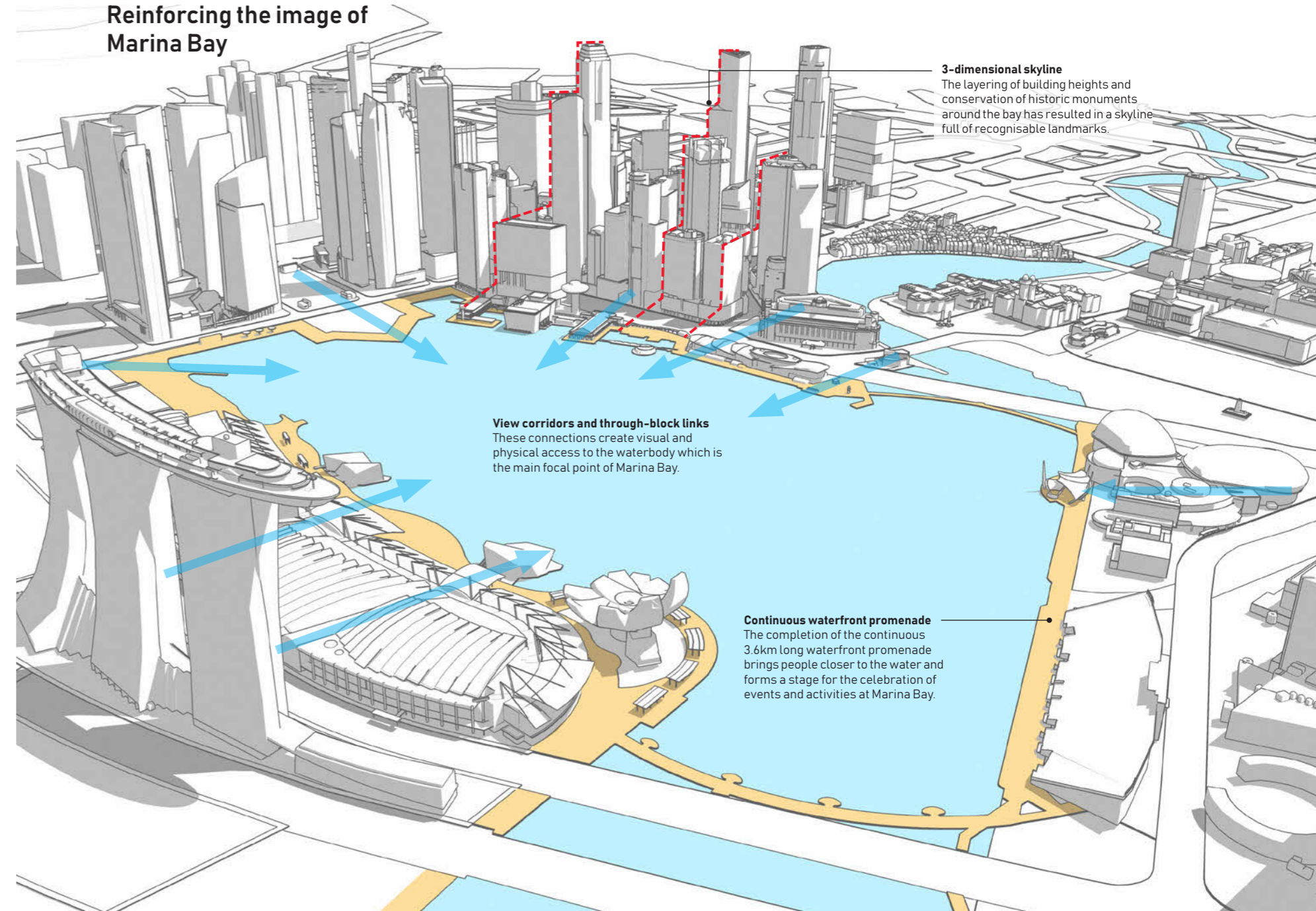
Unique urban forms also contribute to imageability, especially historic buildings that cannot be replicated today. Kampong Gelam has a strong image comprising its historic grid of

shophouses, approximately 400m x 400m large, surrounded by taller skyscrapers. Likewise, the image of Orchard Road is defined by its strong urban form, comprising shopping mall podiums fronting a tree-lined boulevard, stretching as far as the eye can see.

Urban designers ensure that new developments are compatible with the predominant urban form and fit in with the image of the district.

By reinforcing the unique natural and urban attributes of an area, the image of the district is made more distinct and memorable. The next step is ensuring that there is strong legibility to complement the image of the district.

## Reinforcing the image of Marina Bay



**3-dimensional skyline**  
The layering of building heights and conservation of historic monuments around the bay has resulted in a skyline full of recognisable landmarks.

**View corridors and through-block links**  
These connections create visual and physical access to the waterbody which is the main focal point of Marina Bay.

**Continuous waterfront promenade**  
The completion of the continuous 3.6km long waterfront promenade brings people closer to the water and forms a stage for the celebration of events and activities at Marina Bay.



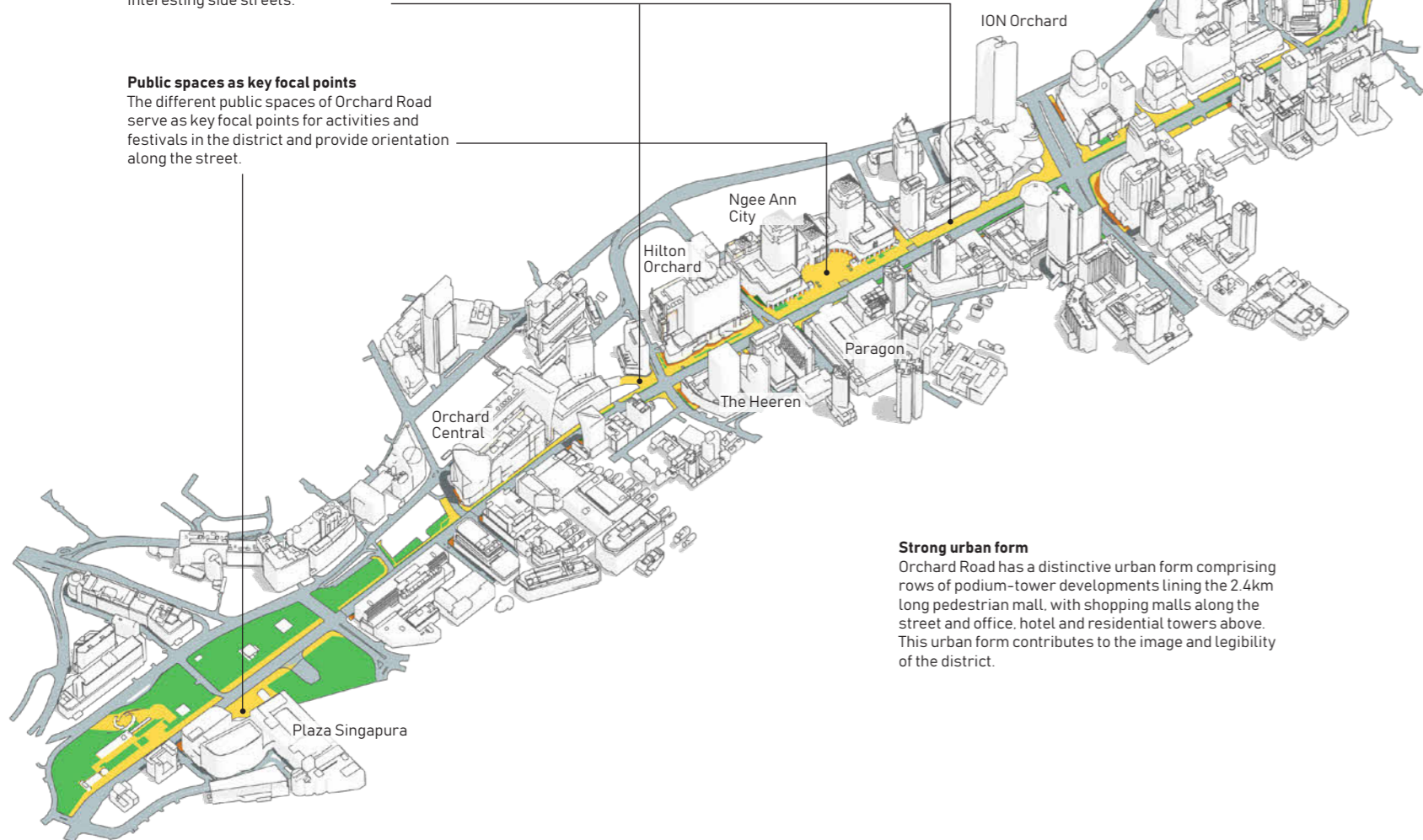
## Strengthening the legibility of Orchard Road

### Clarity in structure

The structure of Orchard Road is very clear – focusing on the pedestrian mall as the main orientation feature, to then channel people to the subzones and interesting side streets.

### Public spaces as key focal points

The different public spaces of Orchard Road serve as key focal points for activities and festivals in the district and provide orientation along the street.



### Strong urban form

Orchard Road has a distinctive urban form comprising rows of podium-tower developments lining the 2.4km long pedestrian mall, with shopping malls along the street and office, hotel and residential towers above. This urban form contributes to the image and legibility of the district.

## 1.2.3: Shape strong legibility and memorability

A district feels legible when it is easy to understand. This comes from having a clear circulation structure and strong visual cues in the urban fabric that provide orientation, such as gateways, walking spines, edges, landmarks and focal points.

### Create clear circulation structure

To enhance the sense of structure, URA focuses improvement efforts on the main circulation elements within the district, making them easy to find and use.

For example, efforts have focused on the enhancement of the 2.4km long pedestrian mall along Orchard Road over the years to serve as the main spine of this linear district. The pedestrian mall has very strong definition due to the row of shopping mall podiums lined up along it. Over the years, URA diverted vehicular access points away from the pedestrian mall to make the pedestrian experience more seamless and enjoyable.

The district of Bras Basah, Bugis has a very different structure, comprising a network of parallel walking streets with diverse streetscapes. To enhance the walking network, URA pedestrianised 700m of roads to form Albert Mall, which is now the key walking spine of the district.

### Define boundaries and gateways clearly

Another way of enhancing legibility is defining the boundaries of districts clearly or creating strong arrival experiences that help people perceive a sense of transition into the area.

Historic districts are naturally easy to define this way, as there tends to be a clear transition in the building typology from shophouses to modern buildings at the boundaries. In other instances, district boundaries may be established through building up strong urban edges along the periphery.

To strengthen the sense of arrival into districts, urban designers may use open spaces to mark the key entry points to the district. The urban plaza at ION Orchard plays such a function, conveying visitors arriving from Orchard MRT station towards the Orchard-Paterson junction where there are good views of the corridor and surrounding context.

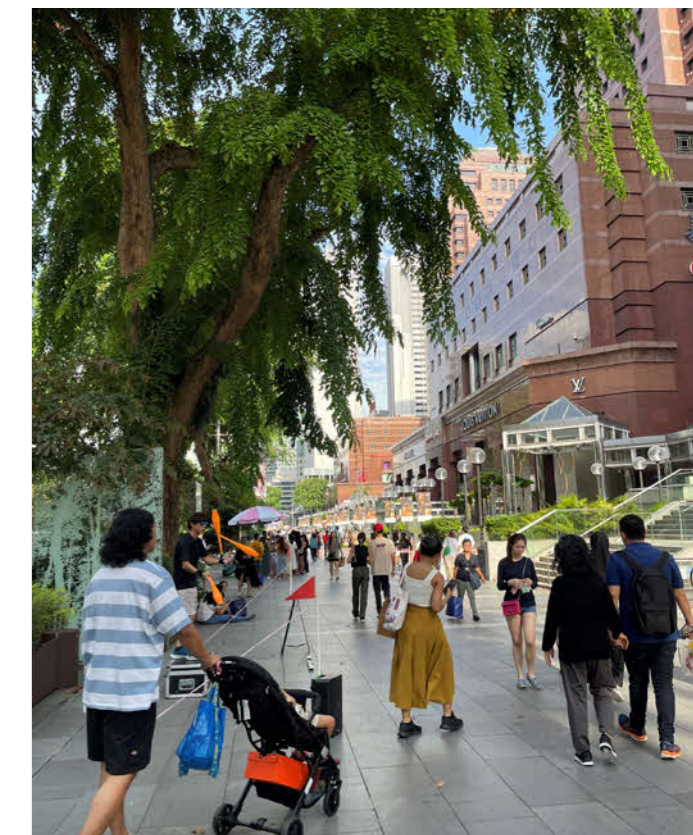
### Create strong focal points

Another element that strengthens district legibility is focal points. These can be open spaces or landmarks within the district that strongly establish the sense of place.

Within Orchard Road, Ngee Ann City with its distinctive building form and its 3000sqm large plaza acts as both a key landmark and an open space in Orchard Road, seeming to mark the heart of the district whenever it hosts large scale festivals and carnivals.

Another focal point for Orchard Road is ION Orchard development, which was earmarked as a landmark in URA's Landmark and Gateway plan. The building stands out for its height at a key junction of the district, standing at 218m tall. URA guided the development to provide an observation deck at the top of the tower, which offers visitors 360-degree views of the city and surrounding district.

*The tree-lined pedestrian mall is the main circulation spine of Orchard Road*





### CONCEPTS EXPLAINED

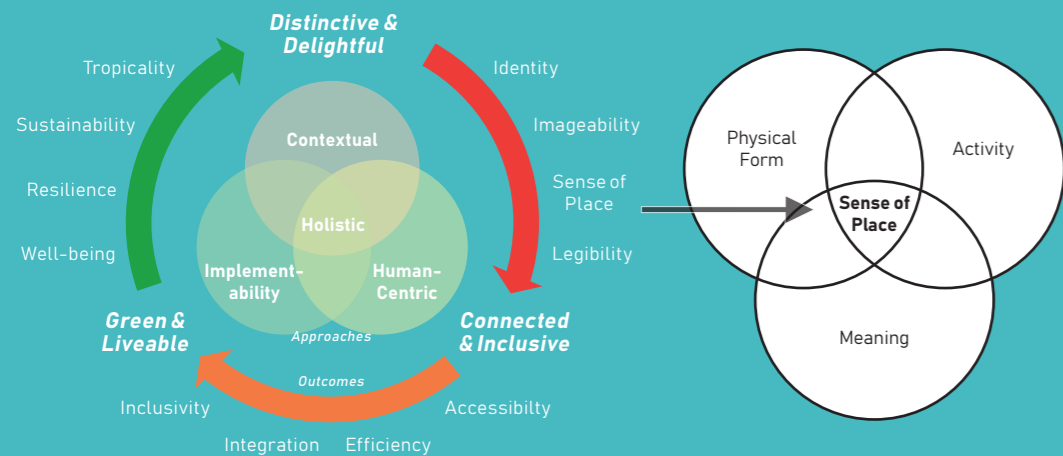
## What is a “sense of place”?

The “sense of place” of a district or area is sometimes called the “genius loci” or “spirit of place” (to use its direct latin translation). It refers to overall atmosphere of a place derived from its physical and non-physical attributes.

Urbanists and theorists have suggested that there are three main factors constituting a sense of place: the physical form of the space, the activities that take place within it and the meaning it represents to the community<sup>3</sup>.

Understanding the concept of a “Sense of Place” is essential to the work of urban design, allowing urban designers to shape and create cherished places in the city.

This concept underpins URA’s strategies in shaping physical places of different scales around Singapore, covering districts, nodes, corridors, streetscapes and public spaces – topics that will be covered in subsequent chapters in this book.



### 1.2.4: Enhance positioning and meaning through placemaking

Placemaking refers to a multi-pronged approach to the planning, design and management of public spaces that seeks to improve the urban vitality of a place. It is usually carried out by either the government or the stakeholders, or both in partnership with each other. It leverages on the community assets, expertise and sense of ownership by activating key public spaces with events and activities, and increasing dwell time and enjoyment of these spaces with public seating, playgrounds, outdoor dining and entertainment and public art. In so doing, people form new memories and attachment to the place.

Placemaking complements urban design efforts by looking at the softer, less-tangible aspects of “place”. It is increasingly practised in cities around the world including Singapore.

**Shape the meaning of places**  
Spaces in the urban environment do not become “places” unless they mean something to people and the community at large. While meanings and associations can be highly subjective, collective impressions of a place can emerge from shared user experiences.

At the Civic District, popular community events like Car-Free Sunday SG and Light to Night Festival have endeared the district to many people who have come to see it as Singapore’s “living room” – a place to gather with friends and family. Many people also use the open spaces within the Civic District for sports and leisure activities, reinforcing its value to the community as a recreational space.

The use of narratives is another strategy to guide positioning for districts and shape meaning. As the reputed landing point of Sir Stamford Raffles and the administrative centre of the British during the colonial era, the Civic District is also perceived as the birthplace of modern Singapore, and functions as its ceremonial heart by continuing to host events like the National Day Parade.

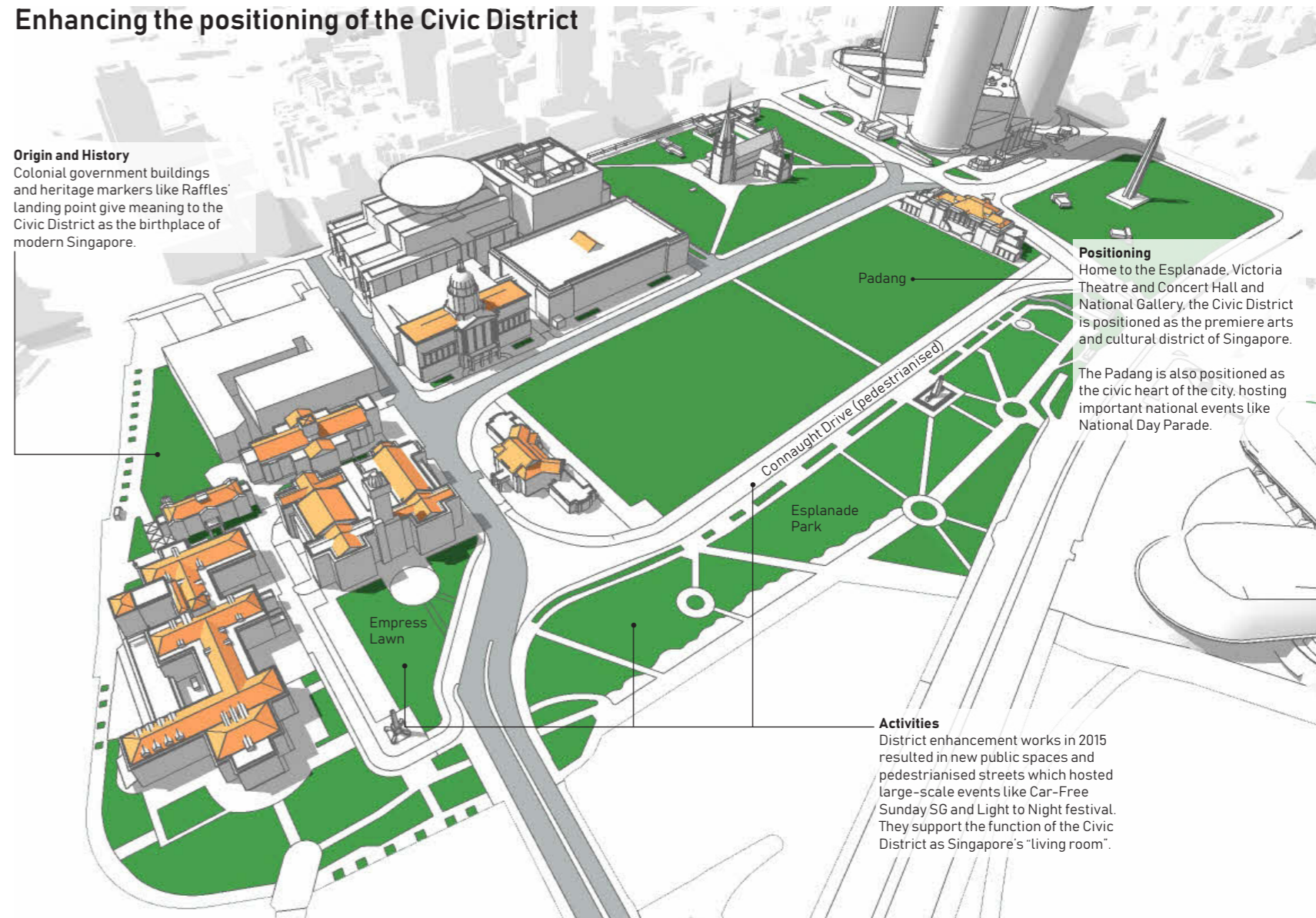
### Enhancing the positioning of the Civic District

**Origin and History**  
Colonial government buildings and heritage markers like Raffles’ landing point give meaning to the Civic District as the birthplace of modern Singapore.

**Positioning**  
Home to the Esplanade, Victoria Theatre and Concert Hall and National Gallery, the Civic District is positioned as the premiere arts and cultural district of Singapore.

The Padang is also positioned as the civic heart of the city, hosting important national events like National Day Parade.

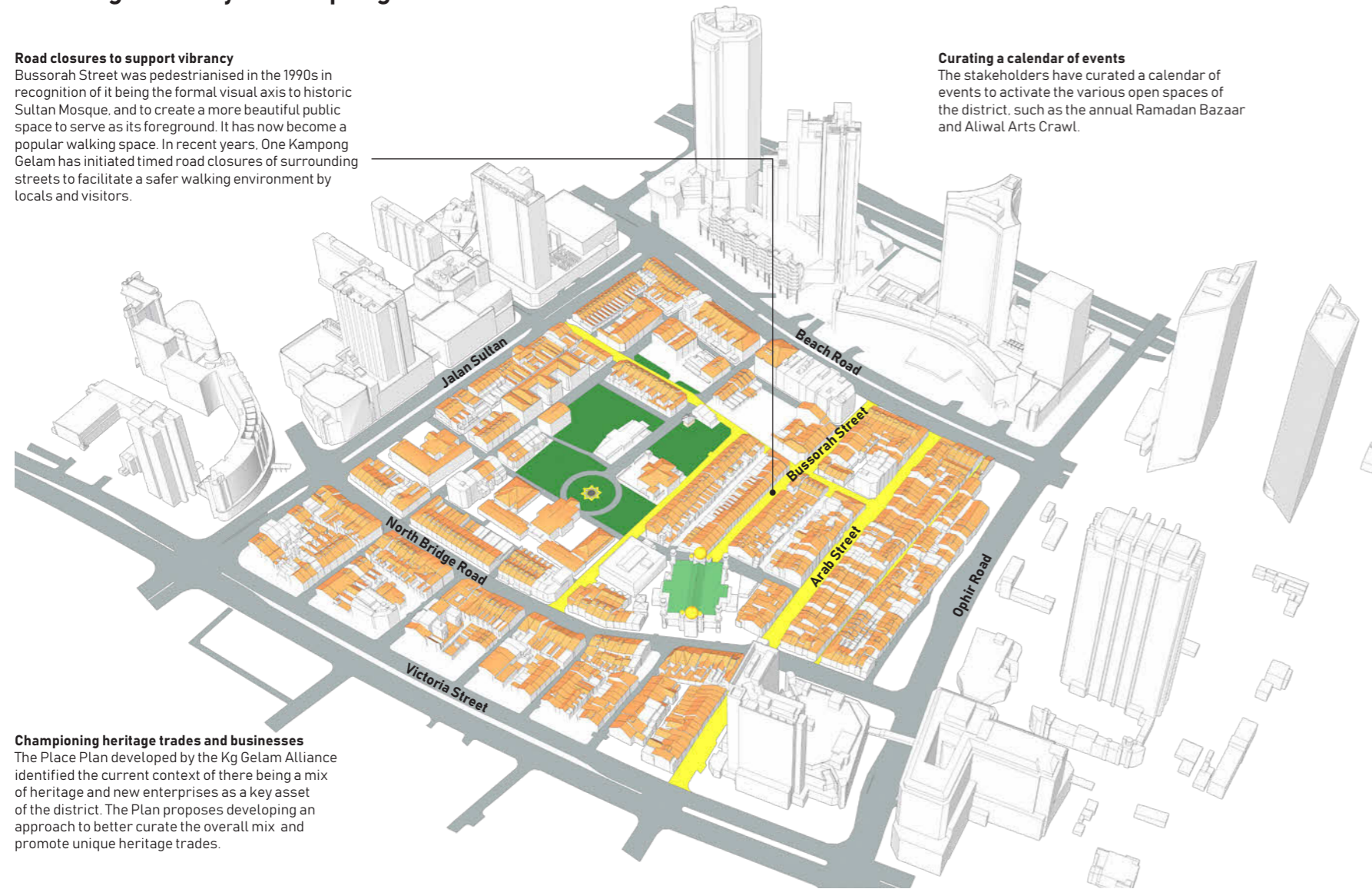
**Activities**  
District enhancement works in 2015 resulted in new public spaces and pedestrianised streets which hosted large-scale events like Car-Free Sunday SG and Light to Night festival. They support the function of the Civic District as Singapore’s “living room”.



## Creating vibrancy at Kampong Gelam

### Road closures to support vibrancy

Bussorah Street was pedestrianised in the 1990s in recognition of it being the formal visual axis to historic Sultan Mosque, and to create a more beautiful public space to serve as its foreground. It has now become a popular walking space. In recent years, One Kampong Gelam has initiated timed road closures of surrounding streets to facilitate a safer walking environment by locals and visitors.



### Curating a calendar of events

The stakeholders have curated a calendar of events to activate the various open spaces of the district, such as the annual Ramadan Bazaar and Aliwal Arts Crawl.

### Championing heritage trades and businesses

The Place Plan developed by the Kg Gelam Alliance identified the current context of there being a mix of heritage and new enterprises as a key asset of the district. The Plan proposes developing an approach to better curate the overall mix and promote unique heritage trades.

## 1.2.5: Work with communities to create activities and vibrancy

Another key outcome of placemaking is the programming and activation of public spaces in the district that is realised with support from the community. In many cases, the local stakeholders come together to organise and plan their own calendar of events.

### Empower stakeholders to take ownership

Through the formation of pilot Business Improvement Districts (BIDs) or other representative associations, stakeholders can be empowered to take ownership of planning their own district activities.

A grounds-up approach in placemaking results in activities that are directly relevant to the community and thus feel more authentic, which is important to help create real emotional connections to places.

Local programming also tends to be more sustainable in the long run, as they typically feature extensions of the day-to-day activities of the local stakeholders.



Local activities organised by the stakeholders of Kampong Gelam

### Enable stakeholders to define their needs

Placemaking is a collaborative effort that brings together government agencies, stakeholders and the general public to make decisions for the common good of the district. It often results in better communication and trust between stakeholders, encouraging them to work together.

It also allows for the alignment of district priorities in a way that does not pit commercial interests against cultural or social values. One example of this is the drafting of core values in the Kampong Gelam Place Plan to help guide commercial activities in a way that respects the district's position as a cultural and social node for the local community.

### Let districts develop their own personality

This allows them to better leave their mark on the district and position the activities that take place so that they reflect the "soul" of the local community.

Creating spaces for management by stakeholders in the district allows for expressions of identity that add colour to the area. These can take the form of outdoor refreshment areas (ORAs) and festive bazaars. Such efforts result in the reflection of personalities and businesses that inhabit the spaces.

### Business Improvement

The pilot Business Improvement Districts (BID) Programme was launched in September 2017. More information may be found at this [link](#).

## CASE STUDY

## What makes Singapore River distinctive?

Singapore River embodies a wide range of strategies URA uses in shaping distinct districts, being a key area for urban design attention since the Central Area Structure Plan was drawn up in 1985<sup>4</sup>.

### Repositioning the river to create value

A key challenge back then was creating new economic value for the river as the Singapore River clean up operations took place between 1977 and 1987 which involved the relocation of pollutive industries and activities out of the area<sup>5</sup>.

This led URA to develop the Singapore River Concept Plan in 1985 which divided the river into three distinct quays with differentiated but complementary positioning that would help drive rejuvenation and attract new uses to the river. The summary of how each quay was positioned is indicated in the overpage.

Urban design efforts often start from the positioning of the district and its sub-districts, to help inform the allowable uses, building forms, public realm design and development approach for each area.

For Singapore River, URA took reference from the unique conditions of each quay, such as land ownership patterns, types of stakeholders and urban condition, including the structures that could be conserved.

### Creating a strong image through geography, heritage and roofscapes

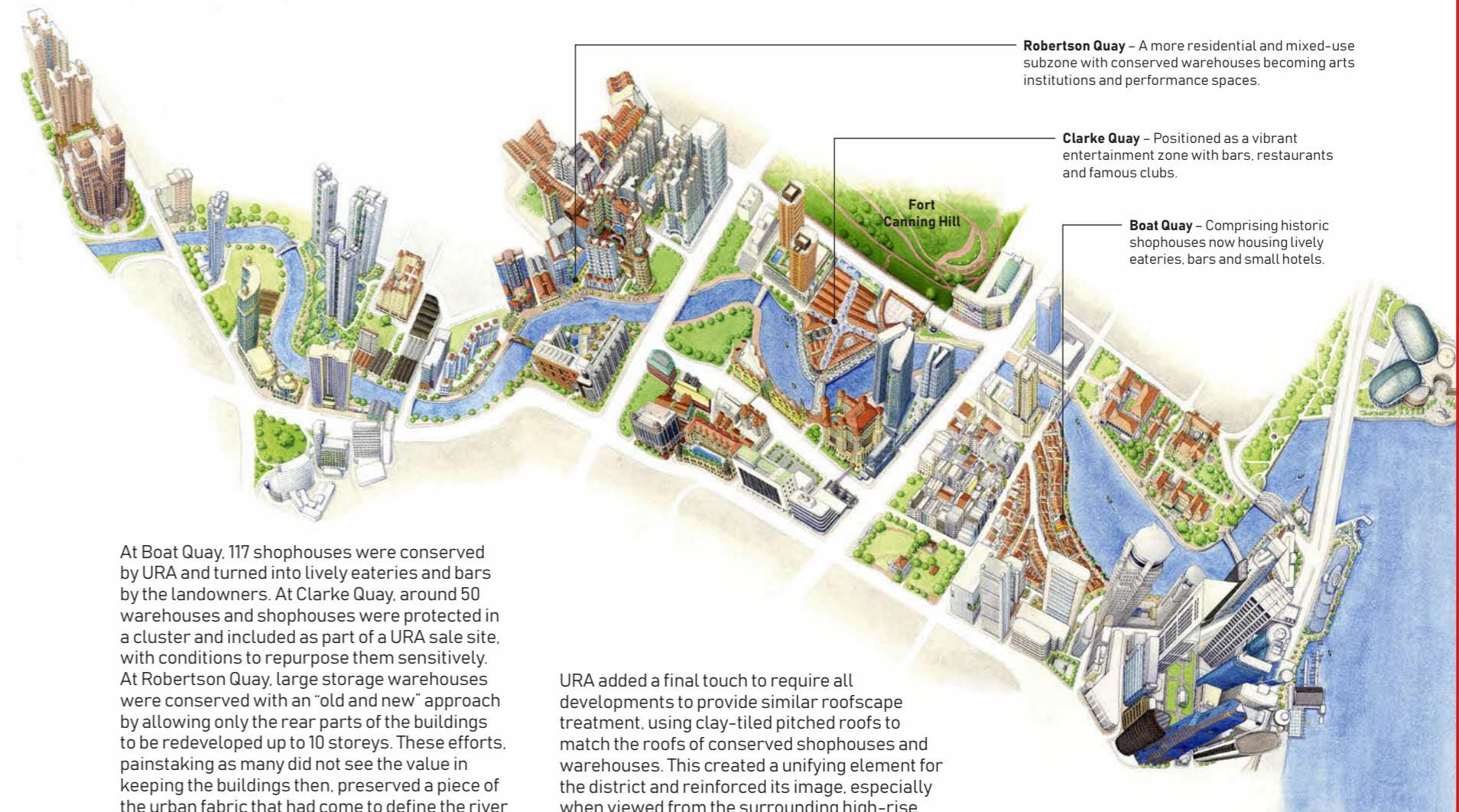
There was a need to enhance the image of Singapore River and coordinate it across the three quays to create a legible whole.

Singapore River was already inherently imageable due to its winding waterway which had been the lifeblood for Singapore since it was a settlement. However high development pressures at the doorstep of the growing Central Business District posed risks of altering the character of the historic river significantly if there was no intervention. For example, the scale of the river would change if all of the developments along it became high-rise.

URA sought to counter this by preserving the historic spatial relationship of the river to its surrounding topography, such as the historically significant Fort Canning hill. This led to the decision to cap the height of new developments to 10 storeys, particularly at Robertson Quay, allowing the hills to remain visible from the river promenade.

The other key element of the river's image were the warehouses and shophouses that supported trading activities for many years. Retaining them in the urban fabric would allow the district to retain a visual and physical connection to its past.

## A distinctive river with three imageable quays



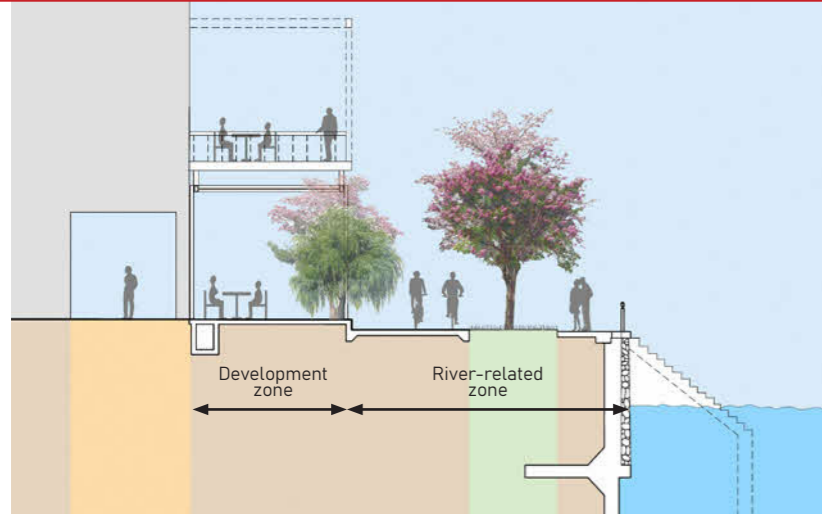
**Robertson Quay** – A more residential and mixed-use subzone with conserved warehouses becoming arts institutions and performance spaces.

**Clarke Quay** – Positioned as a vibrant entertainment zone with bars, restaurants and famous clubs.

**Boat Quay** – Comprising historic shophouses now housing lively eateries, bars and small hotels.

At Boat Quay, 117 shophouses were conserved by URA and turned into lively eateries and bars by the landowners. At Clarke Quay, around 50 warehouses and shophouses were protected in a cluster and included as part of a URA sale site, with conditions to repurpose them sensitively. At Robertson Quay, large storage warehouses were conserved with an “old and new” approach by allowing only the rear parts of the buildings to be redeveloped up to 10 storeys. These efforts, painstaking as many did not see the value in keeping the buildings then, preserved a piece of the urban fabric that had come to define the river for generations.

URA added a final touch to require all developments to provide similar roofscape treatment, using clay-tiled pitched roofs to match the roofs of conserved shophouses and warehouses. This created a unifying element for the district and reinforced its image, especially when viewed from the surrounding high-rise developments of the CBD and River Valley.



Singapore River Promenade Design Guidelines



River and development zones within the 15m wide river promenade space

### Creating legibility and structure around the promenade

To create a clear sense of structure and wayfinding along Singapore River, URA focused on the iconic waterway to organise circulation for the larger district, turning the former service roads along the river into 15m wide promenades that ran for 3km on both sides of the river. Smaller walking streets and pedestrian malls branching off from the river would add experiential depth to the district. The promenade works were completed in several phases starting from 1986 until 1997, involving public and private sector involvement.

Detailed design guidelines were developed to create a clear identity for the promenade, standardising elements such as the walkway widths, lamp posts and street furniture, while catering for contextual responses to the three quays in the form of paving materials, landscaping palette and riverbank treatment.

To organise movement and activities along the 15m wide promenade, URA divided it into two zones. The wider river-related zone contained a continuous 4m wide walkway for unimpeded movement, as well as two rows of planting for shade. The narrower development zone was customisable by the adjoining developments, many of which were turned into unique patios and dining areas.

Landscaping along the river focused on reinforcing the tropical identity of Singapore by selecting primarily native species. There was a conscious effort to differentiate landscaping outcomes for each of the three quays to distinguish their character. For example, flowering Trumpet Trees were chosen for Robertson Quay to add a splash of colour for the primarily residential subzone. More details on the landscaping strategies for Singapore River are covered in the chapter on landscaped waterways in the "Green and Liveable" book.

Finally, to sharpen the legibility of Singapore River, URA introduced landmark developments at prominent sites along the river bends, and worked with developers to ensure distinctive design outcomes while allowing taller heights so that they would stand out in the skyline. These would contribute to orientation and wayfinding at different scales of the city.

Walking along the river, one was able to situate oneself within one of the quays by referencing the landmarks at street level. Seen from further away in the city, people could also use them to locate Singapore River amid other developments in the city centre.

#### Singapore River Promenade Design Guidelines

The promenade guidelines provide information on landscaping, paving materials and riverbank treatment, among other elements. The guidelines may be found at this [link](#).



Boat Quay – civic district and shophouses



Clarke Quay – entertainment uses and night life



Robertson Quay – residential, hotel and arts uses

### Shaping activities to reinforce positioning of the river

Creating a "sense of place" is not complete until one has considered the other aspects of "place", such as its activities and meaning to the community. In this case, they were mutually reinforcing – with the allowable land uses along Singapore River closely relating to the positioning of each subzone.

The positioning took cues from the Central Area Structure Plan which identified the intention for a mix of uses along Singapore River, to create the transition from the commercial CBD to the residential suburbs of River Valley. A gradation from active to more passive uses was envisioned as one journeyed upriver, with lively bars and eateries at Boat Quay, entertainment uses at Clarke Quay, to residential and hotel uses in Robertson Quay.

URA shapes the land uses through its land sale conditions and regulates change of use applications to ensure that the use mix aligns with the vision for Singapore River. For certain sale sites, URA also evaluates the proposed design and business concept to ensure that they are aligned with the planning intention, such as for the Clarke Quay Festival Village sale site (today known as CQ @ Clarke Quay), which was intended as a "bustling entertainment and commercial hub", a positioning that has carried through in subsequent rejuvenation efforts for the development.

To maintain vibrancy along the river edge, URA also introduced mandatory activity generating uses (AGU) along the 1st storey of all developments fronting the river. Some of these AGUs were extended along the walking streets branching off from the river, to create interesting pockets of discovery further inland.

### Working with stakeholders to take vibrancy to the next step

Moving beyond the physical development of Singapore River, the next step was to take a collaborative approach with stakeholders to develop placemaking outcomes for the river that would enforce the sense of place.

URA worked with the stakeholders to come together to form Singapore River One as a company limited by guarantee in 2012 to undertake place management and placemaking for the district. Since its inception, it has spearheaded a number of initiatives that have strengthened the image and identity of the district in a ground-up approach.



Before – unkempt ORAs and aggressive touting



After – refreshed ORAs with views of the river opened up



Underpass murals along Singapore River

### Revamp of the Boat Quay ORAs

One key project SRO undertook was galvanising the stakeholders to support URA in revamping the outdoor refreshment areas (ORAs) along Boat Quay. The stakeholders had made a proposal to URA to revamp the promenade and ORA structures which had become unsightly due to adhoc additions by different tenants over time. SRO rallied its members along the river to support the works without which it would have been difficult for implementation works to proceed without causing unwelcome disruption to business activities.

SRO and URA engaged the stakeholders over a three month period, leading to improvements to the design of the ORA structures such as incorporating space for signs and menu boards to reduce clutter along the walkways. Retractable canopies were also incorporated to provide protection from the rain, while beams were added

to allow for the mounting of lights and fans. One positive outcome from the exercise was helping the rivalling businesses find common ground and shared purpose in lifting the prospects of Boat Quay as a whole.

Other initiatives led by SRO included regular weekend closures of Circular Road, which contained many restaurants and bars, to support the vibrancy of the street and eliminate pedestrian – traffic conflicts.

SRO also introduced art murals at the underpasses linking sections of the river promenade together, to make the connections between the quays more interesting and help tell the story of the river's history through artwork, akin to the concept of an open museum.

### From urban design to placemaking

The success of Singapore River illustrates the role of urban design in creating unique districts that add colour to Singapore's cityscape. By looking at many factors that contribute to the sense of place at different levels, from building form, public realm, activities, positioning efforts, etc, urban design shapes the comprehensive environment and atmosphere of place, leading to distinctive outcomes.

With growing understanding on the role of placemaking and the collaborative approaches that lead to lasting change, URA has also pivoted from a top-down approach to working with stakeholders to shape the sense of place for Singapore River. This marks an exciting new chapter for our planners and urban designers as a collaborative discipline in Singapore – both for URA and across the profession as a whole.

### BEHIND THE SCENES

## Urban design and placemaking for Singapore River

*Kimmy Cheung was the architect and planner of Singapore River from 2003 to 2013. Lin Yanling was a place manager at URA from 2009 to 2016. They share more on their work and experiences in shaping a sense of place and distinctive outcomes for Singapore River.*



### What were some interesting experiences you had working with the stakeholders of Singapore River?

**Kimmy:** I remember the instance when I had to convince some building owners at Robertson Quay to put ORAs in front of their development fronting the promenade and explaining to them how attractive it would be. That was in around 2005 and they thought only a place like Boat Quay would be popular – this was when I was a very new architect at URA!

Being the planner / architect for the area, I believe in walking the ground. So, every Friday evening after work, I took walks along different parts of the river and suggested to friends to meet and dine at the F&B establishments. That went on for many years until URA decided to expand its place management effort to Singapore River, with Yanling and team on board.

**Yanling:** One of the most memorable projects for me was working with the stakeholders to eliminate touting and overcharging at Boat Quay. Stakeholders, government agencies and partners came together to launch 'A Better Singapore River' campaign in December 2011, encouraging Boat Quay tenants to sign pledges to adopt good business practices. Hotels helped to market the efforts and agencies carried out regular patrols to warn businesses against these activities.

The campaign was successful, and the area eventually regained its popularity as a dining destination. Through the process, we gained the stakeholders' trust, and this paved the way for partnership in more placemaking projects for Singapore River, and the eventual formation of the private sector-led placemaking partnership, Singapore River One in 2012.

### How does empowering local stakeholders to take on placemaking in a district like Singapore River lead to more authentic and sustainable outcomes?

**Yanling:** There is an evergreen saying in placemaking that "the community knows best". The precinct is a better place when it is shaped by its community as a collective. This not only builds a sense of connection between the people and their place, but also makes the precinct authentic. It also creates a niche and competitive edge for the area where stakeholders can enjoy, sustain and grow their investments.

### What do you think is the future of placemaking in Singapore?

**Yanling:** Singapore has a lot of good quality public spaces. The future of placemaking is to involve the community more and at the start of the design of these public spaces to create places that are meaningful to them. In doing so, we build a sense of ownership and localism in the neighbourhood. It strengthens the social capital and resilience in the neighbourhood.

To achieve this, time should be invested on the ground in listening to the needs of the community, and at the same time, verifying them through data analysis. Attention should be paid in identifying opportunities to connect the dots, creating partnerships where the community can participate in spatial planning. After all, the neighbourhood should serve the locals first.

The longer version of this interview can be found at this [link](#).



# 1.3

## IDENTITY NODES & CORRIDORS

Various places in the city have special charm and character that should be retained. Many of these have been earmarked as identity nodes and corridors around the island for urban design attention.



"Old World Charm" nodes



Urban villages around scenic greenery



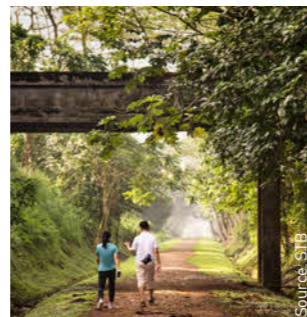
Hillside villages and the Southern Ridges



Rustic Coast nodes



Historic East Corridor



Rail Corridor



Kallang River Corridor



North South Corridor

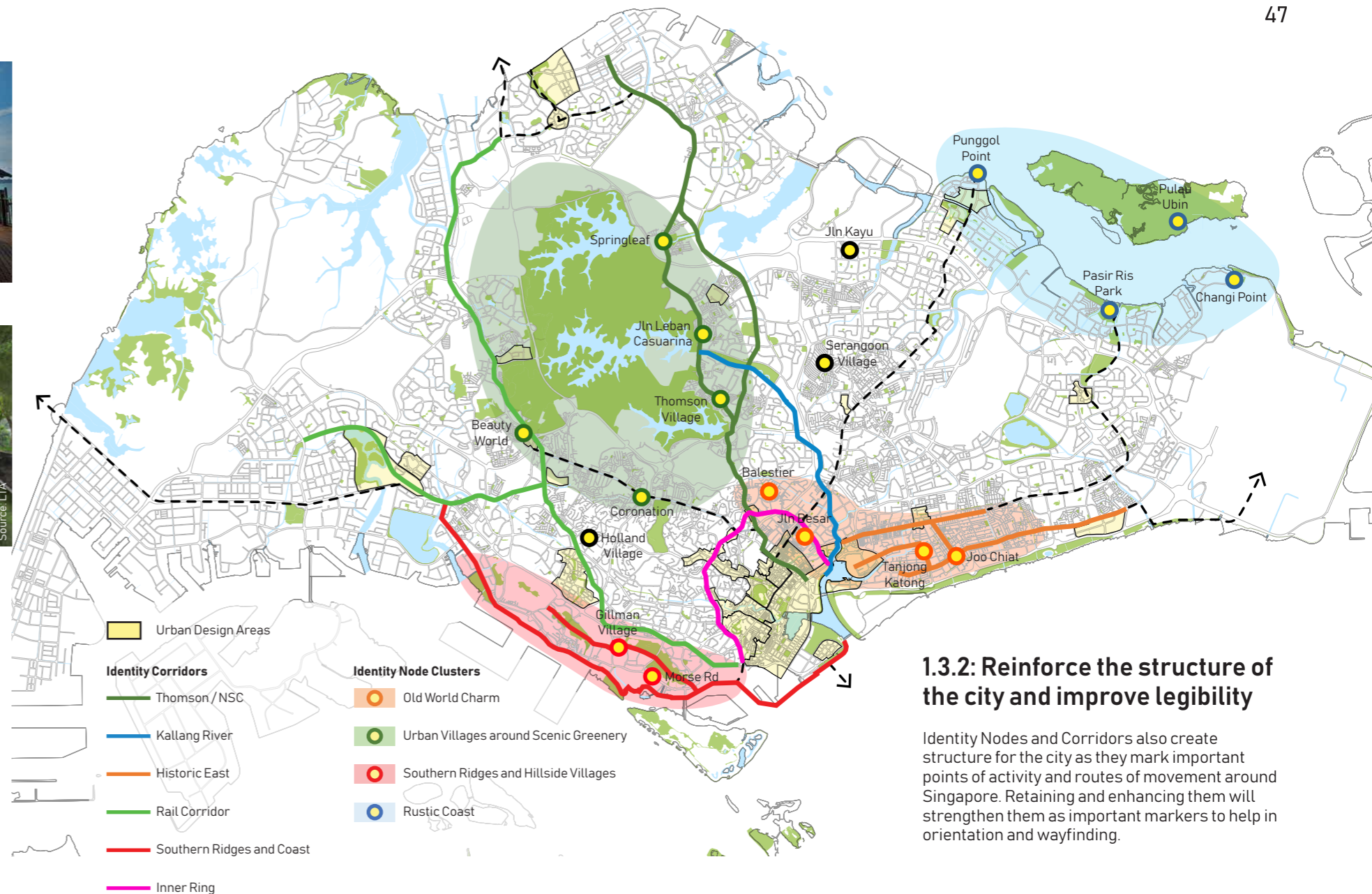
### Why are identity nodes and corridors important?

#### 1.3.1: Retain cherished places that keep the city familiar

Various places in the city have a special sense of place that people feel emotionally connected to due to their unique setting, history and sense of place.

These places may include familiar neighbourhoods or streets with unique offerings – old trades, famous eateries, places of worship, etc.

It is important to recognise them as repositories of our collective memories given that much of Singapore's physical landscape has changed with development. Retaining and enhancing these identity nodes will allow the social, culture and economic bonds to continue to thrive and remain relevant, while serving as markers in time and space.

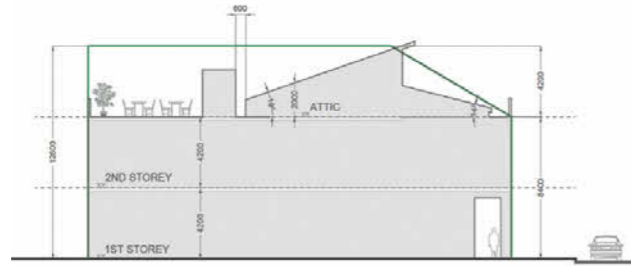


#### 1.3.2: Reinforce the structure of the city and improve legibility

Identity Nodes and Corridors also create structure for the city as they mark important points of activity and routes of movement around Singapore. Retaining and enhancing them will strengthen them as important markers to help in orientation and wayfinding.

#### Street Block Plan for Holland Village

The mandatory building typology allowed in Holland Village is maximum 3-storey developments with double-pitched roofs, to preserve its familiar identity.



### How does URA shape identity nodes and corridors in the city?

#### 1.3.3: Take a holistic approach to enhance identity

Prior to the Identity Study in 2003, URA mainly addressed the issue of identity through the conservation of buildings. While some of the buildings in these nodes do not merit conservation, their unique form, use, social memory, culture and history has contributed to the sense of local identity. Hence, urban design and development control guidelines are developed to retain and enhance these qualities over time, with environment enhancement works undertaken where needed. A similarly holistic approach is being taken for the various Identity Corridors identified in the 2022 Long Term Plan Review.

#### Supporting existing uses and activities

The existing uses and activities along nodes and corridors have made significant contribution to their place character. URA looks at introducing the right zoning to allow these activities to continue, such as stipulating 1st storey commercial activities in areas like Tanjong Katong Road and Jalan Besar. Where there are vacant parcels for development, URA also seeks to introduce new uses that would complement the node or corridor's positioning and vibrancy. For example, a hotel was introduced along Balestier to bring in sustainable tourism that would help support the heritage trades.

#### Improve environment quality through urban design

As many nodes and corridors have an older urban fabric, urban design efforts focus on environment improvement projects that can enhance the sense of place. These can range from road sidetable improvement projects to the creation of public spaces and pedestrian malls. Some examples of these will be covered later in this chapter.

Another aspect urban design looks at is shaping new developments so that their form and massing is compatible with the identity nodes and corridors, especially around low-rise buildings.

For example, new infill buildings at Holland Village are capped at three storeys in height and required to provide pitched or clerestory roofs to maintain the familiar form of development.

For new development sites adjacent to Identity Nodes at Thomson Village and Balestier Road, their development frontage is capped at 2-4 storeys to match the low-rise context of the nodes. At Balestier, these new developments are allowed to step up to 6 and 36 storeys further away from the street.

**Street block controls for Thomson Village**  
Buildings within this Identity Node are capped at 2-storeys while developments adjacent to the node are capped at 4-storeys to preserve the sense of scale of the village

#### Conservation with an old and new approach

Over 500 shophouses were earmarked for conservation in the 2003 Identity Study, recognising that they were integral to the character of these areas.

However, conservation did not mean totally freezing the development potential of these properties. URA adopted an "old and new" approach where the front of the shophouses were to be kept while the rear could be built up to achieve the development potential of the site, ranging from 4 storeys at Tanjong Katong to 6 storeys at Jalan Besar.

#### Street Block Plans

URA's Street Block Plans stipulate building envelope and urban design parameters for selected street blocks island-wide, including Identity Nodes. They can be found at this [link](#).

### 1.3.4: Enhance connectivity and accessibility for more people to enjoy them

#### Support active mobility outcomes

Another key priority for URA is improving connectivity and accessibility so that more people can reach the nodes and corridors easily as part of their daily routines and community and social life.

Along some Identity Corridors, government agencies are prioritising the creation of active mobility infrastructure and public transit improvements to make them more accessible. This is in line with the intention to help Singapore become a more car-lite city.

For example, the Bishan to City cycling route along Kallang River can reduce cycling time from Bishan to the CBD to only 30 minutes. The North-South Corridor (NSC) will also be transformed into an “integrated mobility corridor” prioritising cycling and public transit.

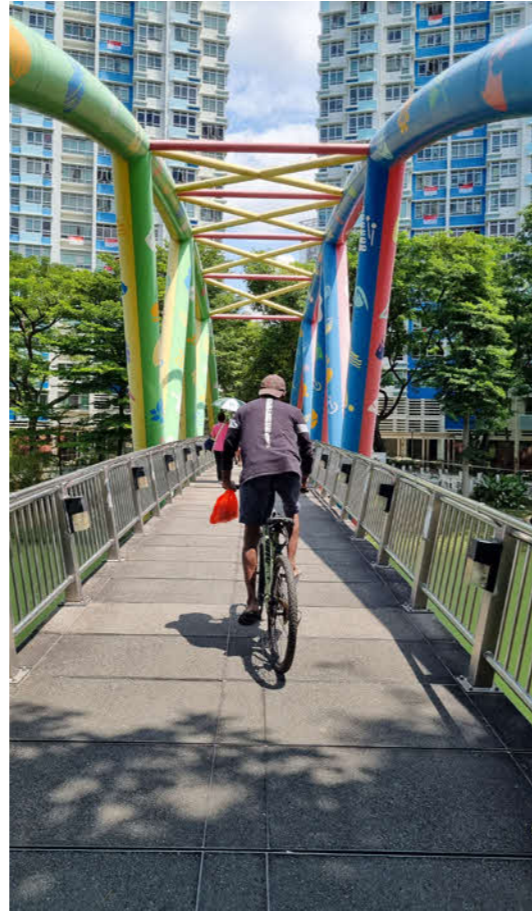
#### Create access points

Some of the Identity Corridors have been inaccessible to the public over a long period of time. The Rail Corridor was a backyard to developments during much of its 108 years of operation as an active train line. Many parts of Kallang River are also still legacy back-of-house areas for factories and depots despite various enhancement efforts over the years under PUB’s Active, Beautiful and Clean (ABC) waters programme.

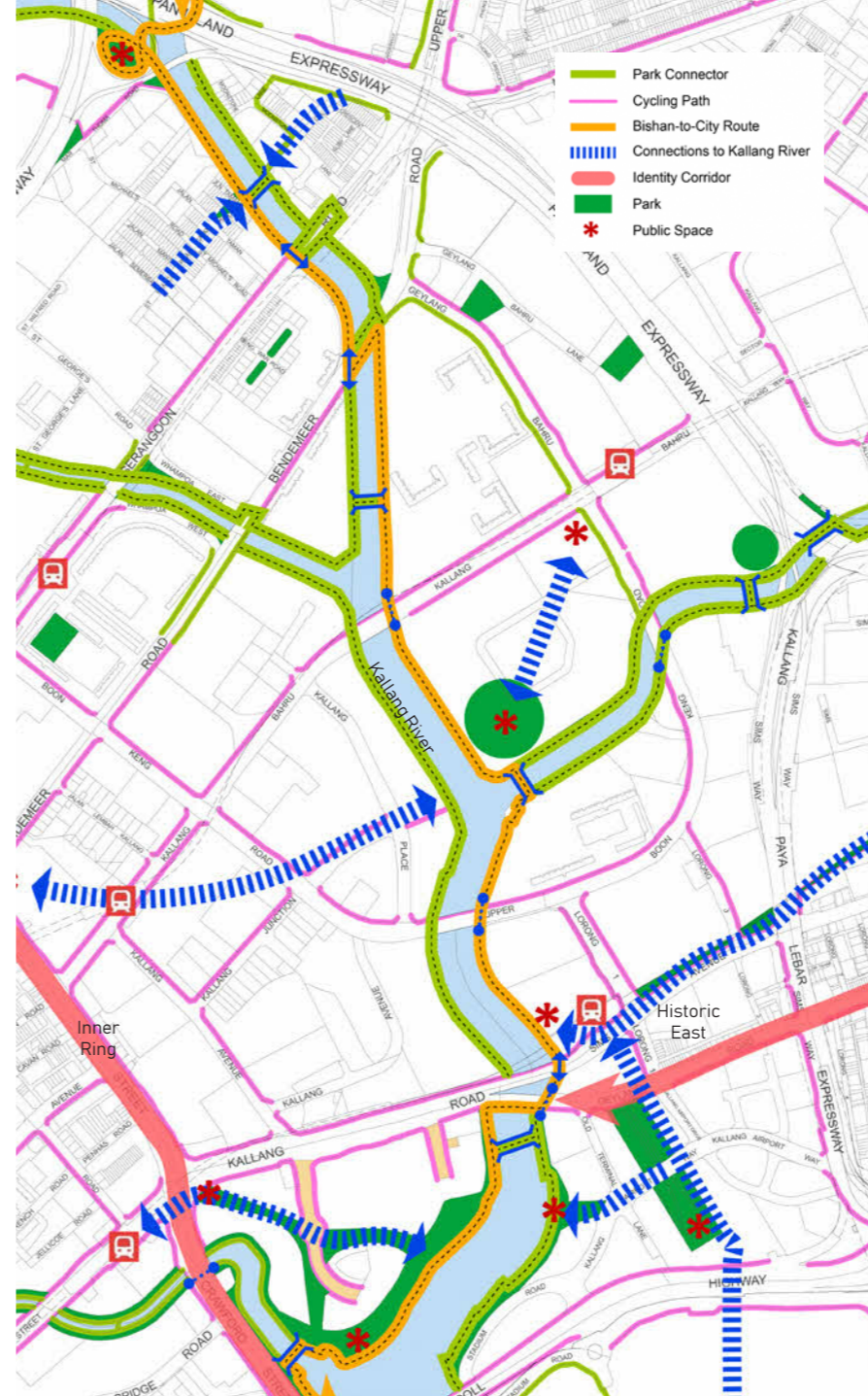
To improve access to the corridors and reconnect adjacent communities to them, government agencies are systematically creating new points of entry into the corridors in the form of stairways, ramps, bridges and even small parklets.

Along the NSC, plans for multiple nodes are being developed in consultation with communities along the corridor. Along the Rail Corridor, multiple access points and community spaces have already been completed such as at Hillview, Buona Vista and Bukit Timah Railway Station.

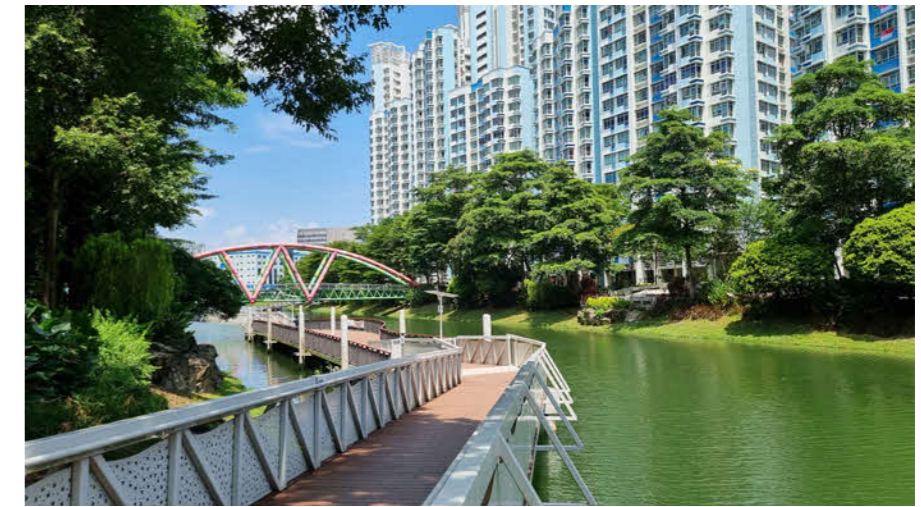
The illustration in the overpage outlines accessibility enhancements for Kallang River under study, covering the new Bishan to City cycling route, potential new pedestrian links, bridges and access parks along the river.



Seamless cycling spaces along Kallang River



Water activities along Kallang River



Waterfront boardwalks to bring people closer to water



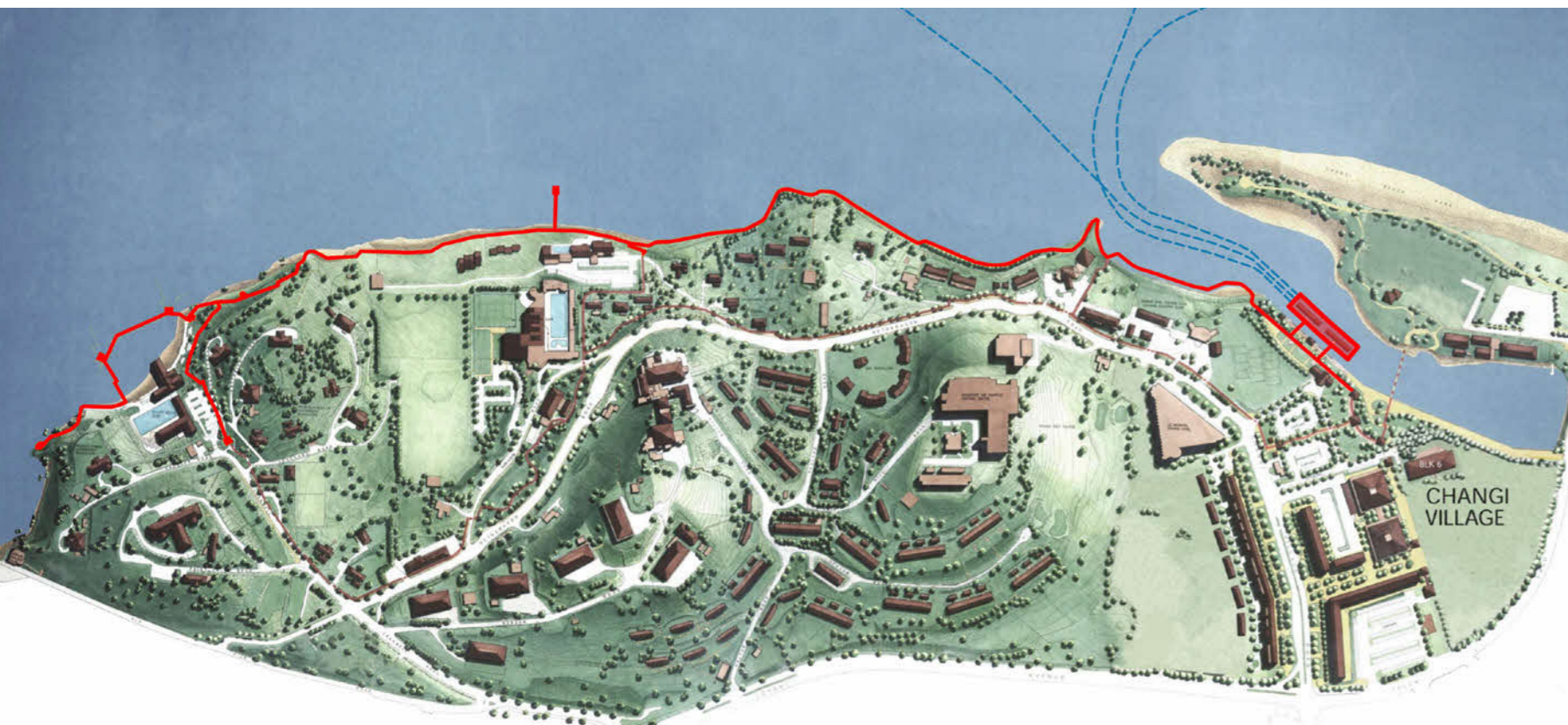
Changi Boardwalk

### 1.3.5: Create gathering spaces and reasons for people to linger

#### Create new public spaces

A finishing touch is the creation of public spaces with a strong sense of place to anchor the identity of each node and corridor. URA's efforts over the years have resulted in an array of plazas, parks, boardwalks and promenades being created across the Identity Nodes following the 2003 Identity Plan. URA identifies sites with strong significance to ensure that the public spaces will succeed in capturing the essence of the nodes.

These are either sites next to prominent landmarks – like Zhongshan Park next to the Sun Yat Sen Memorial Hall (which will be covered at the end of this book), or sites with commanding views of their surroundings, like at Changi Point and Punggol Point, where URA created waterfront promenades. These sites are chosen because they connect the people to the story of the nodes in a very elemental way, with views of the natural assets and through the creation of experiential journeys.



Punggol Promenade public space

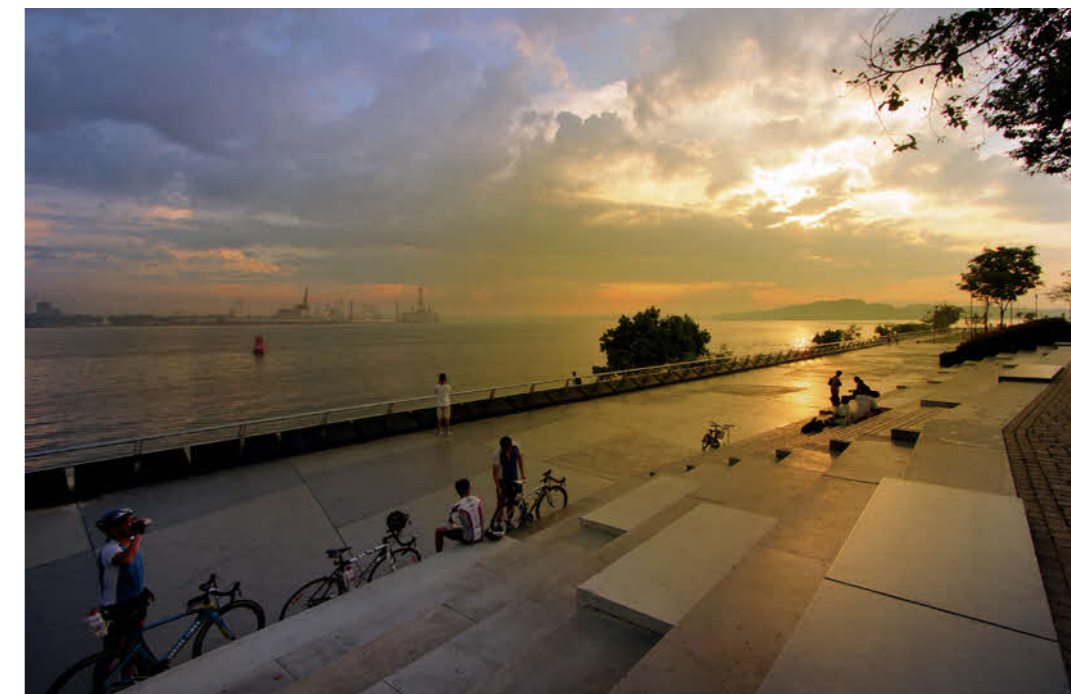
Source: LOOK Architects

#### Tap on the power of design

URA also uses a variety of implementation approaches to ensure strong design outcomes. Design competitions have been used for some projects, e.g. Henderson Waves and Alexandra Arch at the Southern Ridges (which will be covered in the "Green and Liveable" book). URA also undertook the design of some of these spaces such as at Changi Point. Private sector firms were also enlisted for some nodes, e.g. Look Architects Pte Ltd for Punggol Point and Labrador Nature and Coastal Walk. They were able to shape design strategies that leveraged on the qualities of the site to create memorable experiences.



Source: LOOK Architects



Public space design to strengthen sense of place

Source: Choo Meng Foo (photographer) & LOOK Architects

## CASE STUDY

## How can identity be retained without limiting development?

### Balestier Identity Node

Balestier presents an interesting case study as an Identity Node that exemplified one of the central themes of the 2003 Identity Plan study – the need to balance development needs while enhancing the identity of place.

Around the time the study was initiated, many of the older buildings, particularly on the north side of Balestier Road, had already been redeveloped into malls and apartments. URA was concerned that redevelopment of the remaining shophouses would prove an irreversible loss to the node's character. However it was not palatable to deny the land owners the right to achieve their full development potential.

### An "old and new" conservation approach was needed

Taking reference to the conservation approach for Secondary Settlements developed in the early 1990s, URA put forward an "old and new" conservation approach – meaning to only retain the front half of the shophouses while allowing new extensions at the rear. This would allow the area to continue to evolve to meet new lifestyle and business needs while maintaining a sense of continuity from the past.



Mix of old and new along Balestier Road

### Working with focus groups

URA consulted the stakeholders of Balestier to seek their inputs on the proposed approach, seeing as conservation carried inherent costs even when overall development potential was not affected. URA and MND also appointed Subject Groups, comprising professionals and interest group representatives, to help with the study and public engagement efforts, so that their expert opinions could be considered.

The Subject Group for "Old World Charm" Identity Nodes (including Balestier) comprised representatives from the Conservation Advisory Panel, Singapore Institute of Architects, National University of Singapore and Singapore Heritage Society, to name a few. They conducted site visits, reviewed URA's proposals and helped facilitate local stakeholder engagement sessions.

The public feedback was encouraging – 95% of respondents supported conserving the various shophouses and old buildings in the Old World Charm nodes. On the method of conservation, 36% did feel that the shophouses should be conserved in full, but the remaining respondents supported the "old and new" approach put forward.

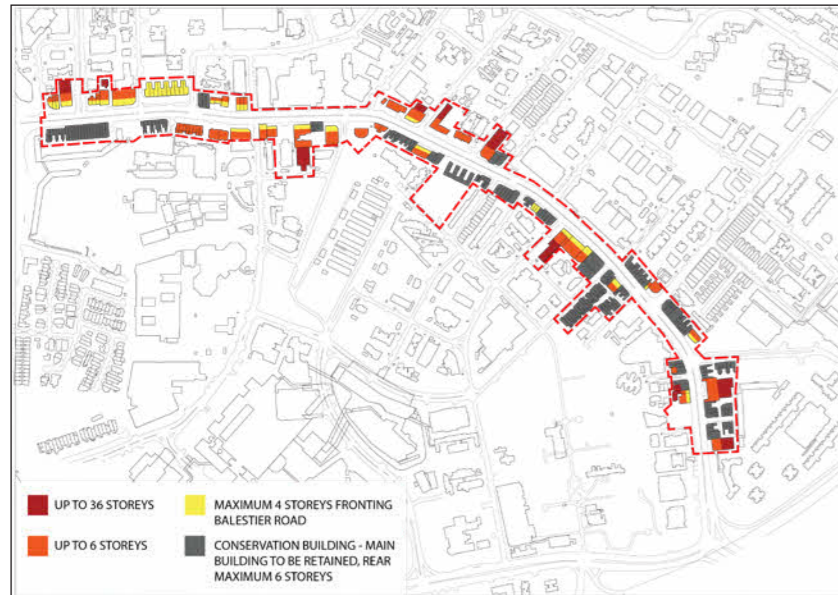
Another point of public feedback was that 87% of respondents felt that more should be done to retain historic trades and businesses that gave character to the area, such as the "tau sar piah" bakeries and lighting shops that people associated with Balestier. 20 years on, the retention of the fine-grain buildings seem to have facilitated the retention of these characteristic uses which members of the public continue to value highly.



New developments allowed to step up to 6 and 36 storeys further away from the street.

Front sections of shophouses retained using "old and new" conservation approach. The rear is allowed to be rebuilt up to 6 storeys.

Frontages of new developments are capped at 4 storeys to be compatible with nearby shophouses.



### Ensuring new developments stay sensitive to the street

As more than half of the developments along the street were not shophouses, URA introduced building height guidelines for these sites to ensure that they would be compatible with the conserved properties, allowing the overall scale of the street and its sense of place to be maintained.

These sites were limited to a height of 4 storeys fronting the road for a depth of minimally 7.5m (or to match the depth of adjacent conserved shophouses). Further behind, they were also allowed to step up to 6 storeys – for a depth up to the rear extension of adjacent conserved properties. Beyond that, these properties could go up to 36 storeys high.

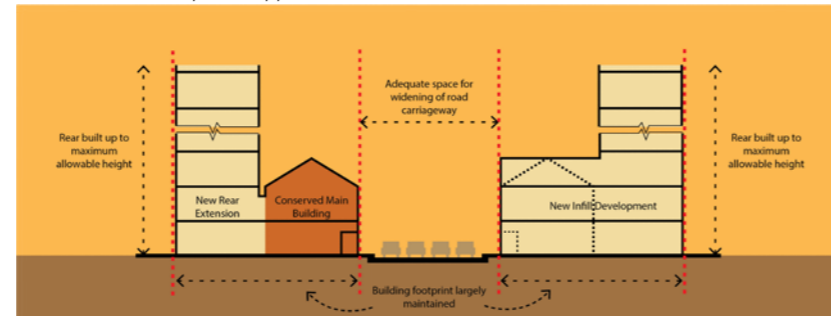
### Working on the rest of the streetscape elements

Another challenge brought about by the conservation of the shophouses was limiting available land area to build underground or multi-storey car parks to serve the developments. URA worked with LTA to review standard carparking requirements for the parts of the development that were conserved, otherwise it would have been too challenging to meet the full parking standards.

URA also worked with LTA to review standard road side table and road width design standards to accommodate the conserved shophouses.

Through various strategies, the streetscape and character of Balestier was largely preserved while allowing the node to continue to evolve with the times.

Old and new development approach



### An open space that would anchor a piece of history along Balestier

As a final touch, URA created a sizeable park and open space within a 1.77ha hotel sale site near the centre of Balestier Road, which would become a focal point and gathering space for stakeholders of the area.

It retained and enhanced the physical and visual access to properties further away from the main road, including the Sun Yat Sen Memorial Hall along Ah Hood Road, which had been the headquarters of Chinese revolutionary activities in the early 1900s and connected Balestier to a unique piece of local and regional history. As the park had to respond to the unique cultural and historical context of the site, URA undertook a number of strategies to guide its design. These will be covered at the end of this book.

## BEHIND THE SCENES

### Working with community to shape identity in Balestier

*Kelvin Ang was an architect at URA in the Urban Design department when he worked on plans for Balestier node in the early 2000s, as part of the larger Identity Node study. He shares insights on the process of piecing together the plans for Balestier.*

#### How would the plans for Balestier have turned out differently if the Identity Node Study did not materialise?

**Kelvin:** Today, we know Balestier Road for its conserved shophouses, eateries, lighting shops and high-rise condos forming the backdrop to a historic street. It probably would have turned out very differently if the Identity Node study did not take place.

The 'Old World Charm' Identity Node study created a platform for the public to express their views about the subject of 'local, Singapore identity being retained through keeping old shophouses, and for URA to be able to test ideas on how to go about achieving this via an approach where we 'optimise' an area's potential in a more holistic way.

This requires considerations to balance out the concerns of building owners, long term national interest and the need by the community to have a place that they can always recognise as their own in the decades ahead.



Subject Group visits and stakeholder dialogues as part of the Identity Node study for Balestier



#### The identity of a place is often not easy to define or influence. How does URA determine the right strategies to preserve the character of an area?

**Kelvin:** It varies depending on the context – for example if you look at the position of Orchard Road versus the position of Balestier Road then the strategies will be quite different.

We have a more sophisticated system now that is tied to an evolving understanding of how planning facilitates some kinds of cultural outcome of the city. So for me it is very clear that as planners, while we cannot control everything on our own but through conversations with stakeholders, I can encourage them to keep the ownership of the shophouses just a bit more diverse, slow down the change of hands for shophouses by a step, and provide a better chance for old trades to stay and to have time to discover a way to sustain themselves.

#### How is URA continuing to have these conversations to support placemaking and identity?

**Kelvin:** Since 2000, we have as a whole, continued to develop our engagement with various sectors of Singapore to arrive at more optimal outcomes. Hard decisions still have to be made, but they are informed by better knowledge.

For conservation, we started off with forming the Conservation Advisory Panel and this has since transformed into the Heritage & Identity Partnership – HIP – which now gives inputs not so much on what buildings have to be conserved, but more importantly, what are the various ways we should collectively deploy to protect, sustain and develop both the heritage that we have inherited, but also the identity that can be created or enhanced for the future.

The full version of this interview can be found at this [link](#).



# 1.4

## LANDMARKS & GATEWAYS

Landmarks and gateways strengthen the legibility of the city structure by acting as wayfinding elements in the city. URA is selective of sites that can be designated as landmarks – focusing on those that have strategic locations, such as at major junctions and at key arrival points into the city centre.



The Gateway, Pei Cobb Freed & Partners Architects LLP



The State Courts Towers, Serie + Multiply Consultants Pte Ltd in collaboration with CPG Consultants Pte Ltd

### Why are landmarks and gateways needed in the city?

#### 1.4.1: Provide orientation, strengthen image and legibility

Landmarks and gateways are objects that stand out in the cityscape, by virtue of their height, scale, location, architectural design or historical significance. They form reference points in the city for orientation and wayfinding and have been described as important elements in the cognitive map of the city.

View corridors and vantage points are supporting elements that enhance the legibility of the city.

being features that people also use to orientate themselves in the city.

Landmarks and gateways also have the potential to raise the profile of the city, especially when well-designed. Much has been said about the “Bilbao effect” – where the confluence of a landmark development and cultural investment transformed the port town into a world-class destination<sup>6</sup>.

When URA developed the Landmark and Gateway Plan in 2001, the team positioned it as one of the strategies to elevate the architecture and urban design excellence of the city.

### How does URA plan and realise landmarks and gateways in the city?

#### 1.4.2: Mark prominent sites in the city

In recognition of the rigour required to design and develop them, only strategic sites in the city are designated as landmark and gateway sites. Together with view corridors, sites are carefully identified to improve the legibility of the city structure.

##### Landmarks

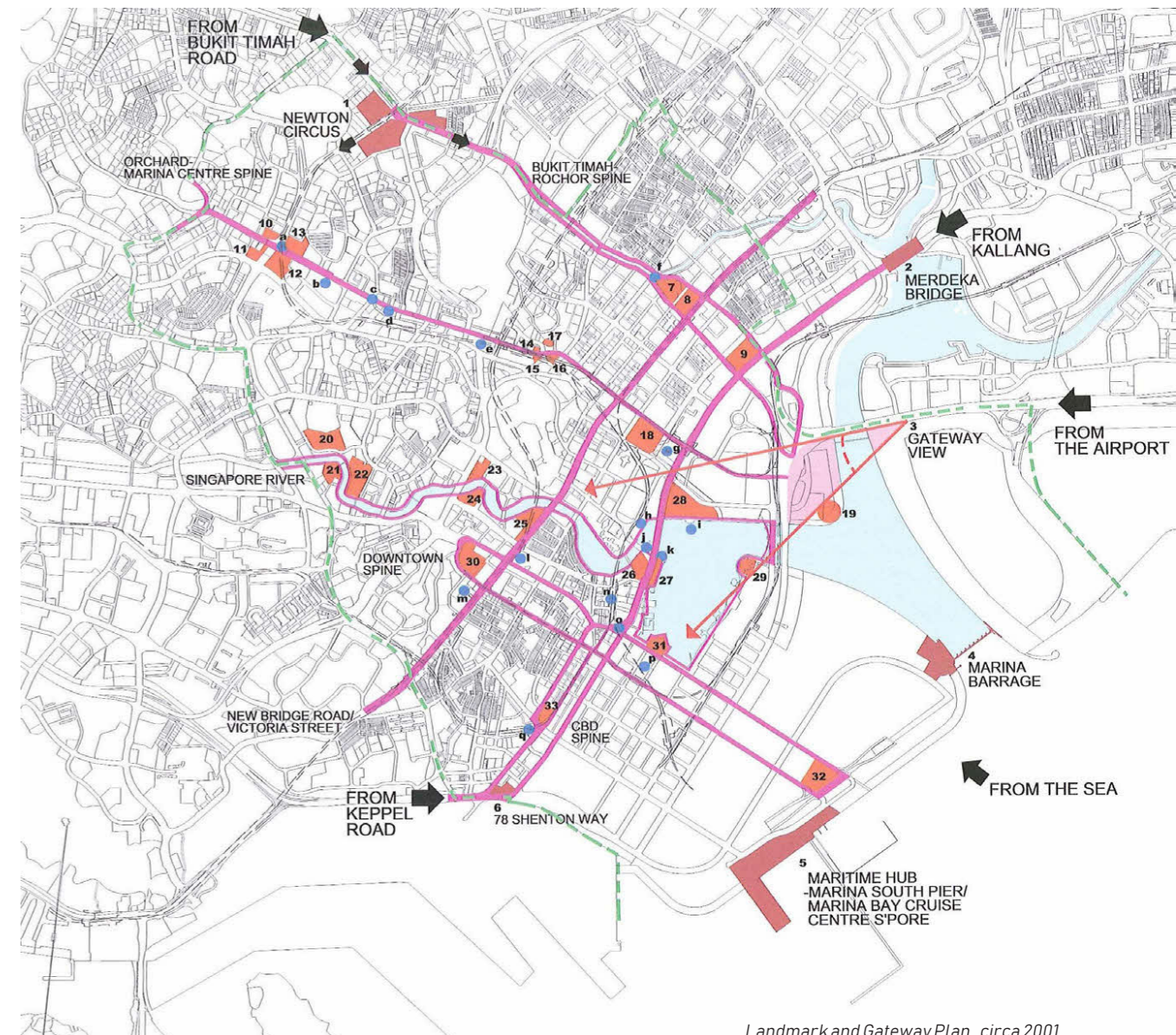
Landmarks are generally prominent structures located at strategic locations in the city, such as at important start and end points of key spines in the city, end of vistas, major intersections and around significant geographical features.

##### Gateways

Gateways mark key approaches into the city centre. Some of these take the form of an important view corridor, major public space or building, such as the Marina Barrage and the international cruise terminals.

##### View corridors

To strengthen the sense of islandness, view corridors have been created towards waterbodies around the city centre. They have also been safeguarded around geographical features like Fort Canning Hill and Pearl’s Hill.



Landmark and Gateway Plan, circa 2001

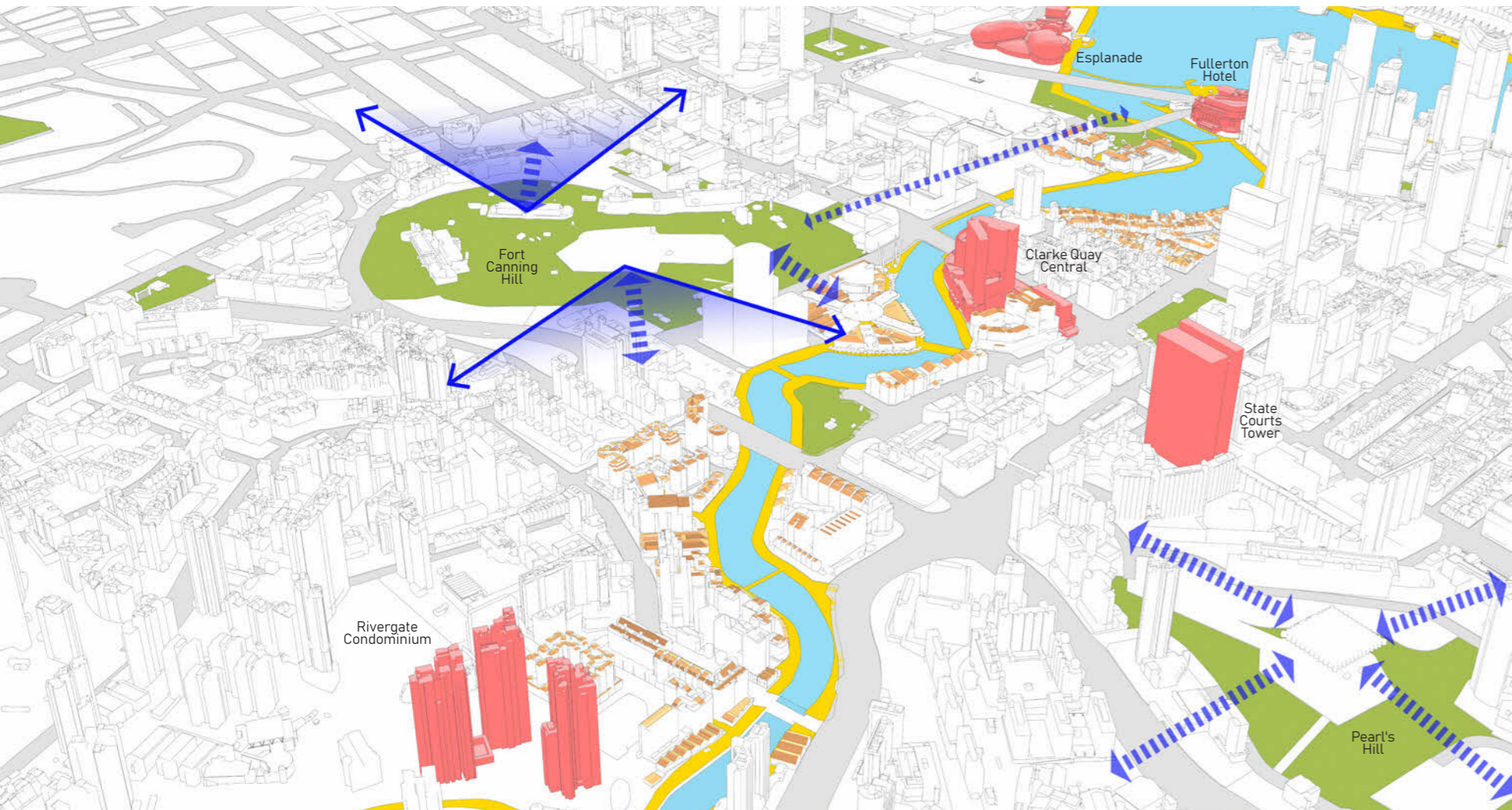


### Major spines and landmarks in the Central Area

#### Singapore River spine

Landmarks have been located at strategic points where the river bends and to mark transitions between the three distinct quays.

Views to the nearby Fort Canning and Pearl's hill have also been safeguarded to allow these natural features in the city to be appreciated.

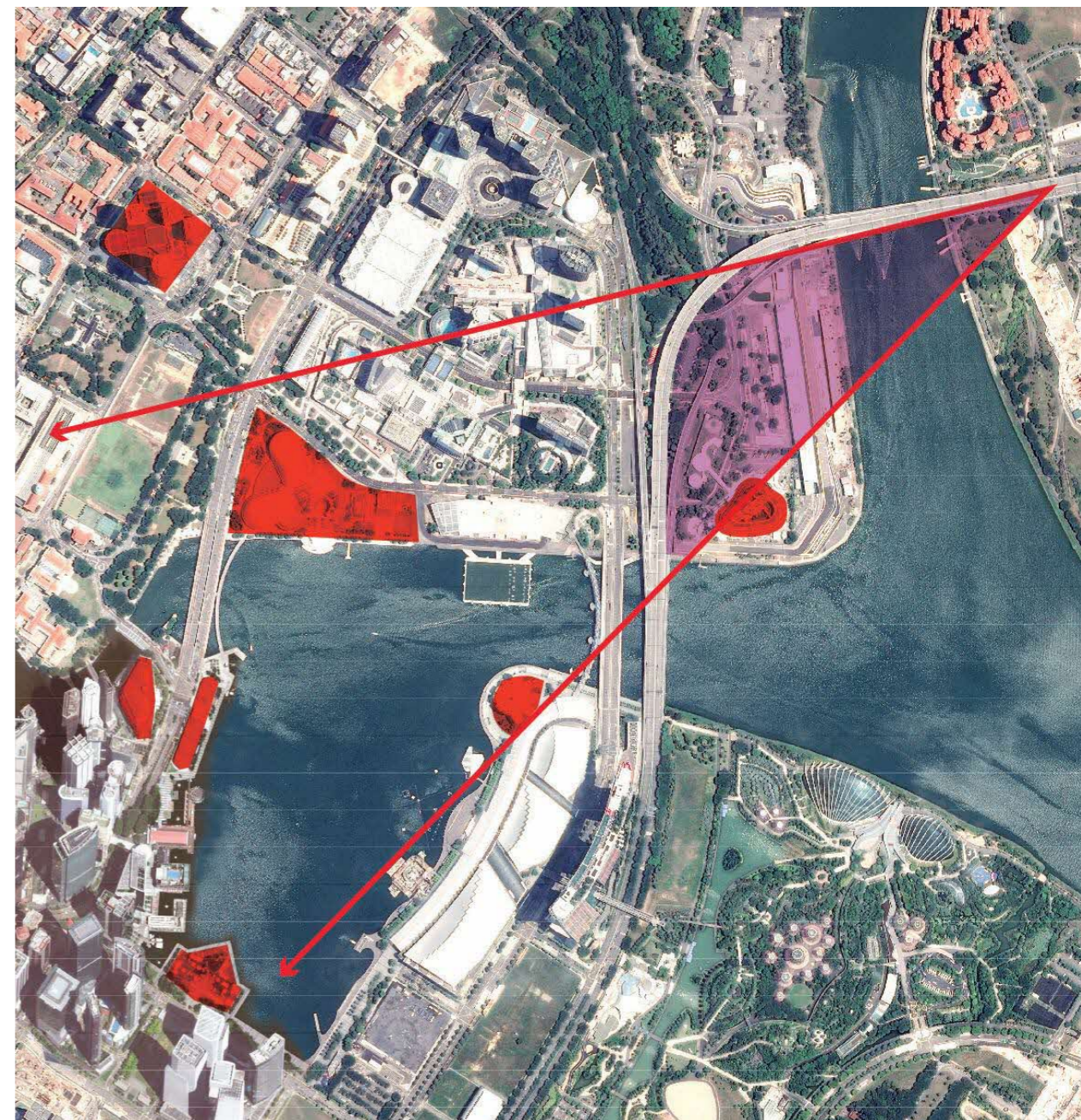


#### East Coast Parkway view corridor

This marks the gateway view to the city from Benjamin Sheares bridge coming from Changi airport.

Heights of developments in Marina Centre and Marina South are calibrated to maintain views of the CBD skyline.

Architectural landmarks have been created around the bay to create a necklace of attractions.





### How do view corridors enhance experiences?

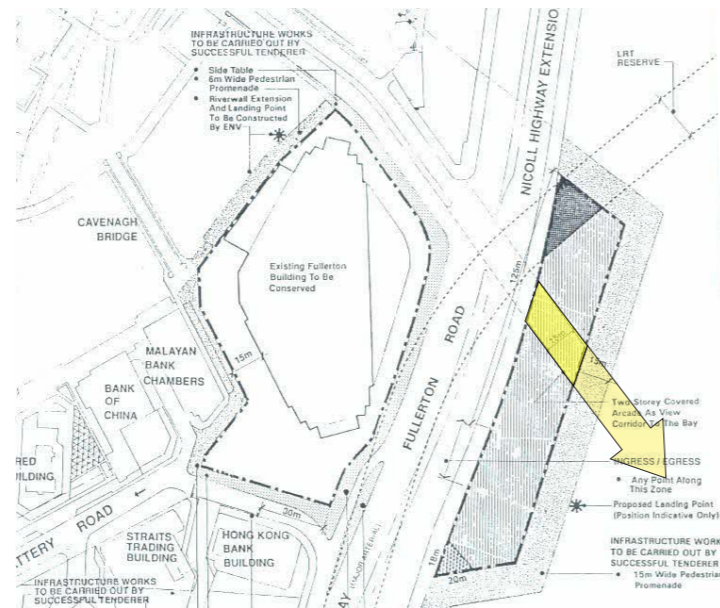
#### 1.4.3: Safeguard special views in the city

View corridors preserve special views in the city that provide orientation and a sense of place. They are a tool used to enhance legibility in the urban fabric. Certain view corridors also frame unique tableaux of the city, making them popular photo-taking spots.

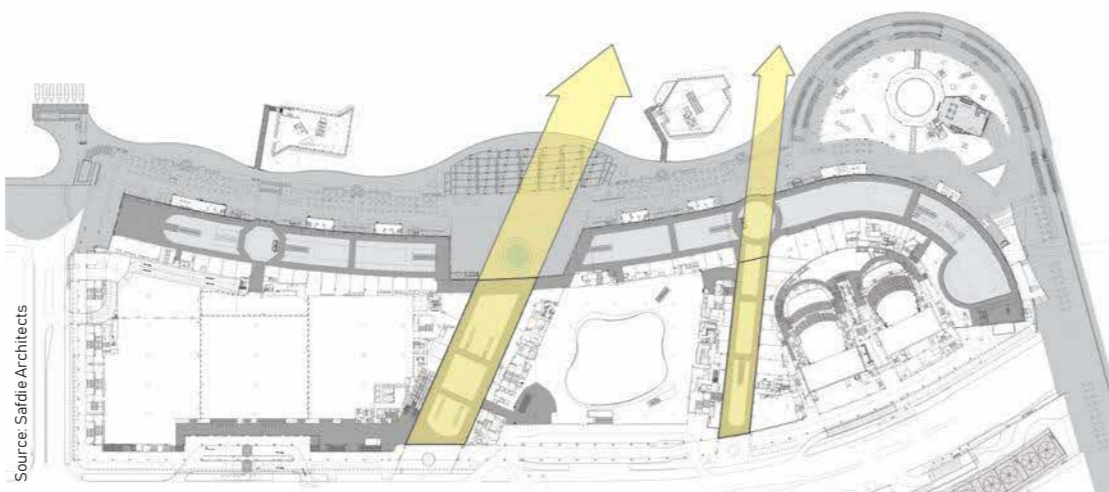
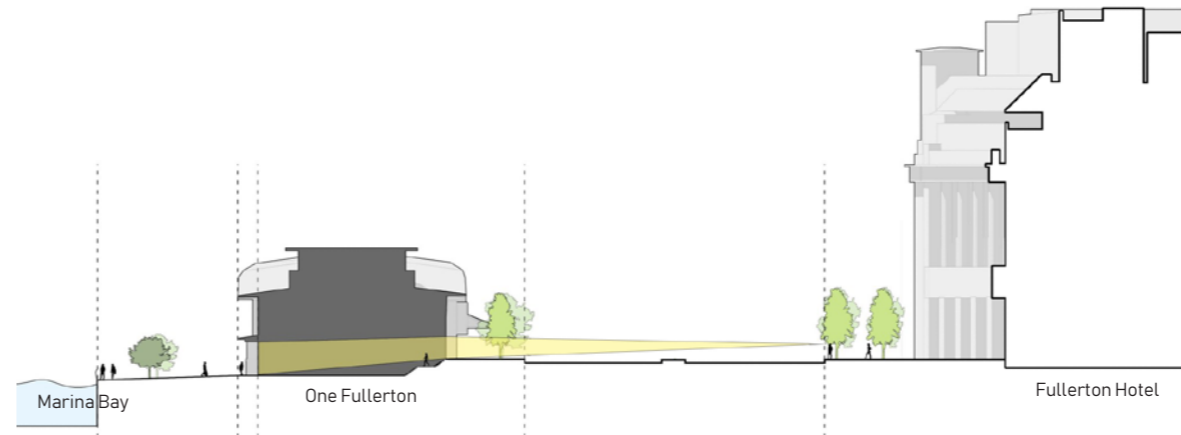
When formulating the Landmark and Gateway Plan, URA identified important views towards the city from the Benjamin Sheares Bridge, from the top of hills like Fort Canning Hill and around waterbodies like Marina Bay. Two of these have been illustrated here.

A 15m wide and 2-storey high view corridor aligned with Anderson Bridge was safeguarded through the One Fullerton building to allow motorists and pedestrians arriving from the Civic District to have views of Marina Bay.

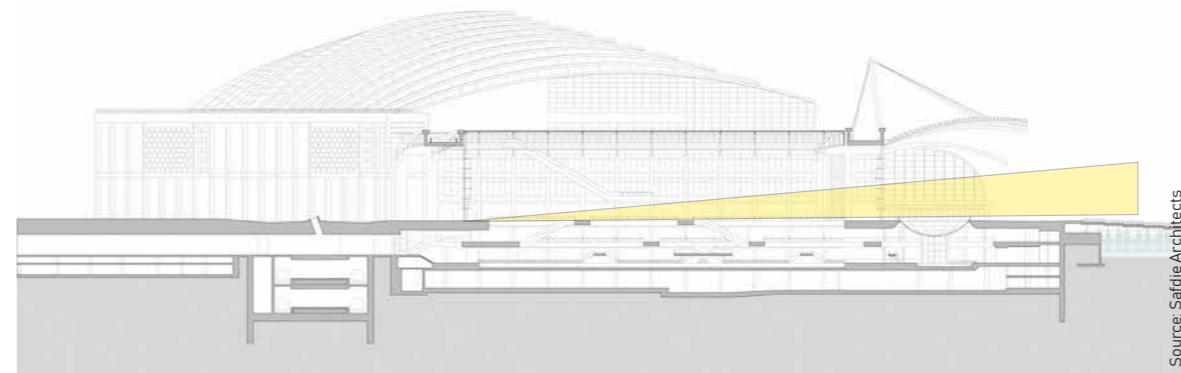
At Marina Bay Sands, URA safeguarded two significant view corridors through the shopping podium, creating visual connectivity from Bayfront Avenue towards the water and skyline of the Civic District in the background.



View Corridor at One Fullerton



View Corridors at Marina Bay Sands



Source: Safdie Architects



View Corridor at One Fullerton



View Corridor at Marina Bay Sands



### 1.4.4: Heighten their impact through scale and design

Designing landmark buildings requires a combination of creative vision, strategic planning and attention to detail. These are some of the urban design strategies and considerations behind planning and developing a landmark development.

#### Building Height

To allow landmark buildings to stand out on the skyline, dispensation from usual height controls are considered for them subject to clearance from technical agencies such as MINDEF and CAAS (Civil Aviation Authority of Singapore).

To ensure that the building responds appropriately to the surrounding context, a Design Advisory Panel (DAP) comprising established architects is convened to guide the design. Two landmark developments that went through the DAP process are ION Orchard and State Courts Towers.

#### Setbacks

To provide more “breathing room” for pedestrians to visually appreciate taller buildings at street level, landmarks may be required to be set back from the site boundary to create an open space as the foreground.

One example is the Capital Tower which has an urban plaza in front of the tower.



*The Rivergate Condominium. Cox Architects and RSP Architects Planners & Engineers Pte Ltd*



*Capital Tower. RSP Architects Planners & Engineers Pte Ltd*

### 1.4.5: Guide design outcomes for distinctiveness

As prominent elements in the skyline, landmarks require rigorous design guidance to ensure that while they stand out from the rest of the surrounding developments, they still sit well in their context and are well-connected and well-integrated at street level to the surrounding areas and transport nodes. They are also guided to provide public contributions such as public spaces, viewing decks, special cultural and civic uses, etc.

#### Design Competition

Where appropriate, URA will recommend holding a design competition to attract a larger pool of designers to generate the best ideas for the site.

#### Concept & Price Tender

Government Land Sales sites are often awarded to the highest bidder. The two-envelope Concept & Price Revenue Tender system creates a new mechanism where the first envelope comprising the design proposals are evaluated and shortlisted first before the second envelope comprising the bid price of only the shortlisted submissions is opened. This allows the best of both worlds to be achieved in terms of design and a competitive land price.

#### Design Advisory Panel

The Design Advisory Panel (DAP) is set up to guide the architect and developer on the design of the development to ensure good urban design and architectural response for the site. The DAP will evaluate and suggest improvements at two levels:

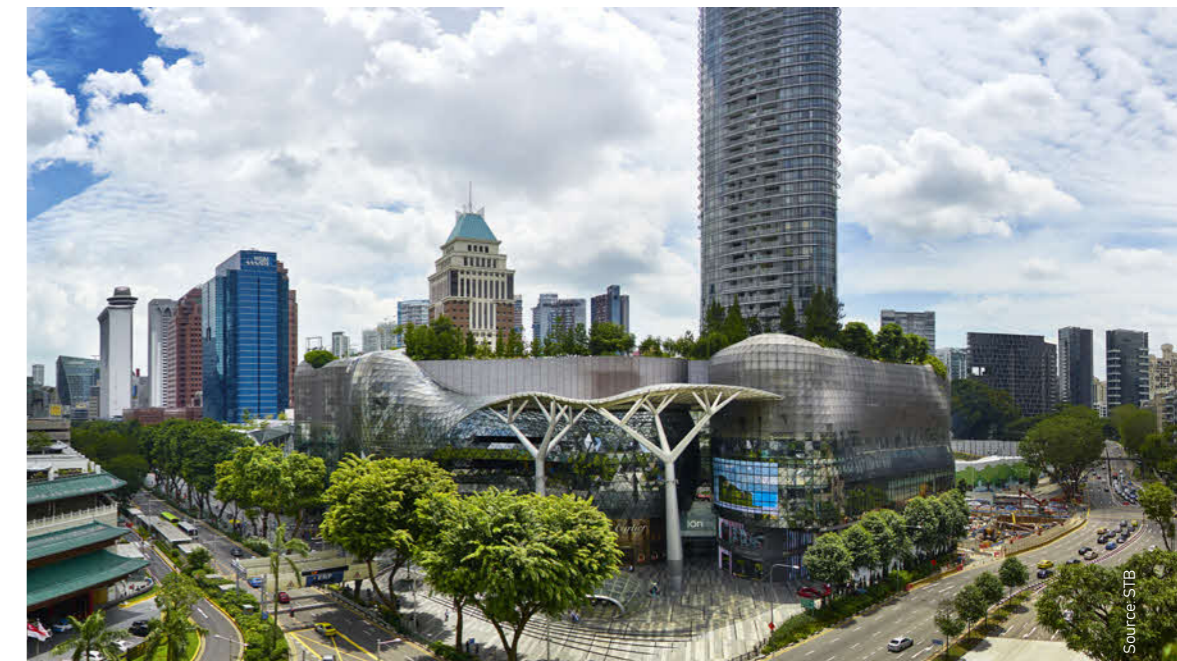
- Urban design scale: form, massing, roofscape, connectivity, vehicular circulation, landscaping and view corridors; and
- Architectural design scale: building layout, functional requirements, environmental response, use of materials, finishes, detailing and lighting.

DAP members comprise prominent practicing architects, and where relevant – members from government agencies. DAPs are convened for all landmark development sites.

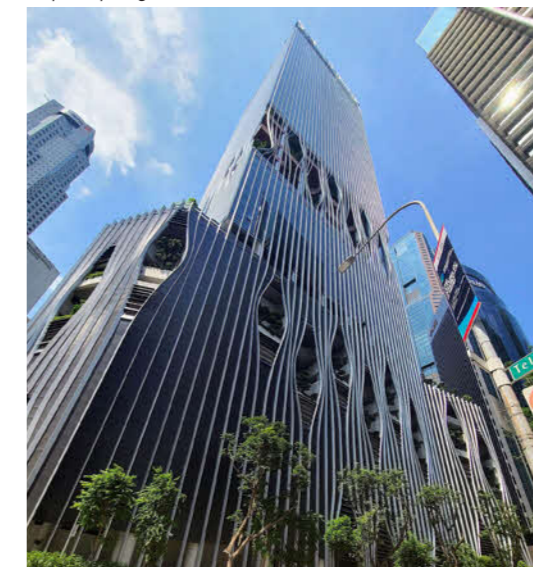
#### Design Excellence

URA undertakes a variety of initiatives to promote and elevate Singapore as a hub for architectural and urban design excellence, such as publications like 20 under 45 to profile talented young designers, and instituting awards like the President’s Design Awards to recognise achievements in the design community. Many of the designers of these landmark developments seen in this chapter have been recipients of such honours.

*ION Orchard. RSP Architects Planners & Engineers Pte Ltd and Benoy*



*CapitaSpring. BIG and Carlo Ratti Associati*



*Marina Barrage. Architects Team 3 Pte Ltd*



## CASE STUDY

## How is a landmark conceived and designed?

State Courts Towers, 2019

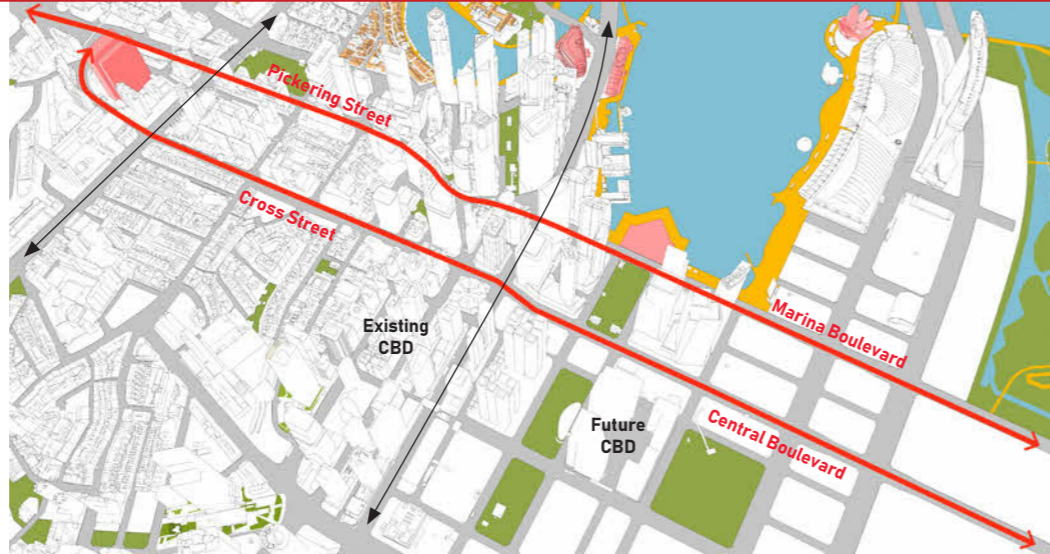
Location: 1 Havelock Square  
 Architect: Serie + Multiply Consultants Pte Ltd in collaboration with CPG Consultants Pte Ltd  
 Landscape Consultant: Plantwerkz Pte Ltd  
 Mechanical & Electrical Engineer: CPG Consultants Pte Ltd

### A landmark site marking the entrance to the city

Standing at the bend of Upper Cross Street where it meets the CTE, the State Courts Towers – the tallest government building in Singapore – catches the attention of motorists as they emerge from the underground expressway.

URA designated the site a Landmark site in the 2001 Landmark and Gateway plan due to its strategic location, marking the entrance to the city and anchoring one end of the New Downtown Spine – a major corridor that connects the existing and future CBDs together.

It was envisioned that the development would act as a major orientation feature in the city, hence it was permitted to maximise the allowable technical height to 153m SHD. URA also set back the high-rise zone from Upper Cross Street to avoid creating a wall-like effect along the road.



The New Downtown Spine connecting the existing CBD to the Marina Bay extension



Source: Serie + Multiply Consultants Pte Ltd

### International design competition to seek the best design

To ensure that the landmark was well-designed and befitting to its status, URA suggested that an international design competition be organised.

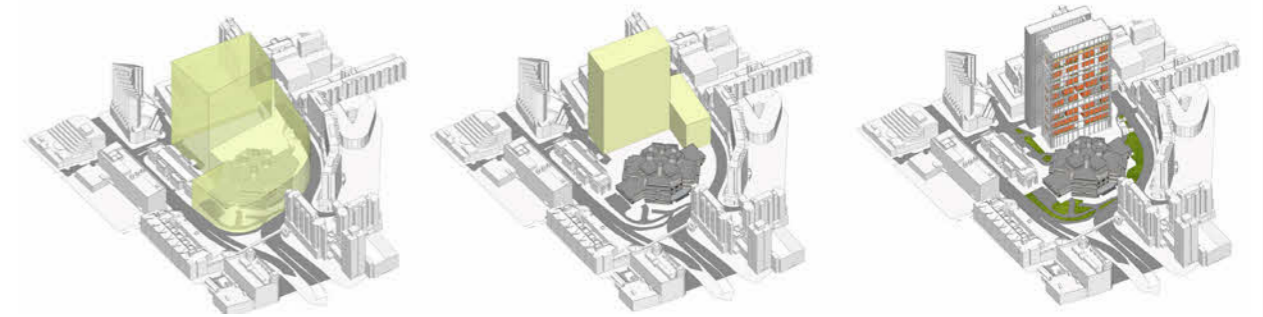
This was a 2-stage competition held in 2011, that was open to architectural firms from around the world. The competition brief called for a building that would be a worthy addition to the skyline that was also founded on sustainable design principles.

The winning design was awarded to a team comprising Serie + Multiply Consultants Pte Ltd in 2012.

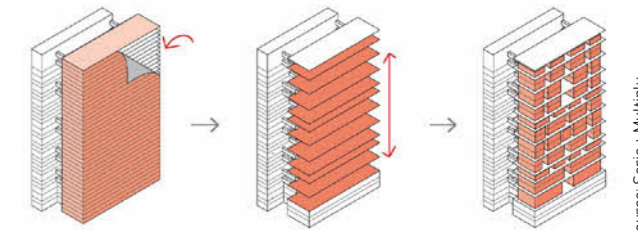
### Imbuing social and cultural meaning into the design

One of the architects' focus was shaping the design of the landmark in a way that would allow it to stand out but still fit in contextually and resonate with the community.

To achieve this, the winning team referenced the 'typical architectures' of the site, bringing together the design language of shophouses and high-rises into a single gesture. Chris Lee, the Principal of Serie, explained that the idea was to transfer the granularity of surrounding shophouses onto open platforms in the sky. This resulted in the expression of the building as a series of courthouses stacked on twelve landscaped sky terraces rising to the sky.



Derivation of building massing outcome in response to urban design height guidelines



Architectural concept of "externalising" programmatic spaces

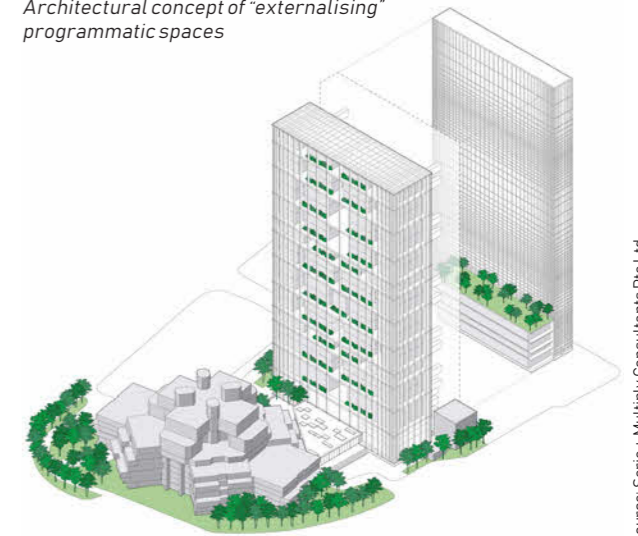
Source: Serie + Multiply Consultants Pte Ltd

Taking the language drawn from the surrounding context, the courtrooms are clad in ribbed terracotta panels which reflect the material of the tiled roofs of heritage shophouses in the adjacent Chinatown district.

Drawing on "typical architecture" was the winning teams' way of tapping into our collective understanding of architectural meaning, imbuing social and cultural significance to the design.

### Transparency as a metaphor for the role of the courts

The building is split into two towers to separate the public and private functions of the courthouse. This clarity recalls the adage "form follows function". The jury was impressed by the simplicity of the design and felt that it brought a desired calmness to the area.



Green spaces within the development

Source: Serie + Multiply Consultants Pte Ltd

**BEHIND THE SCENES****The intersection of architecture and urban design**

*Chris Lee is co-founder of Serie Architects, based in London and Mumbai, who worked with Multiply Architects and CPG Consultants on the design for State Courts Towers. He shares more on the design inspiration for the landmark development.*

**The building stands out due to its height and sensitive design, but at the same time it also seems to relate very well to the surrounding urban context. Can you talk about how one achieves this?**

**Chris:** As a practice, we always work with what we what we call, the typical architecture of the city that the building is situated in. We feel that it is very important to start with this, because the typical architecture of the city is something that has persisted in time. And, it has persisted precisely because it has been sanctioned by use, and by social and cultural acceptance

The typical architectures that we can find in the site's immediate context are the ubiquitous high-rises that we see in Singapore, and also the shophouses that are nestled close to these tall buildings. So, we wanted to bring these two typical architectures that everyone in Singapore is familiar with, into a single gesture. This is why in our design, the tower typology is transformed and reconceived as a series of open platforms... but also a ground plane on which the court boxes sit on, and the court boxes are varied in 1- or 2-storey heights, which is almost the same scale as the shophouses that you can find next to the site.



Source: State + Multiply Consultants Pte Ltd

**In a way, architects also have to be urban designers as well, to design buildings that respond well to the surrounding context and city at large.**

**Chris:** For me good architecture always have something to give back to the city That means literally giving back something delightful, so here in the State Courts are the platforms that are landscaped – they are public spaces. The other aspect is its meaning and representation, the resonance that the architecture has with history, with the context and to what is familiar with its citizens. It is both in terms of its function and in terms of its social and cultural content.

**This building almost functions like an inverted skyscraper, with the circulation spaces externalized. What was the thinking behind this?**

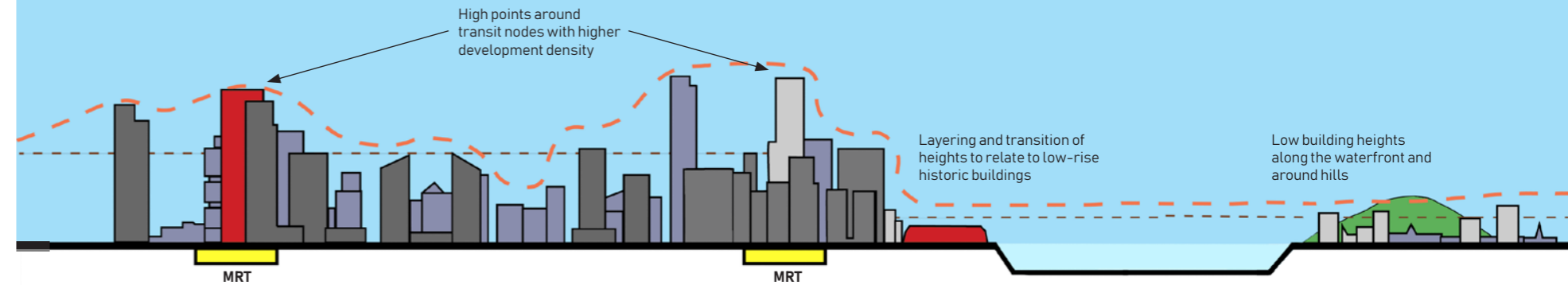
**Chris:** When we designed it, we imagined it would be used by anyone who was attending the court room proceedings, taking into account that sometimes court room hearings can be quite stressful, so I think that the landscape and

greenery space, which is also open to natural air and light, is critical for people to take a break and a moment of rest, from an internal space and the proceedings.

**Before we end off, is there something you could share with young architects and even students, to inspire them as they continue to explore skysrise greenery in their work?**

**Chris:** I would say that high-rise greenery and landscape should not be seen as something that is separate from architecture, but is something that is integral. And I think when it's integral, we begin not only to transform architecture but also, I think allows us to always discursively reframe what nature is to us.

The full version of this interview can be found at this [link](#).

**CONCEPTS EXPLAINED****Why are developments subject to height controls in Singapore?**

*Notional section showing the high and low points of the city shaped to create legibility in the urban fabric*

All developments across Singapore, including landmark developments, are subject to height controls to ensure safety and liveability outcomes.

Building height guidelines are often the result of technical considerations for safety and urban design considerations for legibility.

**Safety requirements**

A majority of airspace around Singapore is constrained due to the presence of four military air bases and two civilian airports. Height restrictions around them help to ensure the safety of airport operations.

Around industrial areas and key utilities like power plants, buildings around them are also capped in height to keep them away from the air discharge zones of chimney flues and exhaust structures.

**Urban design considerations**

The high and low points of the city have been carefully considered to ensure legibility in the urban fabric.

Major nodes with higher intensity of use tend to have higher building heights, such as at the Central Business District and regional centres. They mark concentrations of activities in the city.

Landmark developments marking strategic points in the city are also allowed higher heights to allow them to stand out in the skyline, to serve as orientation markers.

Building heights around low-rise areas such as historic districts are also generally guided to step down to relate sensitively to the context. Lower heights may also be specified around important

natural features like hills to provide views to and from the hills, or around waterfronts to ensure that the buildings have a human-scale at the water's edge.

Development frontages may also be kept low-rise around public spaces and some streets to keep them human-scale.



## 2.0 Shaping the district character

This second part of the book will look at how URA shapes the different elements that contribute to district character and imageability, covering building form, roofscapes, streetscapes and nightlighting.



# 2.1

## BUILDING FORM & SITE LAYOUT

Well-designed buildings contribute to the imageability of an area and uplift the spirit of the place.

At the district level, they are a significant component of the built environment that can be shaped for better district character.



*Strong contrasts in building form help to define the distinctive districts of Singapore's city centre*

### *Why is building form and site layout important?*

#### **2.1.1: Shape the urban fabric and support development needs**

The urban fabric of the city is created by the shaping of buildings and their placement in relation to each other to form street blocks and districts.

All developments are subject to development controls specifying the appropriate building forms in their various locations and context. The building form is informed by allowable height, setback and site coverage, and aims to ensure that they sit well in their context and address disamenity issues like noise and privacy for building occupants.

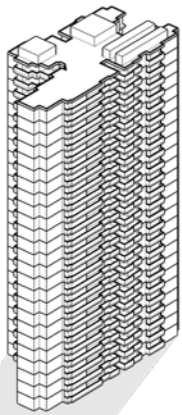
In some areas, urban design guidelines are layered upon development controls to provide tailored guidance to achieve better connectivity, greenery and public spaces, and to collectively create well-defined streetscapes and districts with character.

## What is building form?

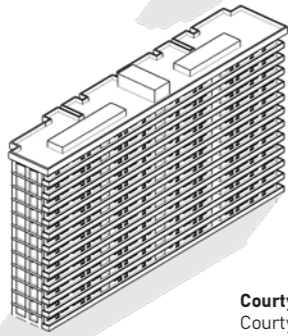
Building form refers to the three-dimensional expression of development. URA guides developments to have various building forms to enhance building performance, create better relationships between buildings, improve connectivity, greenery and other outcomes.

## What are common building forms in Singapore?

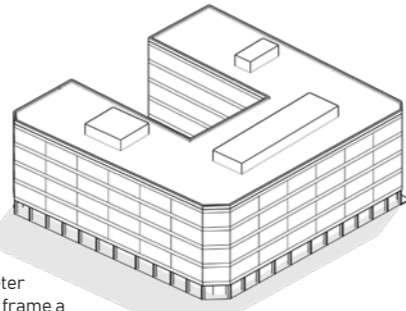
**Residential point blocks**  
Many HDB and condominiums come as point blocks, which have units arranged around circulation cores to maximise views and cross ventilation.



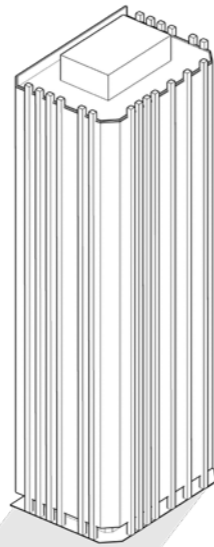
**Residential slab blocks**  
Public housing completed in earlier decades tends to take this form, which organises units along common corridors and stacks them to ensure good ventilation.



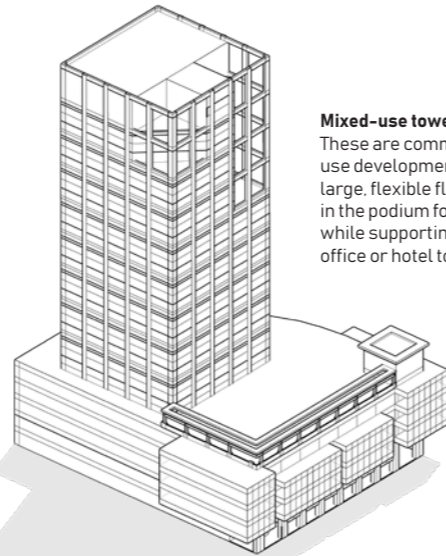
**Courtyard buildings**  
Courtyard or perimeter building forms often frame a central open space that can be for public or private use.



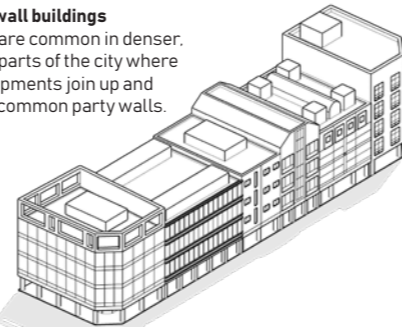
**Commercial towers**  
Towers pack in density by creating floor space many times the available site area. Typical floor to floor heights are 4.0 – 5.0m for commercial developments. Tower footprints are usually sized based on operational needs of the building.



**Mixed-use tower-podiums**  
These are common in mixed-use developments, providing large, flexible floor plates in the podium for retail use while supporting residential, office or hotel towers above.



**Party wall buildings**  
These are common in denser, urban parts of the city where developments join up and share common party walls.



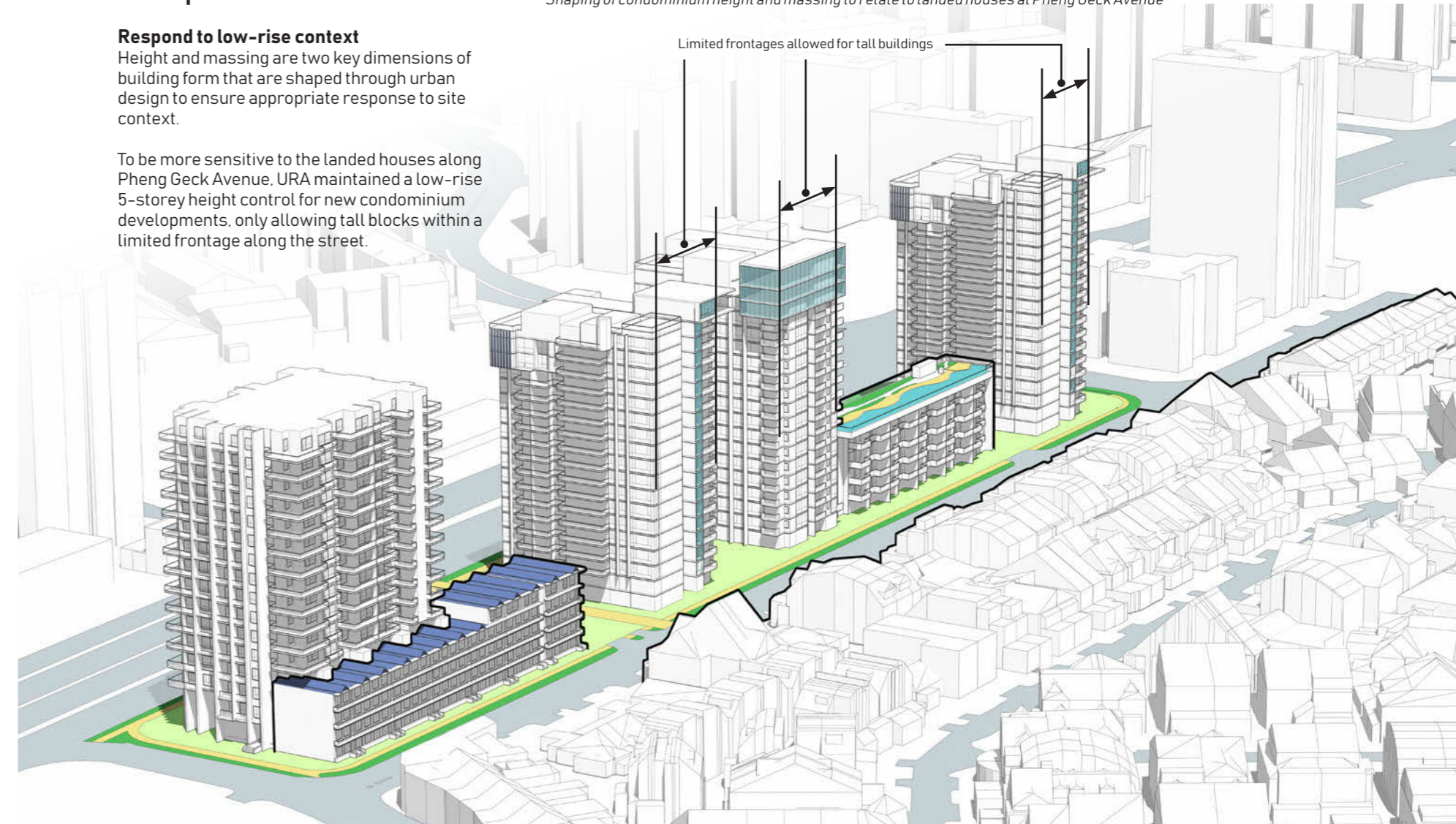
## How can building form contribute towards urban fabric and streetscapes?

### 2.1.2: Shape height and massing in response to context

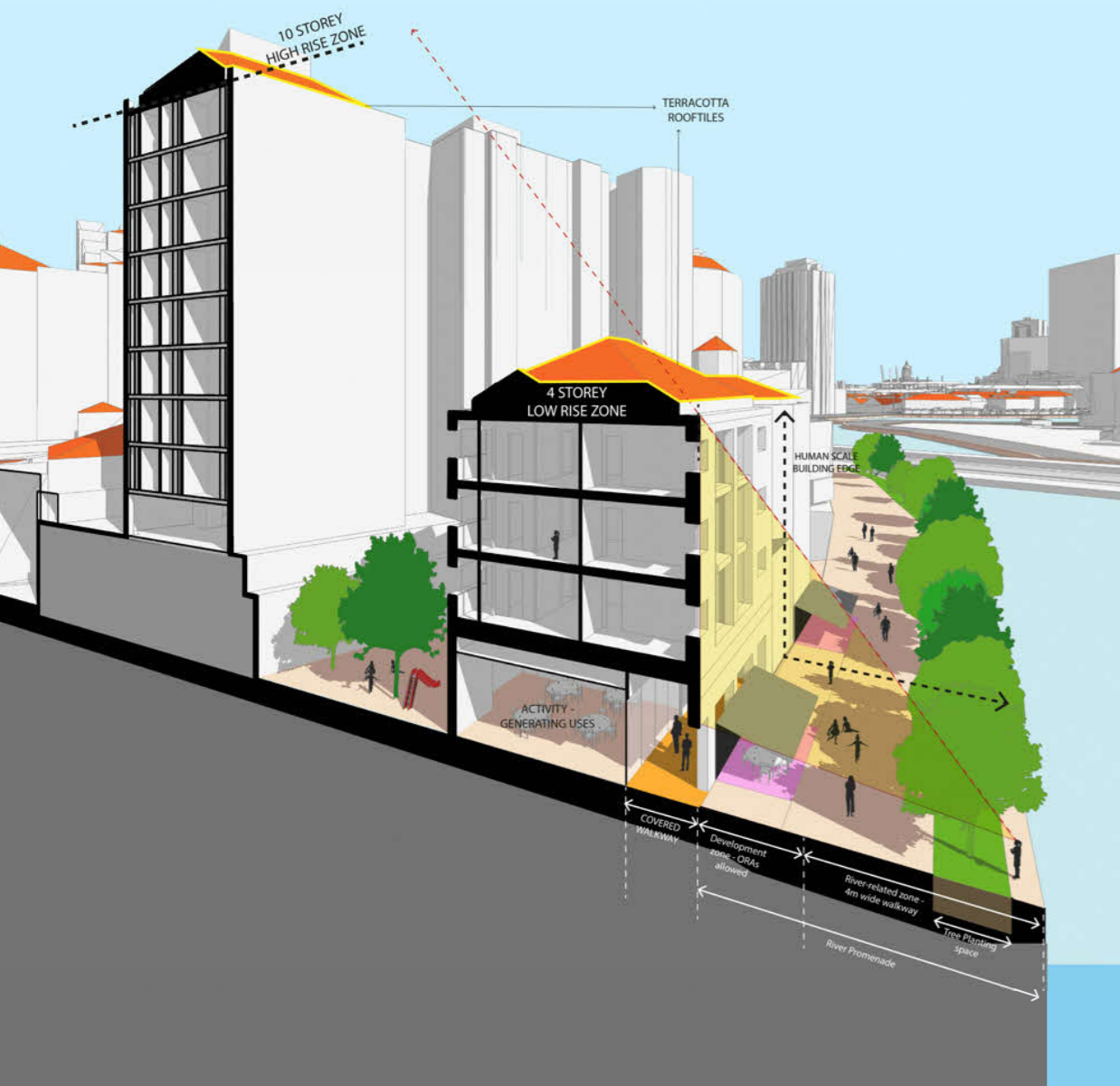
**Respond to low-rise context**  
Height and massing are two key dimensions of building form that are shaped through urban design to ensure appropriate response to site context.

To be more sensitive to the landed houses along Pheng Geck Avenue, URA maintained a low-rise 5-storey height control for new condominium developments, only allowing tall blocks within a limited frontage along the street.

Shaping of condominium height and massing to relate to landed houses at Pheng Geck Avenue



Human-scale building heights at Robertson Quay

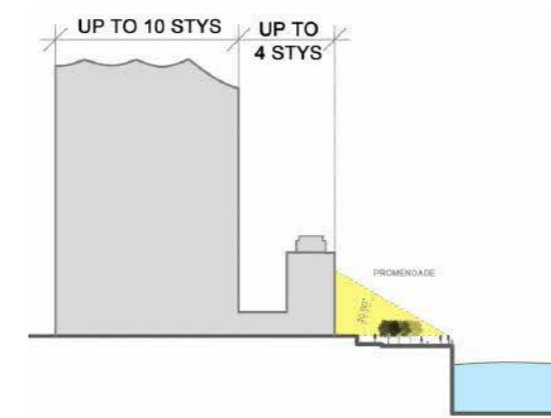


### 2.1.3: Create human-scale environments

**Create human-scale environments**  
 Building forms are shaped to create human-scale frontages along public spaces and streets such that they are more comfortable for human activity and interaction.

At Robertson Quay along Singapore River, buildings are guided to step down in height from 10 to 4 storeys fronting the river to create a human-scale promenade that is intimate and vibrant with activities.

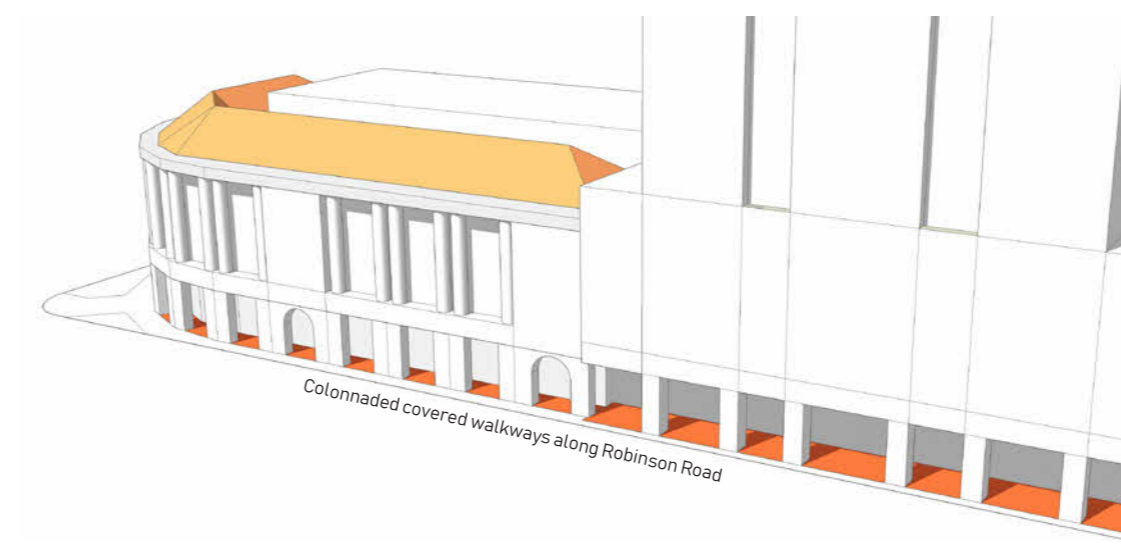
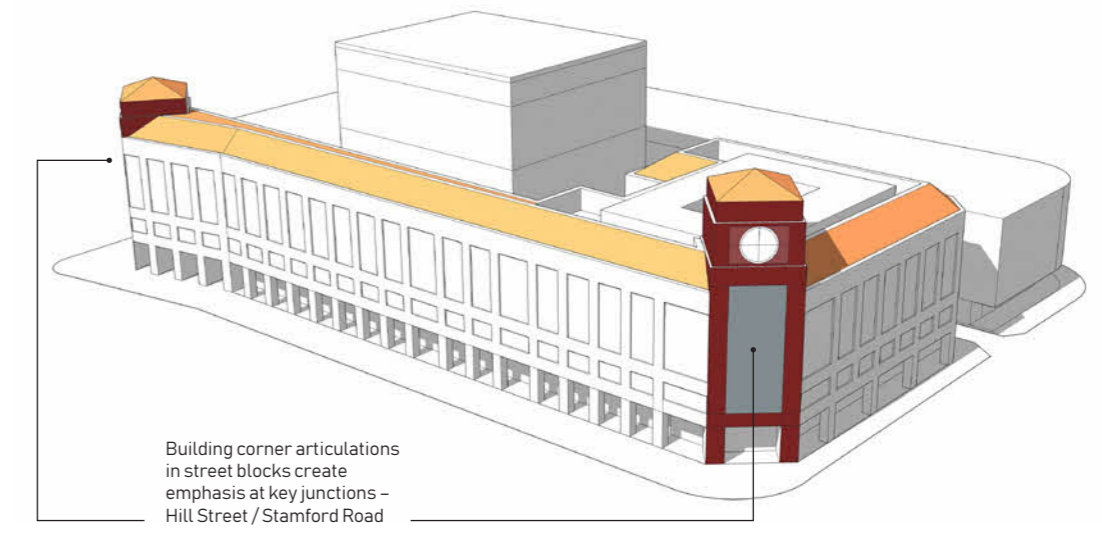
Walking along the promenade, the 4-storey building sits comfortably within the field of vision of pedestrians, so that people do not have to crane their head upwards to fully appreciate the building.



### 2.1.4: Enhance image and legibility of the urban fabric

**Address important entrances and corners**  
 Building form can be shaped to address important entrances and corners of street blocks and districts, which helps to enhance the legibility of the urban fabric.

In the city centre, several developments adopt interesting forms at building corners to address street junctions and create emphasis and presence for the building, e.g. with taller heights, geometric splays, interesting articulations, etc. For example, Stamford Court along Hill Street has introduced clock towers at the building corners that have become familiar landmarks over time.



### 2.1.5: Integrate covered walkways for all-weather connectivity

**Integrate covered walkways**  
 To promote good connectivity and walkability in Singapore's hot and wet climate, URA guides the physical integration of covered walkways into the edges of building forms fronting all minor and major roads and pedestrian routes in the city. These are not added on as separate canopies along the building edge but neatly recessed into the buildings, similar to the five-foot ways of traditional shophouses.

Urban designers draw up district-wide connectivity plans to guide developments to complete the pedestrian network over time. Covered walkways are exempted from Gross Floor Area computation, hence there is no loss of buildable floor area for building owners when they are required to provide this public amenity.

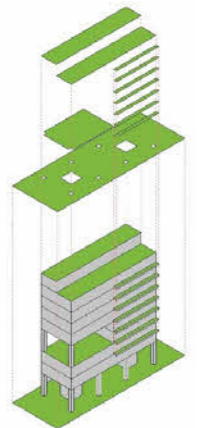
### 2.1.6: Incorporate skysrise greenery for greener building typologies

#### Require and incentivise provision of skysrise greenery

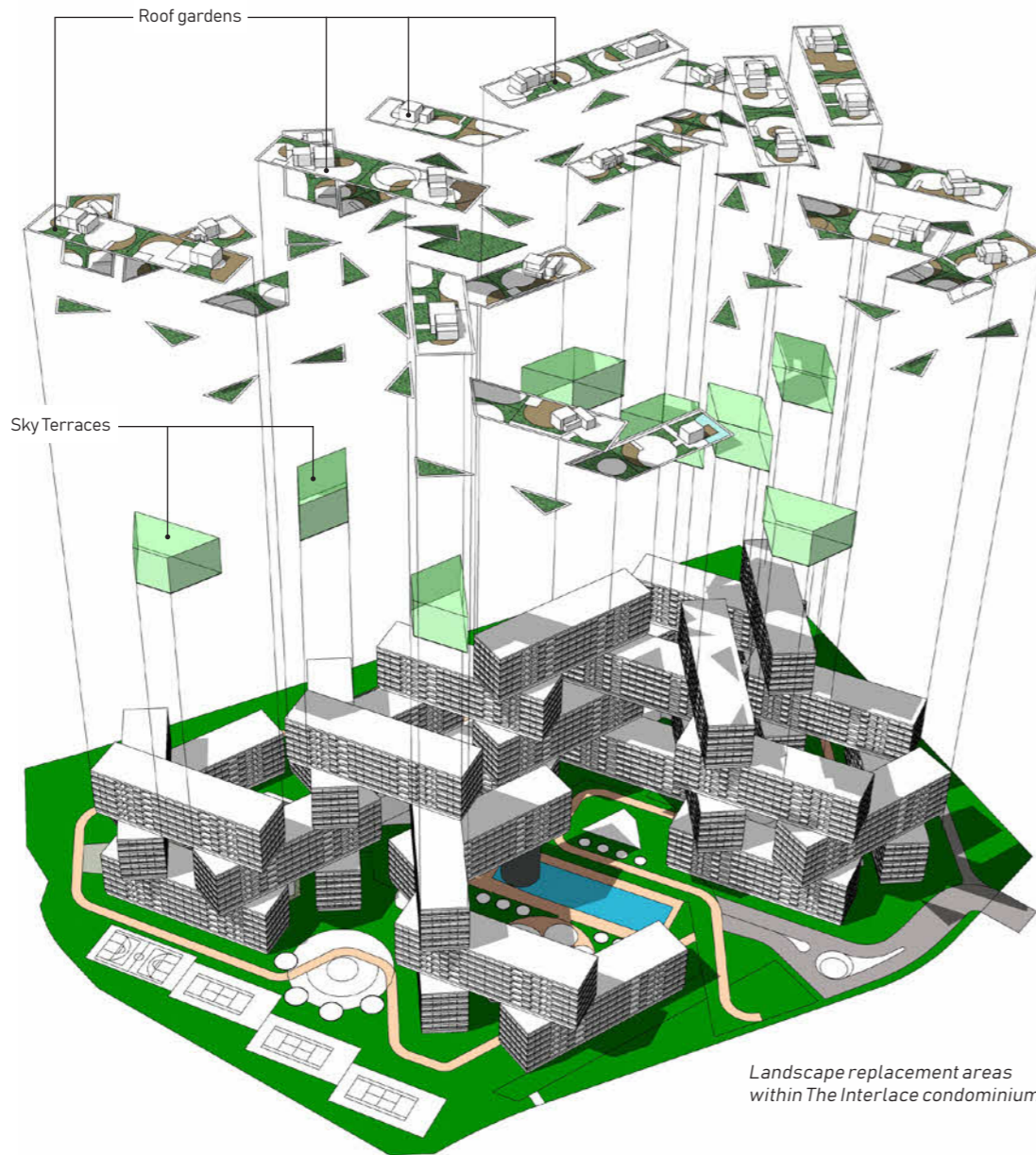
URA has introduced requirements and incentives for skysrise greenery to be generously incorporated into building forms.

Landscape replacement areas can take the form of sky terraces, roof gardens, covered community ground gardens, etc. Collectively, these are known as skysrise greenery.

The Landscaping for Urban Spaces and High-rises programme (LUSH) consolidates various skysrise greenery policies and introduces minimum landscape replacement area requirements for developments depending on their locations. In strategic areas like Marina Bay and Jurong Lake District, landscape replacement area requirements are 100% of the total site area.



Total area of landscape replacement depends on site location



Landscape replacement areas within The Interlace condominium

### 2.1.7: Respond to Singapore's tropical climate

Building forms can be shaped to take advantage of microclimatic factors such as wind and shadow, to create comfortable environments that help buildings to be less reliant on mechanical cooling.

#### Promote wind-flow and ventilation

To promote good wind flow, wind corridors are safeguarded through developments in the direction of predominant wind flow. The sizing, level and alignment of wind corridors are determined through wind analysis studies, using computational fluid dynamic simulations. Stepped building forms can be used to funnel wind to desired areas, e.g. to the street through a downwash effect.

#### Protect from sun exposure

Building forms can be designed to maximise shade for passive cooling, by placing public spaces and fenestrations within naturally shaded parts of the development. Buildings can also adopt elements of tropical architecture such as sun-shading screens and louvers to minimise direct solar irradiation into internal spaces. More on this topic will be explored in the next book on a "Green and Liveable" City.

Shaping of building form to promote wind flow at street level



Tropical articulations at Newton Suites

Source: Patrick Bingham-Hall





### What is site layout?

Site layout refers to the placement and organisation of buildings within a development parcel to respond appropriately to the context, opportunities and challenges of the site.

### How is site layout designed for better outcomes?

#### 2.1.8: Ensure good site layouts that are functional and liveable

##### Create spaces for community

Buildings can be arrayed to frame public spaces or form courtyards which can be enjoyed by the community. Such spaces shall be sited to have high visibility and accessibility from key pedestrian thoroughfares.

##### Plan for vehicular access and servicing

Site layouts need to take into account access, servicing and parking requirements for the development and ensure that they do not interrupt pedestrian circulation and are properly screened from view.

##### Optimise micro-climate performance

The arrangement of buildings can help to enhance wind flow and manage sun exposure to create thermally comfortable spaces, through the creation of wind corridors or layering of building heights.

##### Observe good building setbacks

Building placement shall take into account proper setbacks and distances from other buildings to avoid issues with privacy, sunlight, sky view and wind flow.

##### Ensure good porosity and connectivity

To create porosity through large development parcels, URA may introduce porosity requirements or stipulate no-build zones through the parcels. These may be designed as pedestrian malls for connectivity through large street blocks.



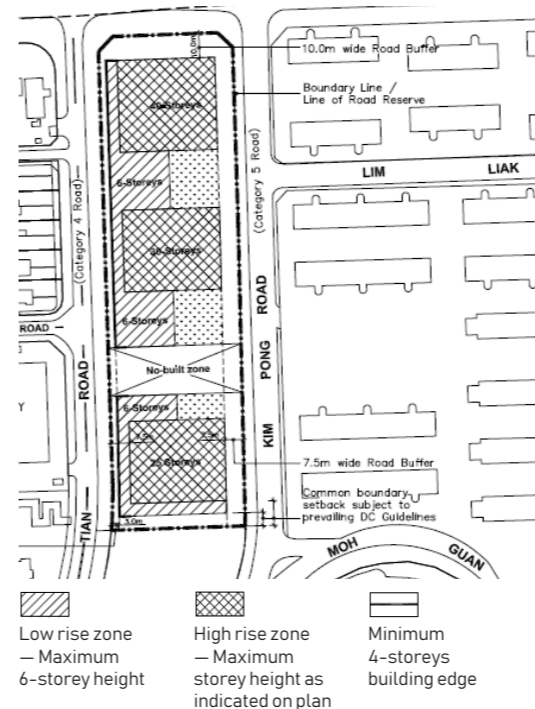
Site layouts for plazas and courtyards and spacing of tall buildings at Marina South

#### 2.1.9: Lay out buildings in response to context

##### Relate to the surrounding grid

URA takes into account the surrounding urban structure and grid of the city when planning the locations of building blocks within development sites.

No-build zones were established within the Highline Residences to ensure that high-rise blocks would not be placed at the end of Lim Liak Road, to respect the existing grid of streets in the district. This preserves pleasant views of open sky at the end of the street, instead of having a high-rise building block off the long-distance vista from Lim Liak Road.



No-build zone through Highline Residences





### 2.1.10: Prevent wall-like outcomes

Urban design can help mitigate the undesirable effects of high density environments by providing spatial relief in the urban fabric. This is done through specifying the placement of building blocks, building height and length of buildings within the development site.

To ensure that developments do not end up appearing as massive, continuous walls of buildings, URA introduced guidelines to reduce the maximum length of buildings as they get higher, so that tall buildings are not lined closely and have good spacing between them.

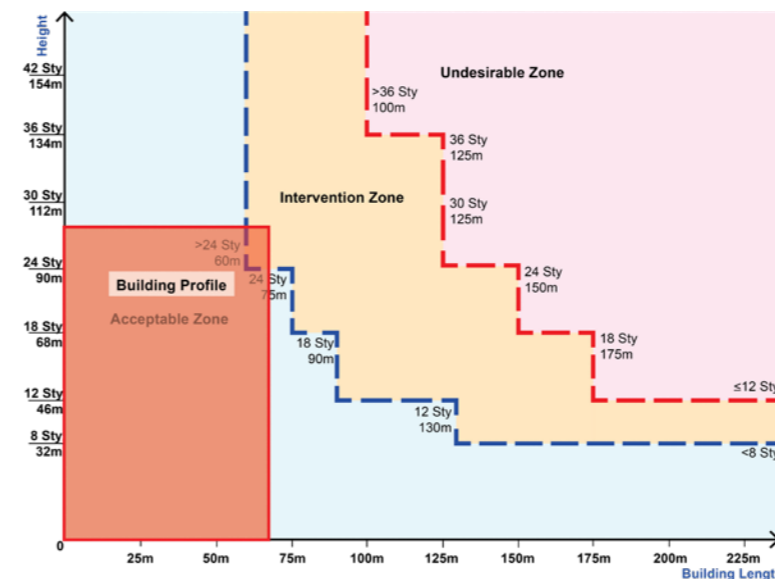
To break up the scale of large development facades, URA may also introduce requirements to articulate the façade using building volumes or introduce voids and urban windows.

For example, along East Coast Parkway which is a major gateway into the city, URA introduced urban windows, i.e. no-build zones and minimum porosity requirements to break up the visual impact of large developments along the corridor. This also opens up wind corridors for sea breezes to reach the inland areas of the city.



Building form porosity at Seaside Residences

Source: ADP Architects



The Industry Guide of good practices to minimise wall-like developments guides the relationship between building height and length for comfortable scale and massing.

Building profiles are overlaid on the diagram on the left to establish whether they fall within the acceptable zone (blue). Mitigation measures such as height variation, façade articulation can help break down the perceived scale of the building if the profile encroaches the Intervention zone.

Number of Storeys	Building Height	Minimum Building Spacing
1 - 18	≤ 68m	10m
19 - 24	> 68m - 90m	12m
>24	> 90m	15m

The guidelines also stipulates minimum spacing standards to prevent blocks from being perceived as one wall-like building



Example of using sky terraces and interesting roof form to visually break down the bulk of building massing



Industry Guide of Good Practices to Minimise Wall-Like Developments  
Jointly developed with Singapore Institute of Architects, Singapore Institute of Planners and Real Estate Developers' Association of Singapore. URA released this good practice guide in 2010, which can be found at this [link](#).

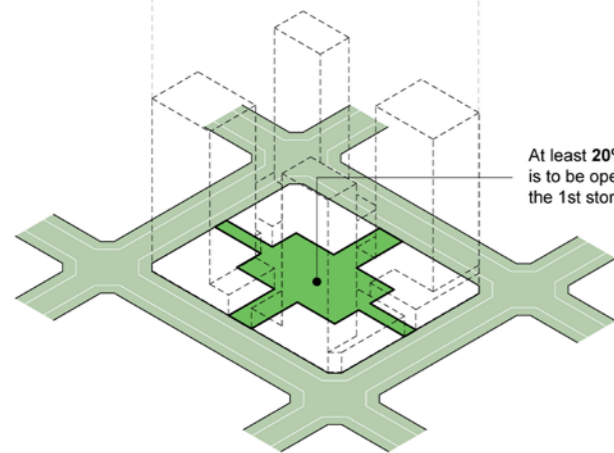
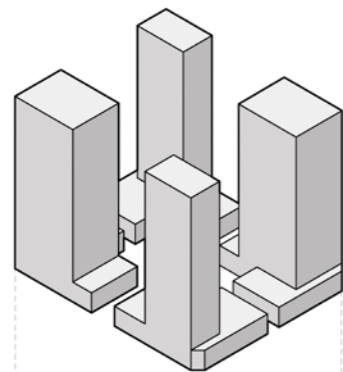


### 2.1.11: Create porous street blocks with generous open spaces

#### Create smaller-scale building blocks and mass

In areas with larger development parcellation or street block sizes, URA introduces building form guidelines to ensure that developments and street blocks are broken down into smaller-scale buildings that are interspersed with intimate pedestrian walkways (streets) and public spaces (squares).

This network of streets and squares creates more physical and visual porosity at the ground plane, facilitating pedestrian connectivity and activation of the public realm.



Site layouts to create central courtyards at Jurong Lake District

#### Provide internal streets and short cuts

URA may guide developments to provide through-block links or landscaped walkways that function as “internal streets”. These are animated pedestrian thoroughfares through development plots flanked by shops and amenities, providing convenient shortcuts through buildings, as well as connecting between transport nodes and amenities. They are either open-to-sky or covered with lightweight canopies to create the experience of being on a street – unenclosed with natural lighting and good ventilation. Activity-generating uses (AGU) may be required along at least one side to support street life. Internal streets are usually required to have minimum clear width of 6.0m and clear height of 10.0m, or double-volume (i.e. two-storeys clear in height), to ensure comfortable scale.

#### Create squares and courtyards for interaction

URA also guides the creation of open public spaces, plazas or central courtyards within developments which function as outdoor “living rooms” for the community to gather and interact. These spaces are connected back to surrounding streets with through-block links and internal streets. Key neighbourhood amenities like supermarkets and food courts are guided to front the courtyards to create convenience and conviviality, making the courtyards a place where people relax and take in the sights and sounds of what it feels like to be at home.



#### Plazas and courtyards at Marina South

The Marina South urban design guidelines require the creation of plazas and courtyards within the residential mixed-use development parcels, to act as neighbourhood living rooms for everyday interactions and community activities.

#### Central courtyards at Jurong Lake District (JLD)

Developments in JLD are required to provide central courtyards for residents, workers and visitors to enjoy. At least 20% of the development site is required to be open-to-sky at the first storey to achieve this design intent. In addition, 25% of the courtyard area is to be set aside for tree planting to ensure shade and thermal comfort for activities during the day.

#### Urban design guides

URA published urban design guides to communicate the desired outcomes for Marina South and Jurong Lake District, which can be found at this [link](#) and this [link](#) respectively.

## CASE STUDY

## What could a greener, tropical building form look like?

*PARKROYAL Collection Pickering, 2013*

Location: 3 Upper Pickering St  
 Developer: UOL Group Limited  
 Architect: WOHA Architects Pte Ltd  
 Landscape Consultant: Tierra Design Pte Ltd  
 Main Contractor: Tiong Seng Contractors (Pte) Ltd  
 Mechanical & Electrical Engineer: BECA Carter Hollings & Ferner (S. E. Asia) Pte Ltd

Rising above Hong Lim Park, the lushly planted PARKROYAL Collection Pickering development is a visionary example of what a greener and more tropical building form can look like in Singapore.

It is a successful showcase of how skysrise greenery in buildings, in the form of communal planters, sky terraces and sky gardens can result in a more sustainable vernacular building typology that offers memorable experiences for Singaporeans and tourists alike.

### Integrating greenery into the urban environment

When URA launched this sale site in 2007, the intention was for the greenery of Hong Lim Park to be extended into the development through well-landscaped open spaces at street level.

The designers, WOHA Architects Pte Ltd took this to the next level by expanding the footprint of greenery in the development to a reported 15,000sqm, which is much larger than Hong Lim Park itself (9,000sqm).

This took the form of generous planters around the podium and towers, as well as sky gardens at the podium deck and at three levels on the towers.

More on the landscaping strategies and maintenance considerations will be covered in the next book on a "Green and Liveable City".

Reportedly, the extensive greenery in the development contributes to reduction of heat gain and in turn lowers energy consumption usage to cool down the building<sup>7</sup>.

### Relating to the city scale

Another effect of the sky gardens and planters is the creation of visual delight in the city, by providing views of lush greenery at different elevations for surrounding developments to enjoy. This makes the building a visually engaging element on the skyline.

Organising the development into four towers linked by sky bridges also breaks down the scale of the building. URA had required 30% of the site frontage above the 4th storey to remain open, to ensure that the development did not create a wall-like effect along Hong Lim Park.



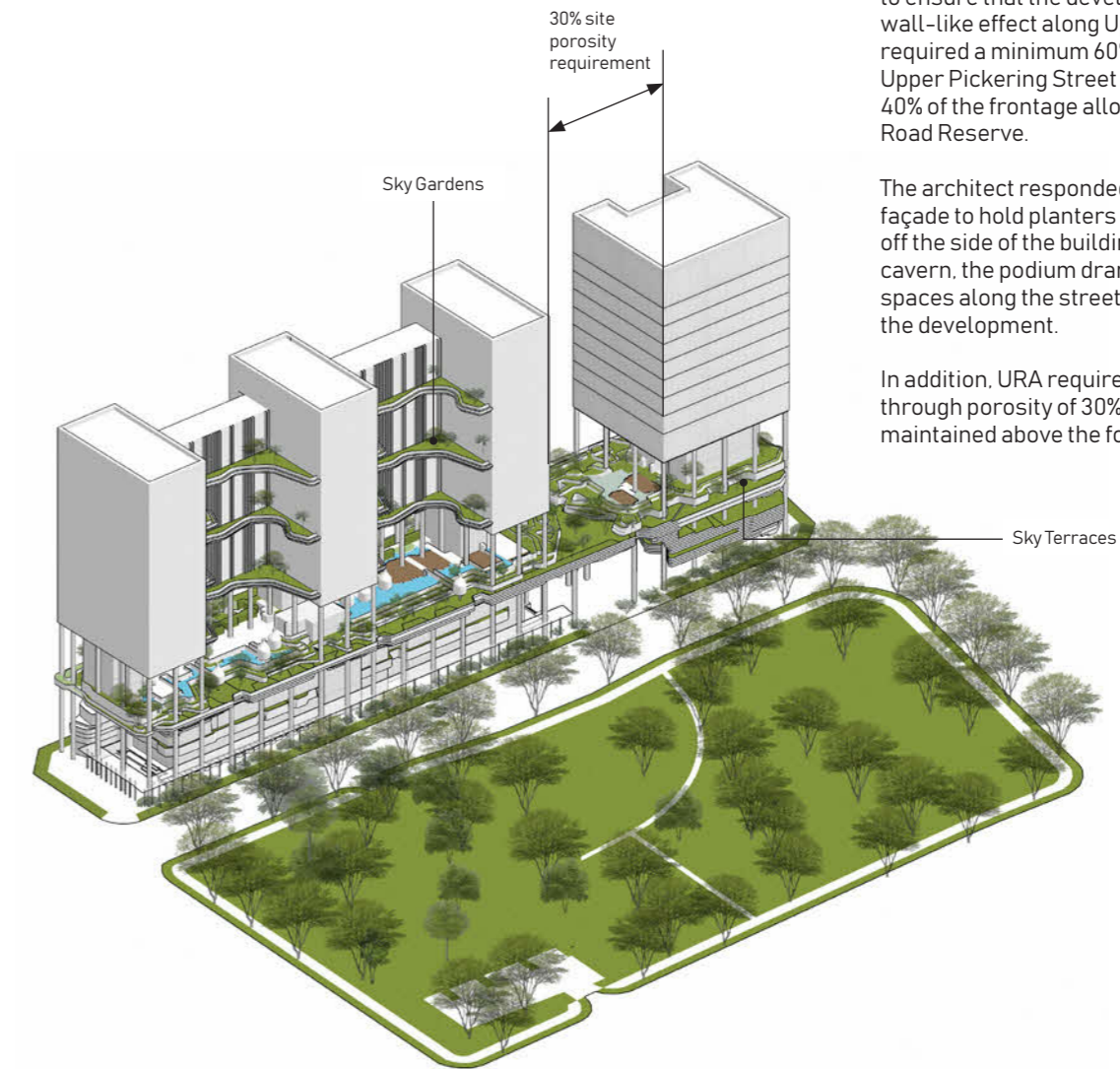
Source: Patrick Bingham Hall

### Preventing a wall-like effect

In order to maintain visual porosity from the adjacent developments to Hong Lim Park, and to ensure that the development did not create a wall-like effect along Upper Pickering Street, URA required a minimum 60% of the elevation fronting Upper Pickering Street to be articulated, with only 40% of the frontage allowed to be built up to the Road Reserve.

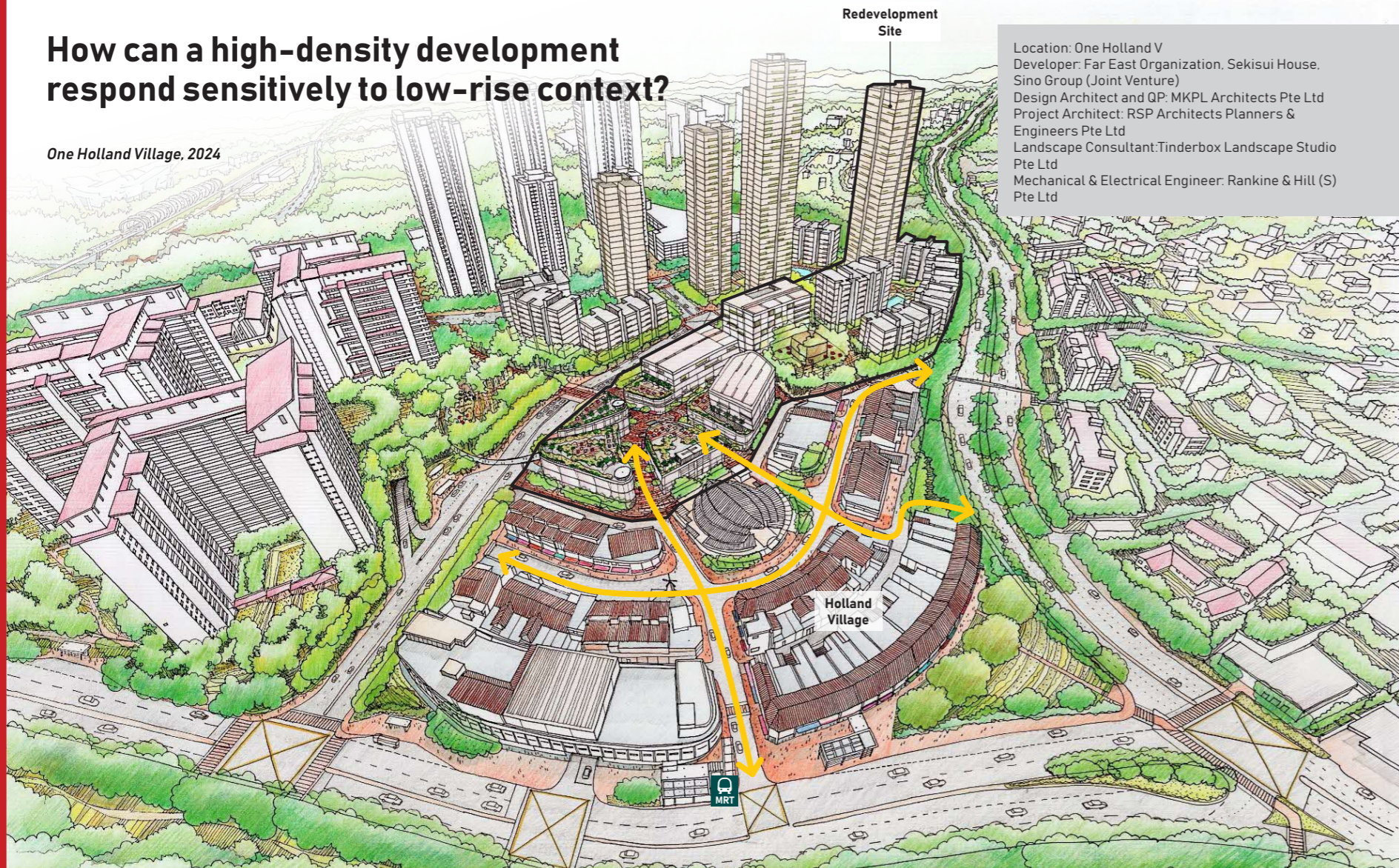
The architect responded by sculpting the podium façade to hold planters for greenery to hang off the side of the building. Resembling a tiered cavern, the podium dramatically opens up to lofty spaces along the street to welcome people into the development.

In addition, URA required a minimum see-through porosity of 30% of the site frontage to be maintained above the fourth storey.



## How can a high-density development respond sensitively to low-rise context?

One Holland Village, 2024



Holland Village has evolved organically into a cherished Identity Node today, characterized by its shophouse-lined streets.

When a sizable piece of land (2.3ha large) immediately behind it became available for redevelopment, URA developed detailed urban design strategies to guide its building form to ensure that the development would sit well in Holland Village's context and enhance its existing charm and appeal.

### Relating to the scale of the village

URA's first priority was managing the scale of the new mixed-use residential development. A high GPR of 3.9 had been established for the site to optimise the provision of housing next to Holland Village MRT station.

To mitigate the impact of the new development, URA introduced detailed building height guidelines to ensure that the towers step down sensitively towards the low-rise village. The high-rise towers were planned further away from the village core while intermediate height bands of 10, 6 and 3 storeys guided the high-rise buildings step down towards the village.

Low-rise zones were also established fronting the new community park and along the frontage of Holland Road, to visually extend the sense of the village along these main frontages.

### Creating a seamless extension

Another priority for URA was to seamlessly extend the sense of the village into the new development. Lorong Liput and Lorong Mambong were envisioned to be extended as pedestrianised streets into the new development, with the latter coinciding with underground MRT tunnels which could not have buildings above.

A decision was made to allocate some commercial quantum for the redevelopment site so that commercial activities/street buzz from Holland Village could be extended into the new development. The quantum to be allocated was discussed extensively, too much and it might cannibalise the existing businesses in the area, too little and it might not be viable.

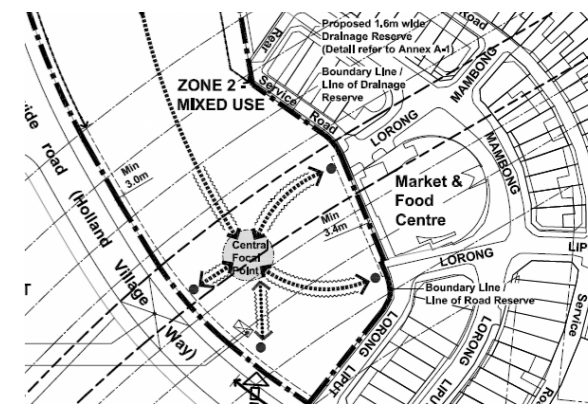
The widths of the streets were then designed to match the existing Lorongs. Sectional studies were done to determine the corresponding building edge heights and side table design to maintain human comfort and ease of pedestrian movement throughout.

A hierarchy of streets was proposed to accord clarity to the pedestrian network. The main street was to be the widest at 16m. The other internal streets were 12m or 10m in width.

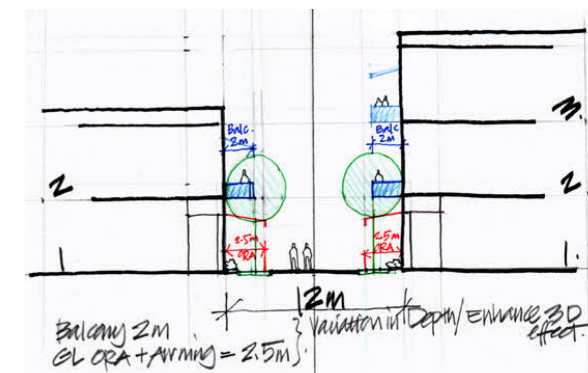
At 12m width, the street could already accommodate 2.5m wide Outdoor Refreshment Areas (ORAs), tree planting, as well as 2m balcony protrusions from the buildings, while leaving a comfortable 7m for pedestrian circulation.



Intimate streetscapes of Holland Village



Extending street network into redevelopment site



Section study by URA to determine street width

### Interpreting the shophouse typology to create human-scale building form

The most endearing aspect of Holland Village is arguably its human-scale 2 to 3-storey modern shophouse building forms, each measuring only 6m in width. They also come with various roof forms.

In response to URA's intentions to extend the fabric of Holland Village into the site, the architects took the extra step of developing a suitable building form to line the new streets, through interpretation of the shophouse building typology.

Using the typical width of shophouses as a reference, a 6m wide module was established for the new developments, to replicate the scale and rhythm of buildings lining the Lorongs.

The individual modules were also staggered to create open spaces for customisation, adding to the richness of textures and activities along the street.

It is worth mentioning that the design development was carefully guided by the Design Advisory Panel, a requirement for significant sale sites.

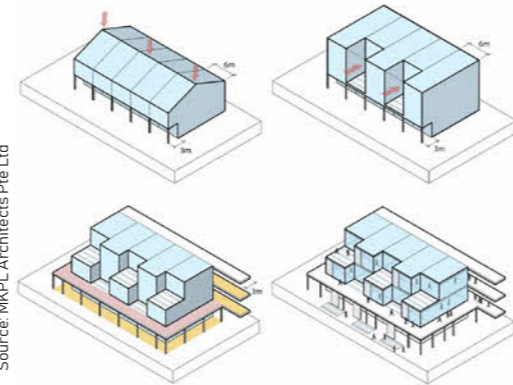
### Solving the problem of too much traffic

Prior to the redevelopment proposal, a major problem in Holland Village was vehicular – pedestrian conflicts along the narrow streets lined with popular eateries and bars.

This was primarily caused by cars lining up along Lorong Liput waiting to enter the multi-storey carpark behind Holland Village Market, filling the street with exhaust fumes while people cut across them.

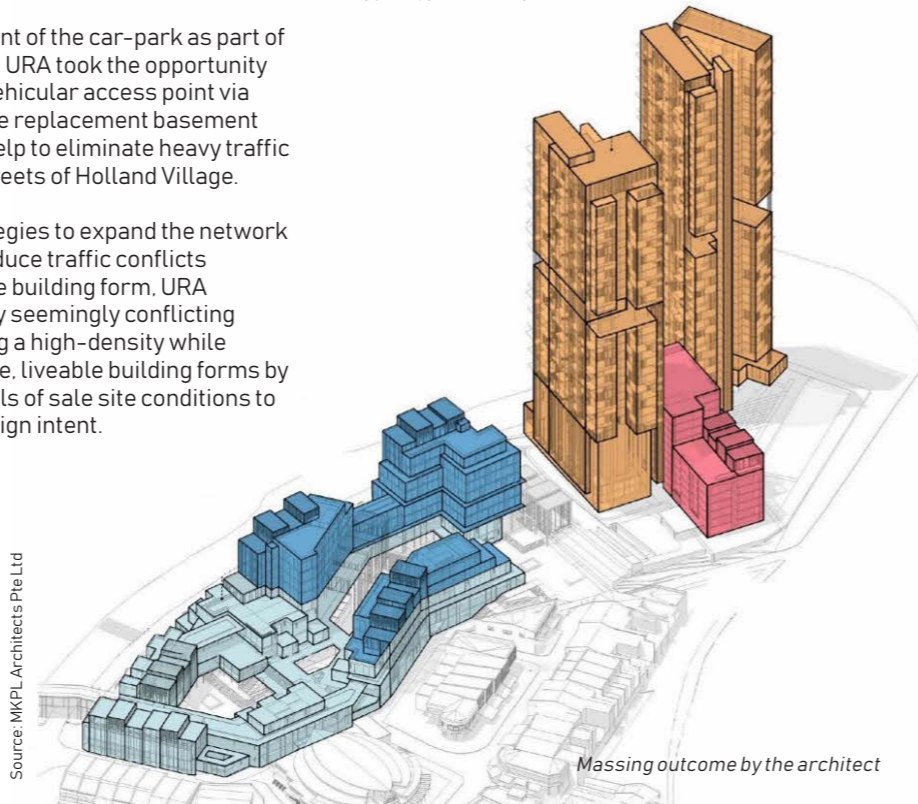
With the redevelopment of the car-park as part of the new development, URA took the opportunity to create a different vehicular access point via Holland Avenue for the replacement basement carpark. This would help to eliminate heavy traffic within the intimate streets of Holland Village.

Through careful strategies to expand the network of walking streets, reduce traffic conflicts and shape appropriate building form, URA has managed to marry seemingly conflicting objectives of achieving a high-density while ensuring human-scale, liveable building forms by using the different tools of sale site conditions to achieve the urban design intent.



Source: MKPL Architects Pte Ltd

Typology studies by the architect



Source: MKPL Architects Pte Ltd

Massing outcome by the architect

### BEHIND THE SCENES

## Finding the human-scale in our high-rise city

*Siew Man Kok is the founder of MKPL Architects and leader of the design development of One Holland Village, the URA Sale Site launched in 2017. He shares more on the importance of urban design and architecture in shaping contextual outcomes that work in high density environments.*

### In a high-rise city like Singapore, how can human-scale spaces help with liveability and well-being? How can we find space for this in spite of high development pressures?

**Man Kok:** No matter how big and dense a city is, it is critical that one should not be overwhelmed and lost when living in it. Spaces such as the streets, open spaces and greenery, especially in a hot tropical climate like Singapore, must be designed to be relatable to our human condition – one of which is the human scale.

Coupled with sensible master planning, sensitive massing and storey heights in relation to the hierarchy of the streets & open spaces, building elevations, street furniture and trees, all give us a sense of bearing and cocoon us from the massiveness and density of our city. The varieties of spatial experience give us the sense of a network of liveable spaces of a city. In Singapore, we must even extend this network of liveable spaces upward into our high rises.



Future internal streetscape within One Holland Village

### One of the design drivers for One Holland Village was an interpretation of the shophouse typology along the walking streets. Can you share more on the idea?

**Man Kok:** The architecture I propose is very much like how shop houses were once developed – a neutral backdrop with shop front elements that allow tenants to personalize or 'mess up'. Framed glass panels rather than frameless, with circular grilles above (accommodating M&E fans outlets), with side walls proportioned like a pilaster, offer opportunities for shop owners to place signages and other interventions. Over time, I believe a new layer of organically grown facade elements will add colour and variety.

### How do we create a sense of place in a new development, considering both the tangible and non-tangible attributes of a place?

**Man Kok:** Space and time must be transformed into place and occasion to create a sense of place. Architecture and planning can only provide the framework for events to take place. Equally important is the catalyst that the right kind of activities will bring about. Rather than leaving to chance, good place management could bring balance to the conflict between economic viability and social or public good.

The full version of this interview can be found at this [link](#).



# 2.2

## ROOFSCAPES

In a high-rise city, many views of the city are often seen from above, overlooking other buildings. URA therefore considers roofscapes as the "fifth" elevation of buildings that need to be properly designed to maintain good imageability for the city.



Coordinated roofscapes at Tanjong Rhu

### How do urban designers shape roofscapes?

#### 2.2.1: Shape skyline, district and development identity

A building's roof is literally its crown and should be designed as a culmination of its appearance and identity. The roof design should therefore be integrated with the overall architectural concept and not treated as an afterthought.

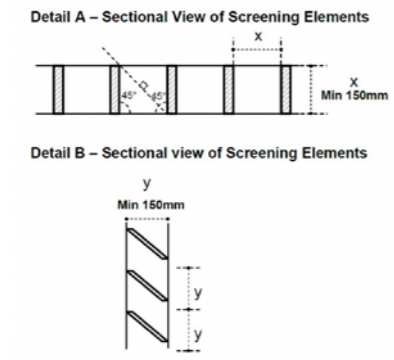
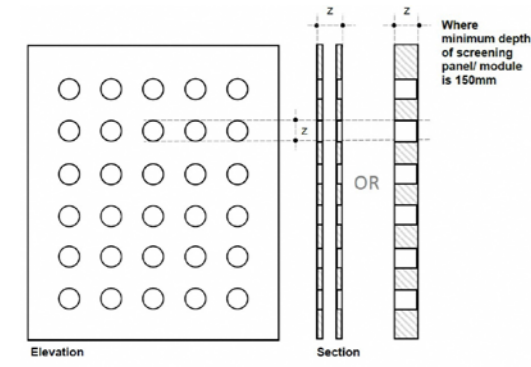
Some examples of well-considered roofscapes include The Esplanade, where its spiky arrangement of sun-shading fins has created a unique identity for the development, and the

lattice crown of Millenia Tower which helps define the Marina Centre skyline.

Besides contributing to the identity of individual buildings, roofscapes can serve as unifying elements in district identity. The pitched roof forms with terracotta clay tiles of developments in Tanjong Rhu help create a strong identity for the precinct, especially when viewed from across Kallang Basin.

### M&E Screening Guidelines

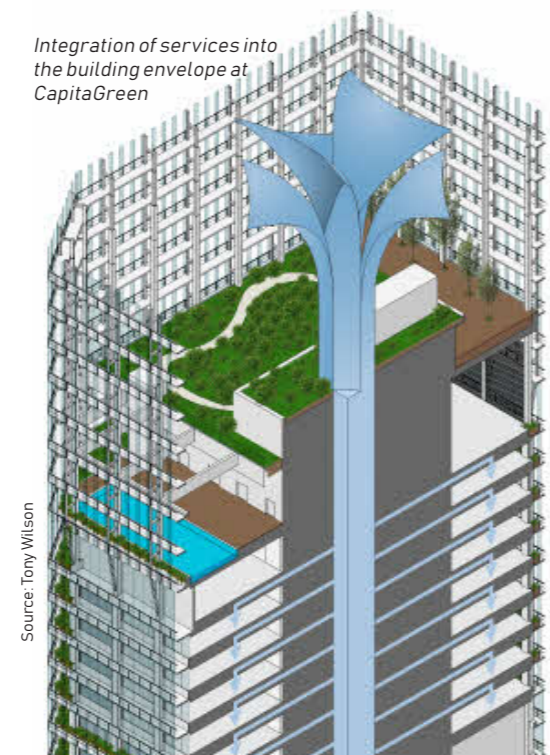
The M&E screening guidelines provide guidance on the screening of M&E spaces and carparks. More information can be found at this [link](#).



Rooftop screening at Marina Bay Financial Centre



Integration of services into the building envelope at CapitaGreen

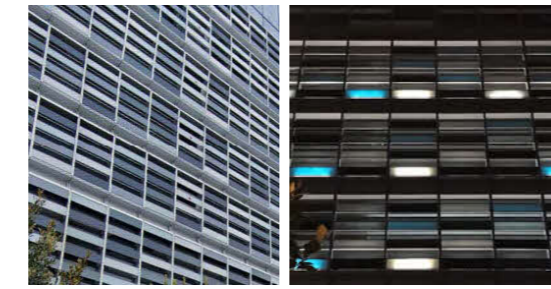


### 2.2.2: Screen unsightly services

Just as M&E services and multi-storey carparks are required to be screened from all sides, the tops of buildings must also be screened to prevent unsightly exposure of servicing areas.

If trellises and louvres are proposed, the spacing of the screening members should be equal or less than the depth so that there are effectively no 'gaps' in the screening when viewed at the same level. In addition, the screening elements need to be deep enough to block views from a wide enough range of angles - minimally 15cm deep. A comprehensive review of screening installations island-wide was completed in 2022 to determine this minimum depth required for screening to be effective.

If perforated panels are proposed, they need to be double-layered or thick enough to fulfil the 15cm depth requirement. This replaces the earlier porosity (solid to void ratio) controls for perforated panels, reducing conflicts with natural ventilation and fire safety requirements.



Good screening outcomes for multi-storey carparks

### 2.2.3: Create public spaces and greenery

Building rooftops were once primarily used to house M&E equipment like water tanks and cooling towers. Today they have become valuable real estate for rooftop bars, alfresco dining areas and lushly planted viewing decks in the city. This was the result of several initiatives introduced by URA.

#### Transfer of M&E floors

In Hotel and Commercial developments, URA encourages the transfer of M&E spaces from the rooftop to one of the three floors directly below the roof, where they can continue to be exempted from Gross Floor Area computation, in order to free up the roof area for greenery and public enjoyment.

Rooftop gardens at The Interlace



Rooftop public space at Marina Bay Sands made possible with district cooling systems which remove the need for individual cooling towers

### Encourage greenery through the Landscaping for Urban Spaces and High Rises policy (LUSH)

Launched in 2009, LUSH policy provided several stimuli to redesign roofscapes into public spaces.

By introducing a landscape replacement requirement of up to 100% in strategic areas, developments are guided to maximise all rooftop areas for greenery to comply with LUSH. As part of the landscaped areas were allowed to be hardscape, i.e. footpaths, seating, plazas, etc, many of these rooftop spaces were designed as publicly accessible roof gardens.

URA also granted bonus GFA for outdoor refreshment areas (ORAs) on rooftops under LUSH. This led to the flourishing of rooftop spaces as attractive dining areas in the city.

**CASE STUDY****How can district identity be enhanced through roofscapes?***Singapore River*

District identity can evolve from recurring architectural elements in the landscape. Shanghai's French Concession is known for its beautiful wrought iron balconies and stair railings. Battery Park City in New York has building facades that use the same types of bricks. Closer to home, Tiong Bahru is known for the art deco motifs on its SIT flats.

URA took the decision to use roofscapes to anchor the identity of Robertson Quay, by referencing the distinctive clay-tiled pitched roof forms of historic shophouses and warehouses along the river for all new infill developments. At Caseen Street, a number of warehouses with this roof form had been converted into arts facilities like Singapore Tyler Print Institute and 72-13 (home of TheatreWorks).

To relate with these historic buildings, new developments at Robertson Quay are therefore required to adopt a similar roof form to respect the existing character and architectural language of the district.



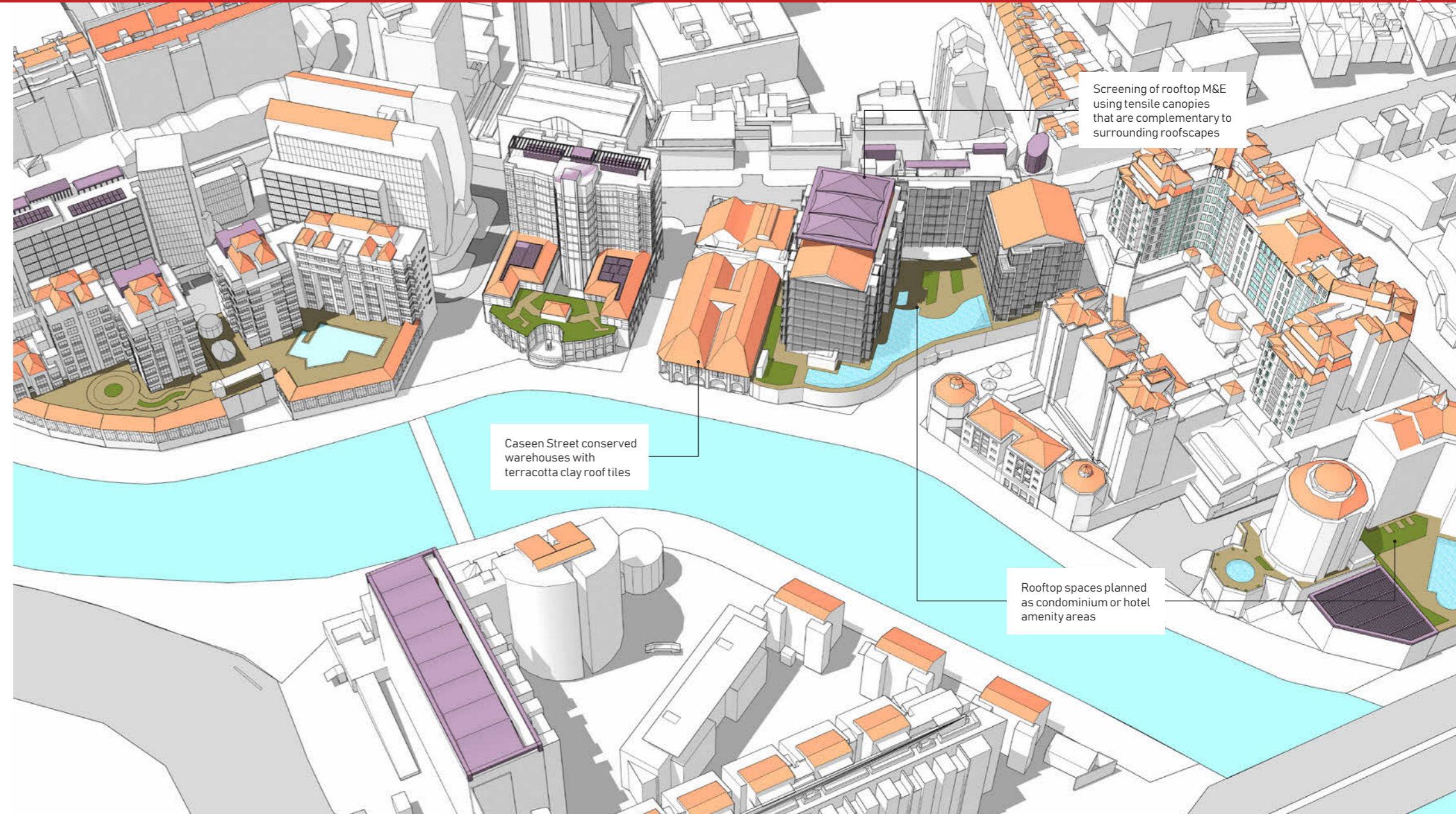
There was some flexibility allowed in the interpretation of the roofscape requirement, to ensure the roofs' designs could tie in with the architectural concept of the developments and meet functional requirements.

For example, some flat roofs were allowed for rooftop gardens. River Place used darker toned clay tiles and a more modern mono-pitched expression of the roof to tie in with its design concept.

Other districts that have coordinated roofscapes to express identity include Tanjong Rhu, where URA launched a number of residential sale sites in the 1990s, as well as iconic HDB precincts at Potong Pasir and Bishan.

***Singapore River roofscape requirements***

The Singapore River urban design guidelines outlines allowable roofscape treatments for developments along the river, which can be found at this [link](#).





# 2.3

## NIGHTLIGHTING

Nightlighting transforms the image of the city after dark, making it come alive and showing a different side to the city. Good lighting supports a night economy, sustaining street life and vibrancy long after the sun sets.

Nightlighting guidelines have been developed for key districts in Singapore's city centre to enhance their character and identity, as part of a Lighting Masterplan.

### When did guidance on nightlighting begin in Singapore?

While the first street lamps were lit in 1824 using coconut oil, street lighting for the public realm did not become widespread until after the war in the 1950s and 1960s with electrification of street lamps<sup>8</sup>.

Singapore took the first step to initiate nightlighting guidelines in 1996 for the Civic District, making it mandatory for buildings there to be lit up to enliven the skyline. This was followed by the Night Lighting Master Plan in 2006, which developed bespoke strategies to enhance the district character of areas like Marina Bay, Bras Basah, Bugis and the Downtown Core.

Over the years, URA has progressively guided existing and new developments on their external lighting to ensure alignment with the Master Plan.



The skyline before the nightlighting plan, circa 1993

### Why are nightlighting guidelines needed?

#### 2.3.1: Ensure tasteful and elegant outcomes

Left to chance, nightlighting could become a "shouting match" between developments, with each one trying to outdo the others. Many cities have come to the realisation that nightlighting has to be coordinated in a master plan to reduce light pollution and enhance livability and attractiveness.

Vibrant lighting environments like Times Square in New York have extensive guidelines in place to ensure safety, compatibility and aesthetics in lighting and signage<sup>9</sup>. Cities like Paris, Barcelona and Melbourne also have comprehensive lighting plans that aim to reduce light pollution and enhance identity for the city.

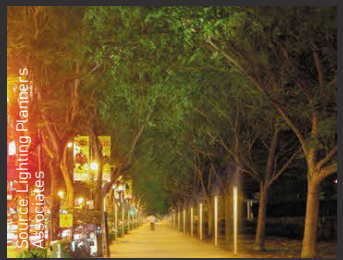
Singapore takes a calibrated approach to nightlighting, out of concerns that excessive lighting detracts from the architecture of buildings, causes glare and light pollution. However, this does not rule out the creation of energetic lighting environments in areas like Orchard Road and Bras Basah, Bugis, or animated lighting during festive occasions.

In short, taking a considered and contextual approach is key to shaping tasteful and elegant outcomes, creating different moods for different occasions and making Singapore evocative and memorable after dark.



Source: Lighting Planners Associates

Express building architecture and identity



Source: Lighting Planners Associates

Uplight and showcase lush urban foliage



Source: Little India Shopkeepers and Heritage Society

Reflect multi-cultural diversity through festive lighting



Source: Lighting Planners Associates

Profile waterbodies and waterways in the city

### How do urban designers shape distinctive cityscape through nightlighting?

### 2.3.2: Highlight Singapore's tropical and multi-faceted culture and identity

Singapore's nightlighting strategies aim to highlight the qualities that make the city unique - as a tropical metropolis and City in Nature. They also address the city's diverse history, culture and modern aspirations. There are four main strategies for nightlighting in Singapore:

- Create a recognisable Singapore skyline where lighting is used to express the architecture of the buildings and create a three-dimensional effect, to better reflect their personalities and a sense of place.
- Enhance Singapore's positioning as a City in Nature by using appropriate lighting to showcase the lush foliage found around the city.
- Reflect the sense of 'islandness' by creating well-lit waterfronts and profiling unique waterways and waterbodies; and
- Use a variety of festive lighting to reflect the multi-cultural diversity of Singapore's urban fabric and society.

### 2.3.3: Balance lighting levels and temperatures carefully

Nightlighting is not only about light but the contrast between light and darkness. Shadows can create rhythmic effects in the nightscape and allow the beauty of lighting to be better appreciated.

Minimising glare is a key priority. Around public spaces like the Marina Bay and Singapore River promenade, lighting fixtures are deliberately designed to be concealed with the lighting kept below eye level, creating gentle washes of light on walking surfaces.

Colour temperature and colour rendering effects are also guided to create the desired atmosphere that is place-specific. Warmer hues or lower colour temperatures are used to create intimate atmospheres at pedestrian level or around historic buildings. Lamps with higher colour rendering properties, e.g. 3000K temperatures, are used to achieve vibrant, high quality lighting for key public areas, which is more flattering to urban greenery and skin tones



Sensitive indirect lighting to minimise glare in the public realm, Marina Bay

Nightlighting using sodium vapour lamps at Orchard Road, early 2000s



Source: Lighting Planners Associates

Enhanced lighting with better colour rendering to light up the pedestrian mall and tree foliage, post 2008





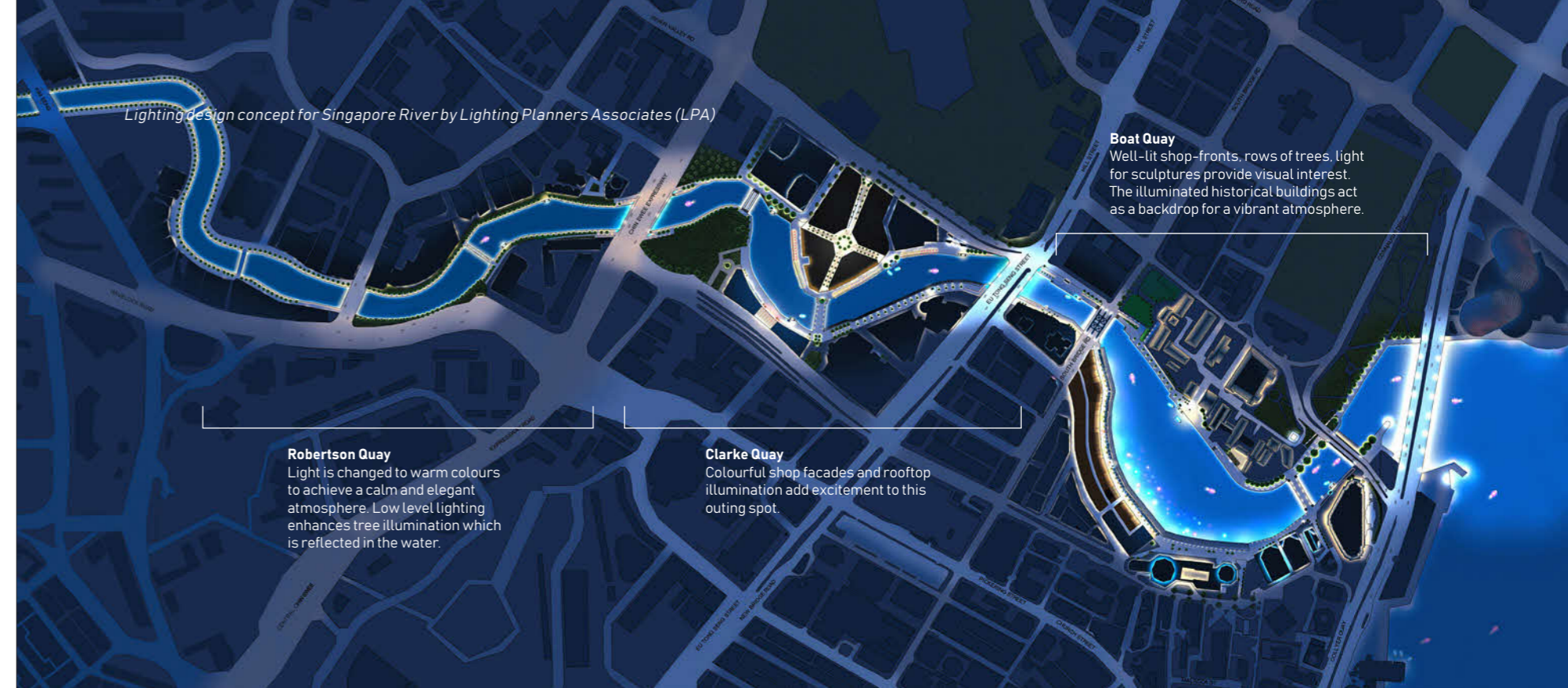
### 2.3.4: Enhance district character and vibrancy

The key areas covered in Singapore's Lighting Masterplan are the Central Business District, Marina Bay, Orchard Road, Singapore River and Bras Basah, Bugis. Each area is given a unique lighting treatment in response to its character.

#### Orchard Road

The lighting scheme for Orchard Road reinforces the image of the street as a tree-lined boulevard and world-class shopping belt.

The crowns of lush Angsana Trees along the street are uplit at night, creating a luminous axis. High quality, long-life lamps with excellent colour rendering property, e.g. at 3000K temperatures, also illuminate people in natural colours along the pedestrian mall. The developments fronting the pedestrian malls add colour and excitement to the street with animated lighting, advertisement signboards and immersive window displays.



Lighting design concept for Singapore River by Lighting Planners Associates (LPA)

**Boat Quay**  
Well-lit shop-fronts, rows of trees, light for sculptures provide visual interest. The illuminated historical buildings act as a backdrop for a vibrant atmosphere.

**Robertson Quay**  
Light is changed to warm colours to achieve a calm and elegant atmosphere. Low level lighting enhances tree illumination which is reflected in the water.

**Clarke Quay**  
Colourful shop facades and rooftop illumination add excitement to this outing spot.

#### Singapore River

Lighting aims to highlight the sense of water along the river, with continuous lighting of the river bank and dynamic lighting at bridge underpasses to connect the three quays together. Warmer tones of colour temperature are used to create intimacy, with landscaping features and the promenade gently lit to prevent glare. Bridges are colourfully lit to create visual interest along the river.

Lighting to highlight the waterway, promenade and bridges





Colour gradations in lighting of the CBD/Marina Bay skyline

Elegant lighting of monuments at the Civic District



### CBD and Marina Bay

Lighting strategies for the CBD and Marina Bay focus on shaping an attractive three-dimensional skyline. Buildings are required to light up their building crowns, key architectural features and sky gardens, as well as adopt gradation in colour temperatures – lower parts of buildings that relate to the pedestrian level use warmer colours while the higher part of the buildings use cooler colours. Special lighting schemes, such as dynamic lighting schemes, are allowed for festive occasions with approval from the URA.

### Civic District

As the nation's Civic core, comprising stately historic buildings housing civic and cultural institutions, the vision for the nightscape of the Civic District is one of subtlety and elegance. Coloured and animated lights are not allowed. The national monuments and conserved buildings are guided to use warmer colour temperatures, focusing on lighting architectural features, to bring out their majestic character.

### Bras Basah, Bugis

Nightlighting for BBB is festive, dynamic and flexible, reflecting its eclectic nature as a cultural melting pot. Luminous facades as well as coloured and moving lights are allowed for contemporary buildings to add to the buzz and vibrancy of the area. Building owners are encouraged to light up their buildings, especially at gateway entry points (along Selegie Road, Victoria Street and Bencoolen Street).

In a recent review, nightlighting is no longer mandated at BBB to give building owners flexibility and encourage innovative lighting designs.



Bright lights at BBB

### 2.3.5: Prevent glare and light pollution

There is growing concern on the excessive use of lights to illuminate the cityscape, resulting in disturbances to circadian rhythms and affecting wildlife. Nightlighting should thus be executed sensitively to avoid glare, light trespass and pollution.

Moving, animated lights are generally not encouraged around Singapore. Slow-moving kinetic lighting may be considered in locations where such displays are permitted.

Fixtures and lighting levels also have to be adjustable in response to site inspections. Lighting outcomes are more attractive when the source is concealed to prevent glare.

Lighting fixtures therefore have to be designed to be fully integrated into the building façade and screened from view, and not added as an afterthought.

Source: Patrick Bingham-Hall

**BEHIND THE SCENES****Interpreting culture through lighting design**

*Kaoru Mende is the founder of Lighting Planners Associates, the Japan based lighting design consultancy that helped develop the Nightlighting Master Plan for Singapore's City Centre in 2006. They have worked on prominent projects such as Changi Jewel, Gardens by the Bay, Roppongi Hills and Sendai Mediatheque. He shares his views on sensitive lighting design to create a sense of place.*

**How should one approach lighting design to create a sense of place?**

**Kaoru:** Lighting is culture. There are a thousand different expressions of light culture in cities around the world. Lighting design with a sense of place should be unique and reflect the local character of the region.

We always have discussions with people to see what is the uniqueness in the cultural sense. It is not always easy to find this out.

**How did you interpret the culture of Singapore and reflect that in the night lighting master plan?**

**Kaoru:** Singapore's identity is about greenery, water, and it is a melting pot. For a city with a tropical climate, we suggested a cool and refreshing nightscape.

Usually I try to say that a high colour temperature is not suitable for the night time, but because of the climate here, a little bit of cooler colours and



Lighting design at Jewel Changi Airport by LPA

high colour temperature would be useful to create a new nightscape.

**You have spoken on the beauty of shadows, soft dim light and gradations of darkness. How does this apply in Asian culture?**

**Kaoru:** This is basically an aesthetic sense of light based on the Japanese climate and culture. This sense of beauty does not arise in Italy or other countries in the Middle East. However, Japanese culture is also strongly influenced by neighbouring China and Korea, so I think part of Japanese-ness can be seen as Asian-ness.

Tanizaki said in his book "In Praise of Shadows" that it was dangerous then to just imitate the west in the use of too much electric lights. There is a big difference between European and Asian culture and their aesthetics on light.

**Many cities have created light shows to stand out from the competition. What do you think of Singapore's direction and how do you think it can evolve?**

**Kaoru:** I would like to see cities stop competing for the amount of light and flamboyance, just as architecture competes for the height of skyscrapers.

It is kind of a miracle that you have only 50, 60 years to develop your country, but I have never seen a government thinking about the urban nightscape like URA. So Singapore is a good example in Asia. I would like to see Singapore's nightscape become more comfortable and artistic over time.

The full version of this interview can be found at this [link](#).

**Six principles in urban lighting**

These guiding principles were developed in the Lighting Master Plan for Singapore's city centre.



**Vertical Luminance** standards are needed to measure the surface brightness of objects and ensure the lighting up of architectural features and other elements of the landscape.



**Colour temperatures** create psychological effects, they need to be sensitively manipulated to imbue spaces with dynamism or intimacy.



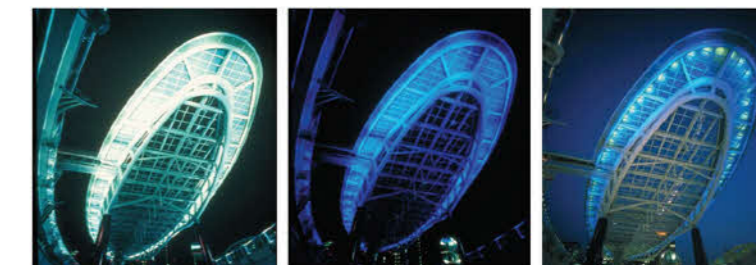
**High colour rendering** light sources can help improve the appearance of objects and people in space.



**Minimising Glare** should be a key priority to keep public spaces and circulation areas visually comfortable to navigate at night. Lighting fixtures can be kept below eye level and directed towards the ground to avoid discomfort to the eyes.



**Comfortable shadows and darkness** should be a part of lighting design, to allow the beauty of lighting to be appreciated and create rhythmic effects in the nightscape.



**Controlling Light and Operation** allows lighting levels to be changed to complement time, place and occasion.



# 2.4

## STREETSCAPES

Streetscapes are important components of district walking experience. More than just residual spaces between buildings, streetscapes are an important part of the public realm that can be shaped to enhance character, vibrancy and delight.



*Conserved shophouses and intimate streetscape design at Emerald Hill Road*

### *Why are streetscapes important?*

#### **2.4.1: Support street life and strengthen community bonds**

Streets form the basic network for all movement in the city and are therefore the starting point of peoples' engagement with the city, whether on a vehicle, bicycle or using one's own feet.

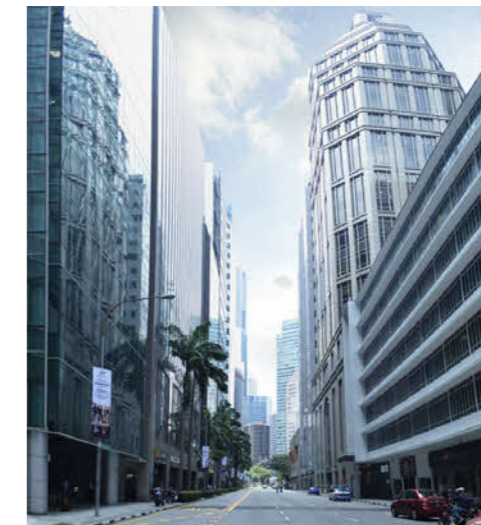
Strolling, people watching, window shopping, dining outdoors and meeting friends are basic forms of human interaction on the street that can engender a sense of community over time.

URA relies on a variety of strategies to shape streetscapes for better identity and vibrancy outcomes. The approach is always contextual and in response to the unique circumstances of each street.

This chapter will explore the different strategies used to enhance streetscapes around Singapore.



*Expressive architecture and lively pedestrian mall at Orchard Road*

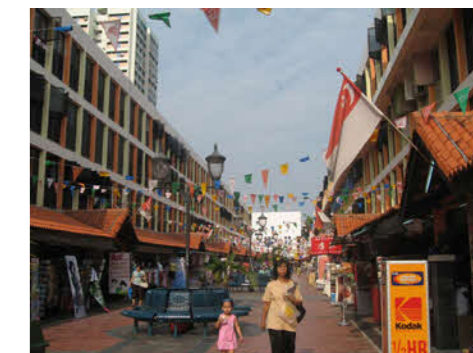


*Strong urban edges and formal identity at Robinson Road, CBD*

### **What makes these streetscapes unique and distinctive?**



*Low-rise buildings, alfresco dining and temporary road closures, Circular Road*



*Intimate walking street with local shops, Toa Payoh Town Centre*

## How do urban designers shape streetscapes?

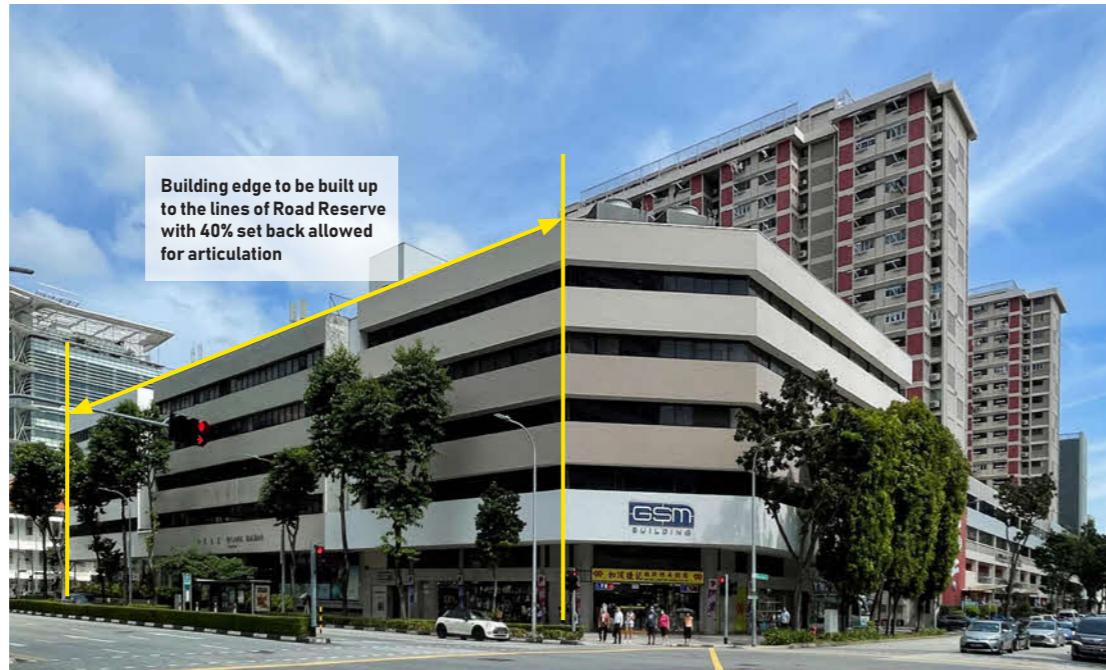
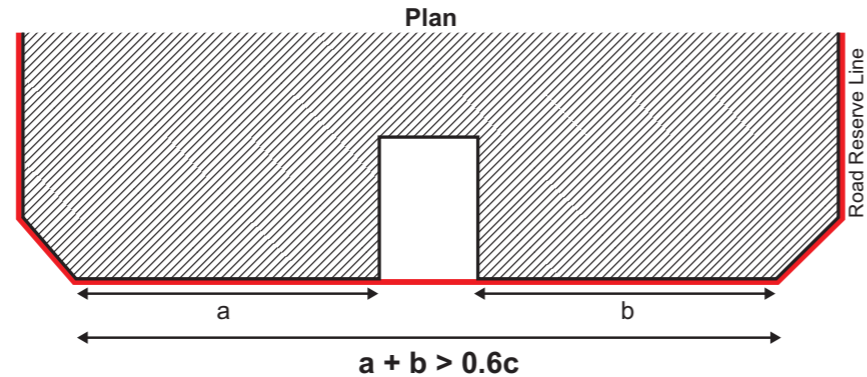
### 2.4.2: Define the street with building edges

Buildings provide the edges and surfaces that people encounter along the street. URA guides building edge treatments to create different streetscape outcomes, depending on the site context.

#### Shape building edges in response to site context

Along certain streets where better definition of the street is desired, buildings may be required to be built up to the required setback lines for at least 60% of the frontage. 40% per building frontage, between the corners of the development, can be set back for articulation of the building form, to create forecourts, pockets of open spaces, etc.

In the city centre where development pressure is high and land plots are generally smaller due to historic ownership legacies, buildings are typically built up to the line of the Road Reserve without any setback. Examples can be seen along Robinson Road and Cecil Street in the CBD, where party-walled buildings are allowed to abut the line of the Road Reserve with the full height of the building to form a strong and defined street wall reflecting the intense commercial and financial activities that are housed in Singapore's "Wall Street".



Building edge requirements for street definition at Bras Basah, Bugis

### 2.4.3: Keep streets to be human-scale

Human-scale streetscapes relate better to the human proportion and are more comfortable to people. This refers to reducing the physical and visual distances between elements in the streetscape so that they feel closer for interaction.

#### Have human-scale building edges

URA generally defines human-scale building edges as being no higher than 6 storeys. This is the upper limit of visual perception for most people walking along the street. In his book "Cities for People", the influential urbanist Jan Gehl shares that activities beyond a certain height do not relate well to the street, resulting in buildings that may feel disconnected from city life<sup>10</sup>.

However, skyscrapers can still support human-scale streetscapes with the right building edge treatments. URA may guide tall buildings to be stepped down towards the street or for the podium to be built to the line of Road Reserve while the tower is set back away from the street.



Human-scale pedestrian mall at Albert Mall

#### Tighten widths to create intimate streets

Human-scale does not look at the height of building edges alone, but also the dimensions of the street. Tighter streets have a stronger sense of enclosure for the space to feel intimate. Street life or the *qi* (vital energy) of the street can seem to dissipate in a loosely defined and out-of-scale streetscape.

This is where elements in the streetscape like planting verges and alfresco dining areas come into play – they help to break down the scale of the street to keep it intimate.

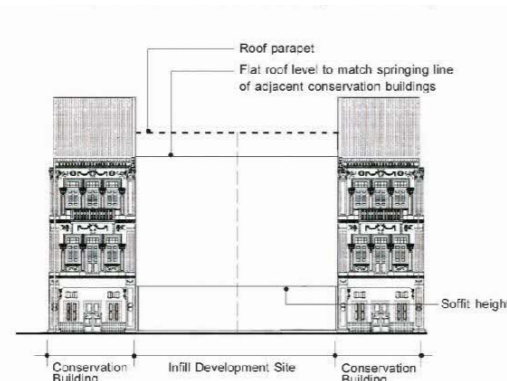


## 2.4.4: Create harmony and visual interest

Façade treatment and architectural design can help create harmony and visual interest in the streetscape.

### Guide infill developments to match harmoniously

Streets with rows of shophouses tend to have strong order and rhythm of façade elements. URA may introduce guidelines for new developments in conservation districts to ensure that new infill developments are compatible in scale with the conserved shophouses. For example, they shall match and not exceed the adjacent shophouses in terms of façade height. This maintains harmony in the streetscape.



New infill development along New Bridge Road

Façade Articulation at Wisma Atria, Orchard Road



### Use Façade Articulations to create interest

Along Orchard Road, URA has guidelines to encourage Façade Articulations on buildings without the need for building owners to redevelop their buildings.

Façade Articulations are extensions of the podium façade into the building setback area for up to 4m in depth, between the 2nd storey up to 30m from the street level.

They are required to be well-designed and animated, with a high level of transparency and good lighting to engage the street well. Since the introduction of the guidelines in 2004, many developments have reinvented themselves to enhance the streetscape of Orchard Road.



ORAs and AGU along Discovery Walk, Somerset

## 2.4.5: Enliven streets with activity-generating uses and outdoor refreshment areas

### Require Activity-Generating Uses (AGU)

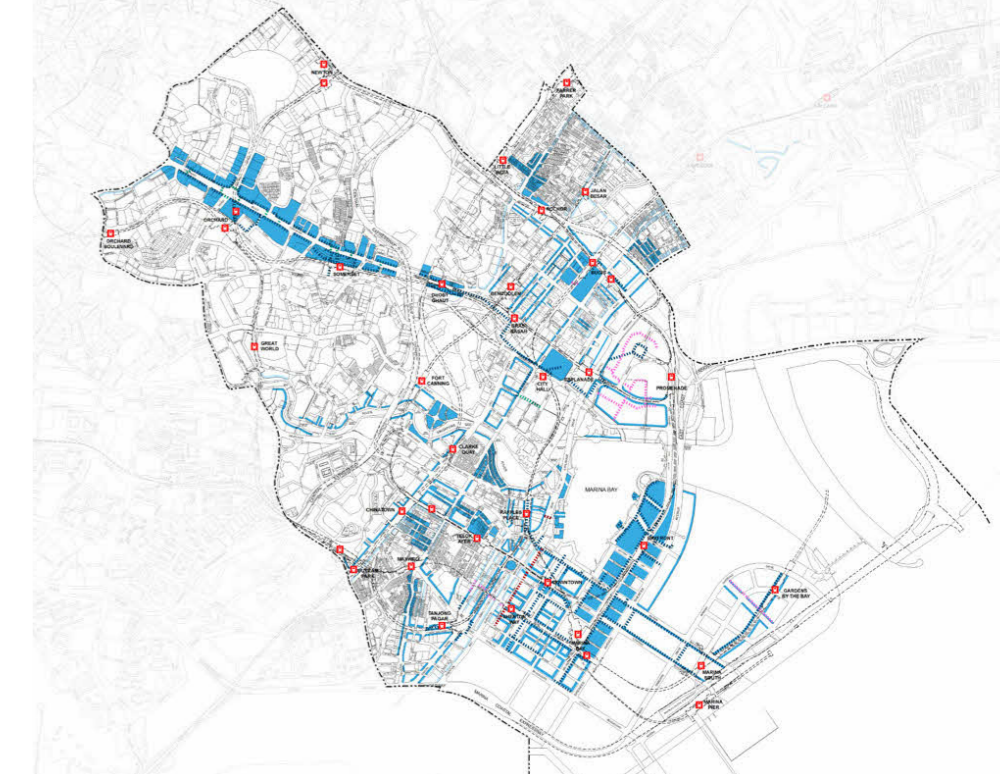
These are uses such as shops, eateries and galleries which help to enliven the street by creating engaging activities that people can partake in. They are essential for vibrancy in streetscapes.

URA has developed the activity-generating uses plan to guide the distribution of AGU around the city to support the vibrancy of key activity corridors, streets, pedestrian malls and waterfront promenades. URA will stipulate requirements for AGU to be provided within the 1st storey of the development along such thoroughfares.

### Encourage Outdoor Refreshment Areas (ORAs)

These are outdoor unenclosed seating areas that are extensions of adjacent food and beverage (F&B) units within buildings. They provide opportunities for outdoor dining which can contribute to vibrancy along streets and in public spaces.

Along Orchard Road, bonus GFA is granted to developments to provide ORAs next to the pedestrian mall. Along Singapore River, building owners can take Temporary Occupational License (TOL) of state-owned spaces along the riverfront promenade for ORAs.



Activity-Generating Uses plan for the Central Area

### Activity-Generating Uses

The list of uses that can be considered as AGU can be found at the following [link](#).

### Outdoor Refreshment Areas

The guidelines for outdoor refreshment areas in the city can be found at the following [link](#).



### 2.4.6: Ensure comfort in the tropics

Given the equatorial climate, creating comfortable outdoor conditions is essential for the success and vibrancy of streets in Singapore.

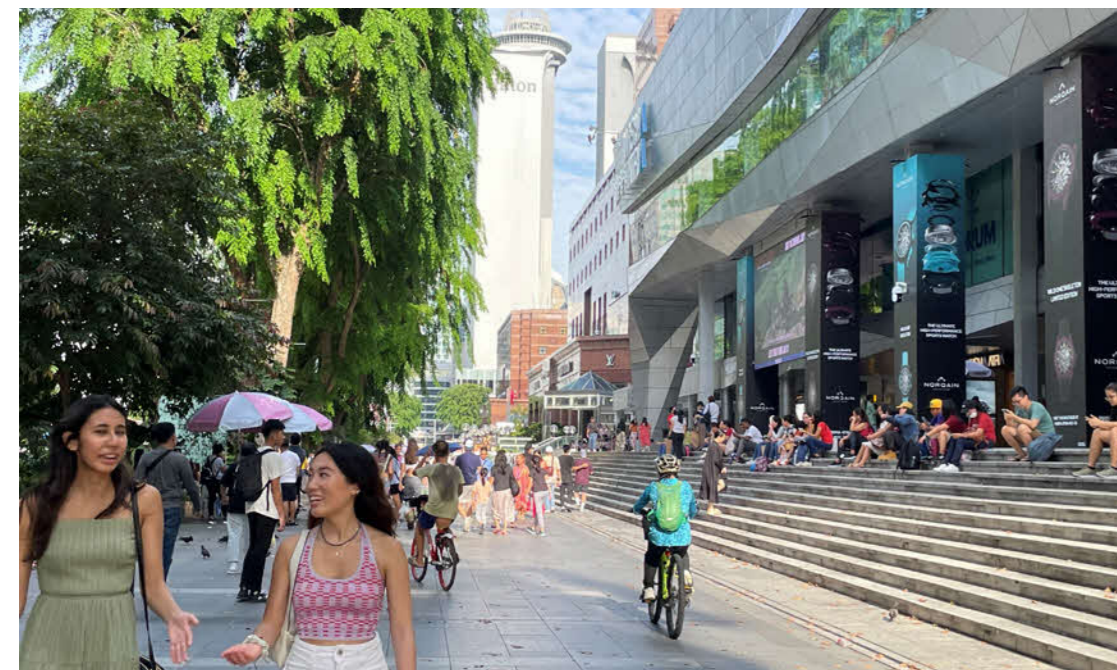
#### Provide shade through tree planting

Trees can drastically reduce outdoor temperatures by providing shade and also cooling down the air by evapotranspiration. URA requires setbacks along major streets for another row of tree planting to provide more shade for the sidewalks.



Two rows of tree planting along Singapore River to support strolling and alfresco dining by the river

Tree planting helps to improve outdoor thermal comfort along walking streets



#### Provide shade with buildings

Buildings may contribute seasonal shade along streets and public spaces. Depending on the time of the year, the north or south side of streets may be better shaded due to the relative position of the sun in the sky. It is also possible to strategically locate streets and public spaces in the afternoon shadow of tall buildings.

URA also requires buildings to provide covered walkways to line street frontages so that people can seek respite from the elements. More on this subject will be covered in the next book on "Connected and Inclusive City".



Multiple rows of tree planting along Marina Boulevard to create a comfortable promenade space for activities

Landscaping requirements along Marina and Central Boulevards



## CASE STUDY

## How can Façade Articulations enhance the streetscape?

Orchard Road

### What are Façade Articulations?

Along Orchard Road, developments are required to set back 7.6m – 11.6m from the boundary line, depending on the location, to create space for the pedestrian mall, activities and landscaping.

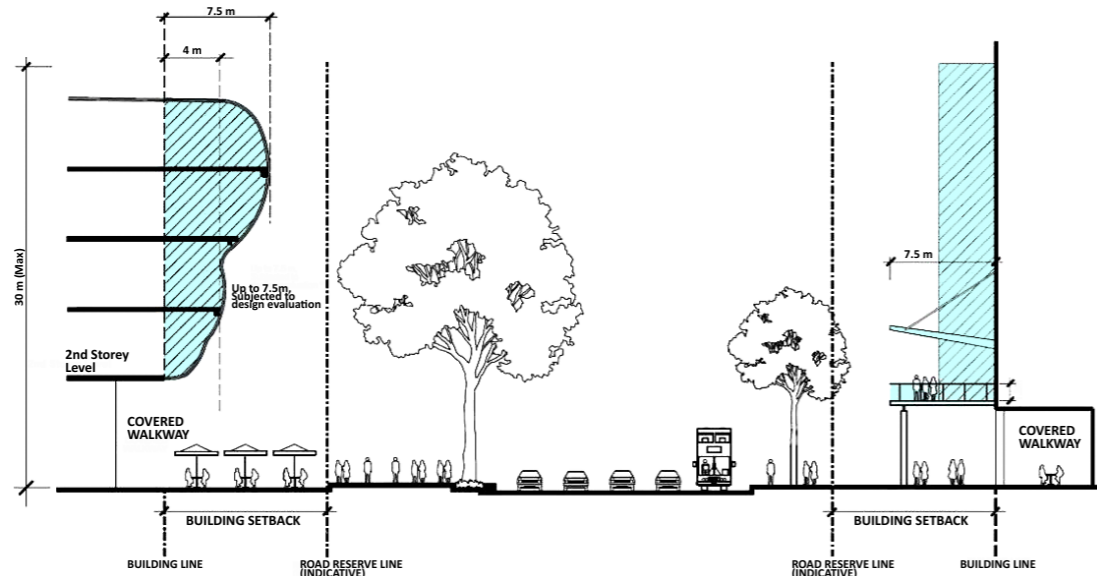
Façade Articulations are projections from the building façade that are allowed within the setback area to create more interesting and varied building frontages.

To incentivise their provision, URA allowed up to an additional 10% of GFA above the maximum cap for each development to be used for the articulations.

As developers could simply “add” the articulations onto the existing buildings, this allows them to refresh the facades without having to undertake redevelopment or major additions and alterations works.

### What are the basic requirements?

In order to maintain the generous width of the pedestrian mall, Façade Articulations are not allowed to exceed 4.0m in depth and are capped at 50% of the façade area, measured between the 2nd storey and top of the podium or up to 30m from the ground, whichever is lower.



Section showing how Façade Articulations are allowed to project into the building setback area

However, projections up to 7.6m at specific locations can be considered for design articulation, subject to the merit of the design.

They are only allowed from the 2nd storey to a maximum height of 30m from the ground to better relate and engage with the activities on the street.

In the spirit of making the façade more interesting and articulated, the projections are required to be varied and expressive and designed with high quality materials in keeping with the premier image of Orchard Road.

### Where can they be found?

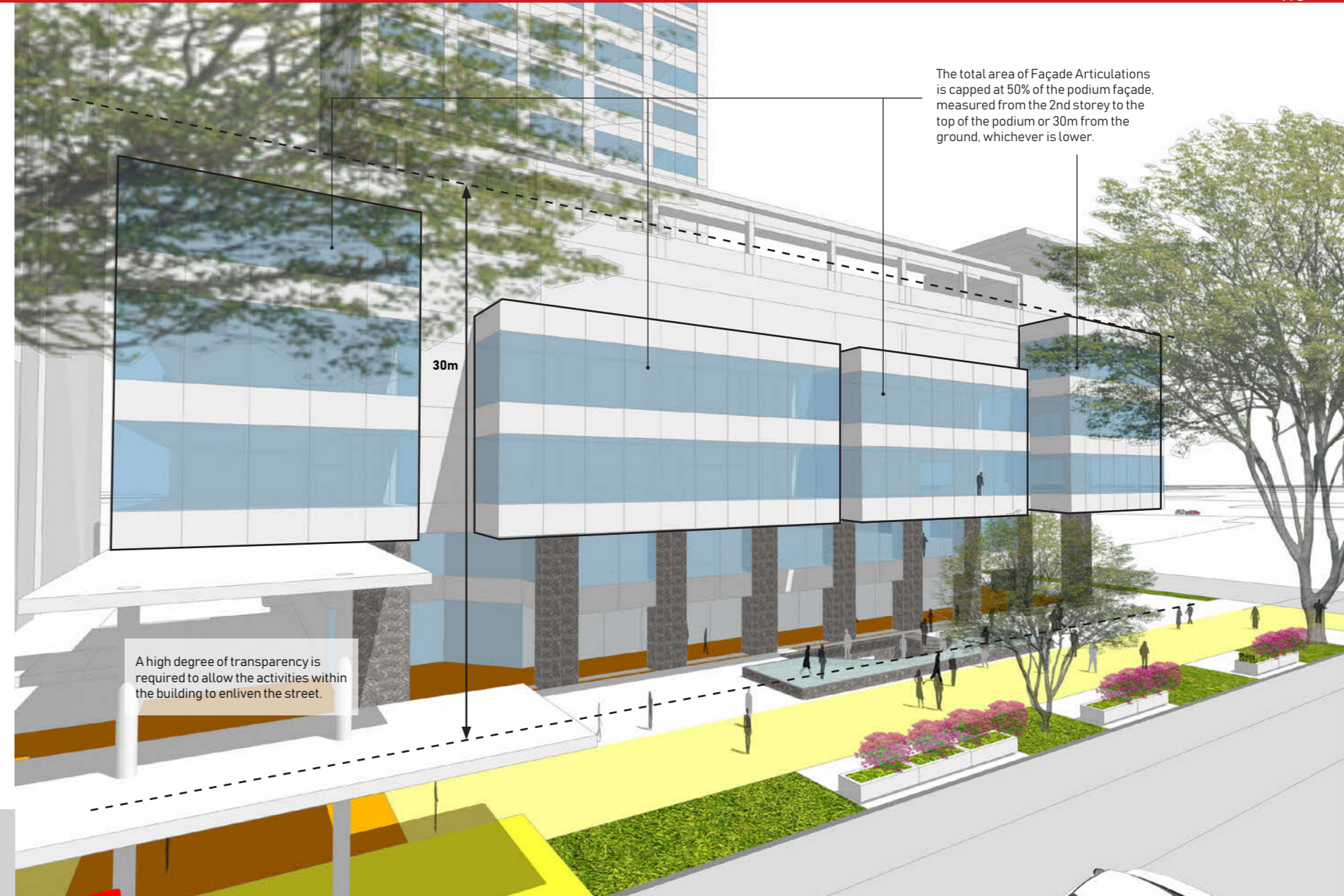
The guidelines have proven popular with building owners along Orchard Road, enabling

developments like Paragon and The Heeren to revamp their facades to enliven the streetscape of Orchard Road. Wisma Atria has refreshed its façade twice using the guidelines.

At Mandarin Gallery, the Façade Articulation comes in the form of unenclosed balconies, with outdoor refreshment areas on them to provide vantage views of Orchard Road.

### Façade Articulations

The guidelines for Façade Articulations along Orchard Road can be found at the following [link](#).





### 2.4.7: Prevent proliferation of signages and visual clutter

Signage displays are carefully guided to ensure that they contribute to street character rather than detract from it.

Within the Central Area, **outdoor advertisements** are only allowed along *designated advertisement routes* such as Orchard Road and Eu Tong Sen Street, where they would be compatible with the vibrant uses and bright lights of these areas. Advertisement signs are not allowed to be placed higher than 30m from the ground to relate better to the street and minimise disamenity to surrounding high-rise developments.

Outside the Central Area, they are only allowed on *Commercial and Industrial* buildings and not anywhere else where they can cause disturbance to *Residential* developments.

**Building signs**, including name signs, tenant signs and logos, are permitted on *all buildings*. These are subject to size and placement guidelines to avoid causing visual clutter. There are more specific controls in the Central Area due to district character considerations.

#### What happens when outdoor signs are not guided?

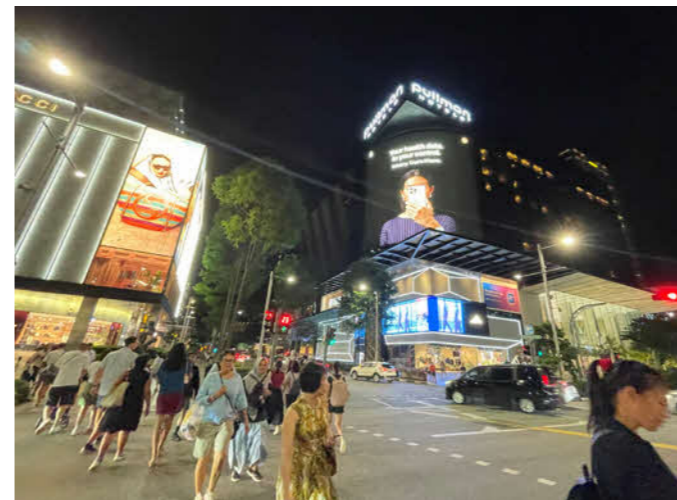


Before signage regulation, Singapore's streetscapes were blighted by ad hoc billboards and freestanding signages that were poorly designed

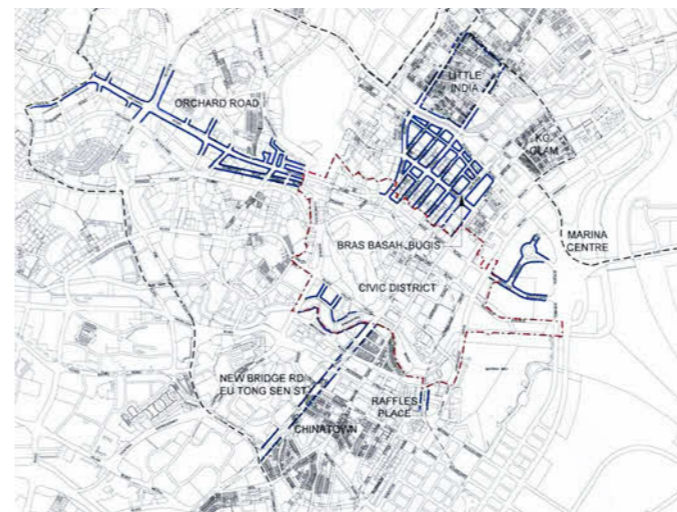


Additions of free-standing signages can detract from the character of an area

Outdoor advertisements and signboards with moving lights are only supported in areas and districts where they complement the district character, such as Eu Tong Sen Road and Serangoon Road.



Orchard Road signage route



Designated routes in the city where advertisements are allowed



Eu Tong Sen Street signage route



Serangoon Road signage route



# Where are signs and advertisements permitted on buildings in the Central Area?

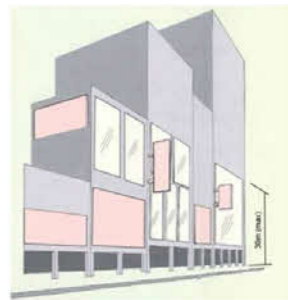
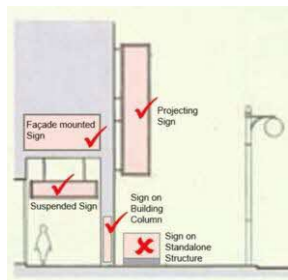
The size, number and placement of signage displays is managed to prevent visual clutter in the streetscape and skyline.

These are the general guidelines for outdoor advertisements and building signboards within the Central Area:

## Outdoor advertisements

### Allowable locations

- Only allowed along designated signage routes



### Building placement

- Only allowed on building facades, columns, or suspended below the soffit of the covered walkway, but not on boundary walls or as standalone structures;
- Free standing advertisements above the roof line / parapet are not allowed

### Height

- Only allowed up to 30m from ground level so that they do not disturb developments further away

### Area

- Total area of signs on the façade is capped at 50% of the façade area (measured up to 30m from ground level)

For more information on other types of advertisement signs, like lamp post banners and "art-vertisements" click [here](#).



## Building signboards

### Allowable locations

- Permitted on all buildings

### On building facades

- Shall relate to the scale and design of the architecture

### On the roof level

- Shall be mounted on the façade wall at roof level, not protrude from the roof line / parapet;
- Only allowed up to 1 sign of the building name or tenant name / logo per building elevation, up to a maximum of 4 such roof signs per development
- Size of the sign is capped at 120sqm in area and 6m in height
- Sky signs (protruding from the rooftop) are not allowed

### On the boundary walls / fences

- Shall relate to the scale and design of the building façade
- Tenant name / logos shall be grouped and not block architectural features and shall be located at lower levels of the building

### As free-standing signs

- Only allowed one free-standing building name sign per development
- Height is capped at 1.5m

**Outdoor signs within the Central Area**  
For more information on building sign guidelines within the Central Area, click [here](#).



## Where are signs and advertisements permitted on buildings outside the Central Area?

These are the general controls for outdoor advertisements and building signboards **outside the Central Area**:

### Outdoor advertisements\*

#### Allowable locations

- Only allowed on commercial and industrial buildings

#### Building placement

- Only allowed on building facades, but not on boundary walls or fences

#### Height

- Only allowed up to 30m from ground level but not on the residential floors of mixed-use developments;

#### Area

- Total area of signs is capped at 50% of each façade area (measured up to 30m from ground level) or 100sqm, whichever is small.



\*Applicable to static signs.  
Digital screens are subject to evaluation.

## Building signboards

#### Allowable locations

- Permitted on all buildings

#### On building facades

- Shall relate to the scale and design of the building façade

#### On the roof level

- Only allowed 1 sky sign per building
- Size of the sky sign is capped at 50sqm in area and 5m in height measured from the roof line / parapet

#### On the boundary walls / fences

- Size of each sign is capped at 15sqm in area and must not exceed height of the wall / fence. Total area of all signs on boundary walls / fences must not exceed 30sqm per development

#### As free standing signs

- Size of each free-standing sign is capped at 15sqm in area and 6m in height. Total area of all free-standing signs is capped at 30sqm per development

#### Outdoor signs outside the Central Area

For more information on building sign guidelines outside the Central Area, click [here](#).



Source: DP Architects

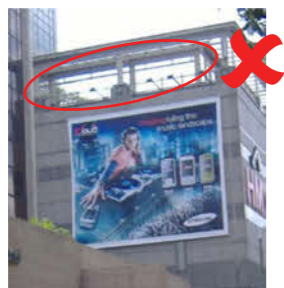
Building sign shall be flush-mounted and integrated into the design of the façade



View from front



View from rear



### 2.4.8: Ensure good integration of signages with façade design

In general, all signs shall be designed to fit in well with the scale and design of the building façade, appropriately sized and sensitively placed to not cover architectural features like windows.

They should be flush-mounted and integrated into the design of the façade, and neatly detailed without exposed framing or brackets.

Light fittings shall be hidden from view, and not mounted externally to illuminate the sign. If complaints or feedback is received regarding the lighting levels of the sign, remedial actions shall be taken to dim the lighting to an acceptable level or reduce its operation hours to no later than 10pm.

## CONCEPTS EXPLAINED

### Why are advertisements and signboards mostly confined to building facades and not allowed as free-standing structures?

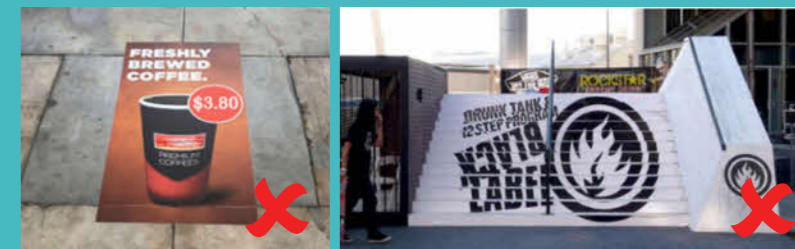
Free-standing signboards can create visual clutter and mar the streetscape, especially temporary ones with poorly designed structural supports. Some examples of this are displayed on the right. As such, freestanding signboards are carefully controlled under the guidelines.



Free-standing signboards are generally not supported under the guideline

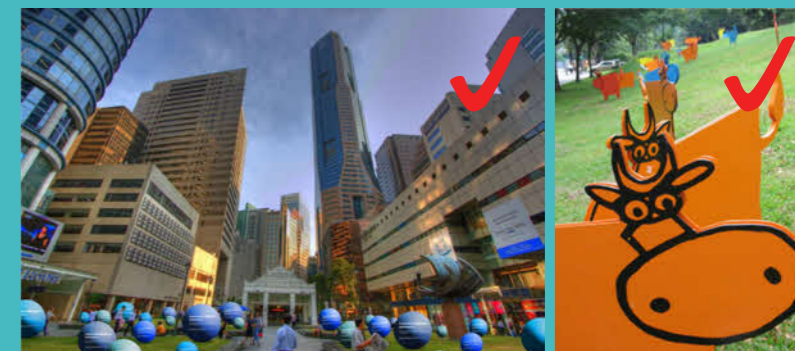
Free-standing **advertisement signs** are restricted to the following only:

- Temporary signs promoting community events or activities within Community, Sports, Medical or Educational buildings only.
- “Art-vertisements”, which are 3D sculptural displays that promote the subject matter through association only (i.e. without messages or logos), subject to design merit;



Free-standing **building signboards** are restricted to the following:

- Building name signs, which are limited to 1 per development and 1.5m in height in the Central Area, and capped at 30sqm in total and 6m in height outside the Central Area;
- Business tenant signs / logos which must be consolidated into one signboard, and limited to 1 consolidated signboard per development and 1 storey in height in the Central Area.



Art-vertisments can be allowed based on design merit

All outdoor signages require a license from the Advertisement Licensing Department in BCA. Signs located on gazetted conservation buildings or National Monuments also require clearance from URA's Conservation Department.



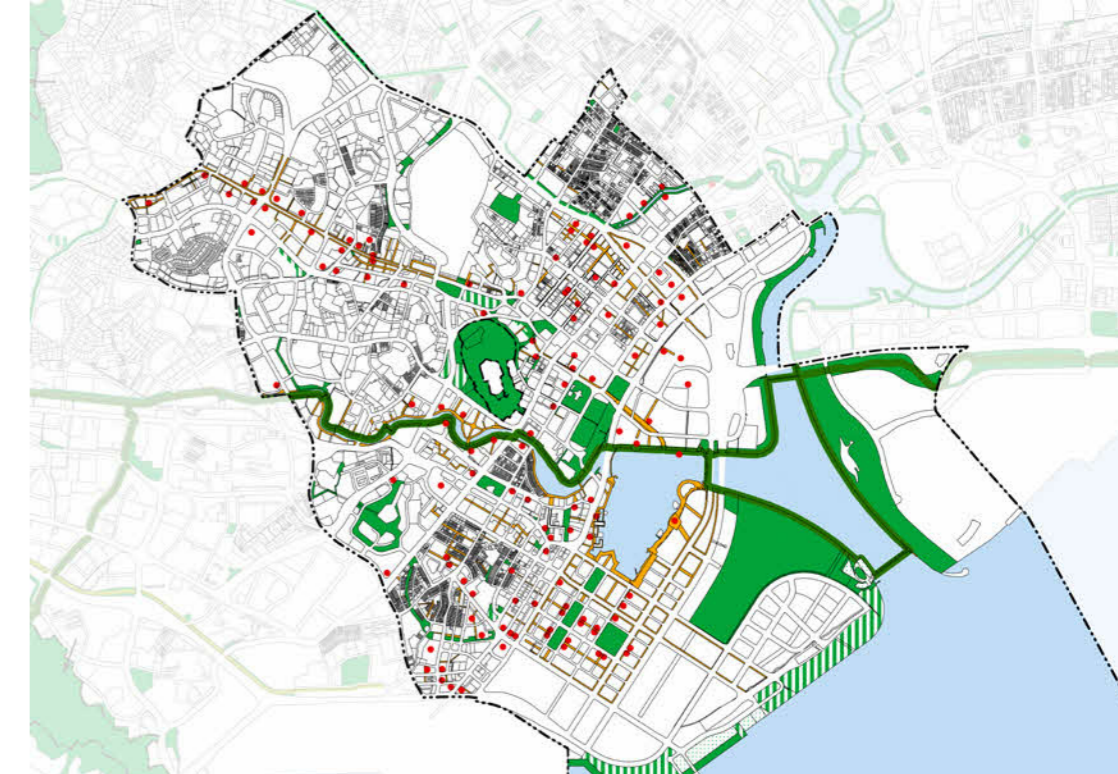
### 3.0 Shaping endearing places

This third part of the book looks at how spaces are shaped into “places” that are endearing and help people form emotional connections to Singapore, starting with public spaces in the city.

# 3.1

## PUBLIC SPACES

Public spaces are the living rooms of the city, allowing people to gather and socialise and participate in activities. They are often a source of delight in the city. URA has safeguarded the creation of public spaces in the Parks and Waterbodies Plan.



The Parks and Waterbodies plan denote where existing and planned public spaces are required (red dots)

### Why are public spaces needed in the city?

#### 3.1.1: Bring people together and anchor communities

Public spaces are central to social life in cities, functioning as places for gathering and encountering others. By facilitating human interaction, they reduce feelings of isolation and foster a sense of community.

Public spaces range in scale and type and function as “city rooms”. They have a civic dimension, and have to be carefully designed, well-kept and presentable to project a good image for the city.

**Conviviality** is a concept often used to describe successful public spaces – referring to the quality of making people feel included and at ease. Convivial atmospheres encourage human interaction and building of social capital. Small gestures, such as providing seating and shade, are important steps in shaping convivial public spaces that all feel welcome to enjoy.



## What are the different types of public spaces in Singapore?

Public spaces come in all shapes and sizes, serving a variety of functions in the city.



**Ceremonial spaces** – Historically significant, these spaces commemorate important locations, milestones and even historical figures in the city, and are often used for important ceremonies such as memorial services and parades.



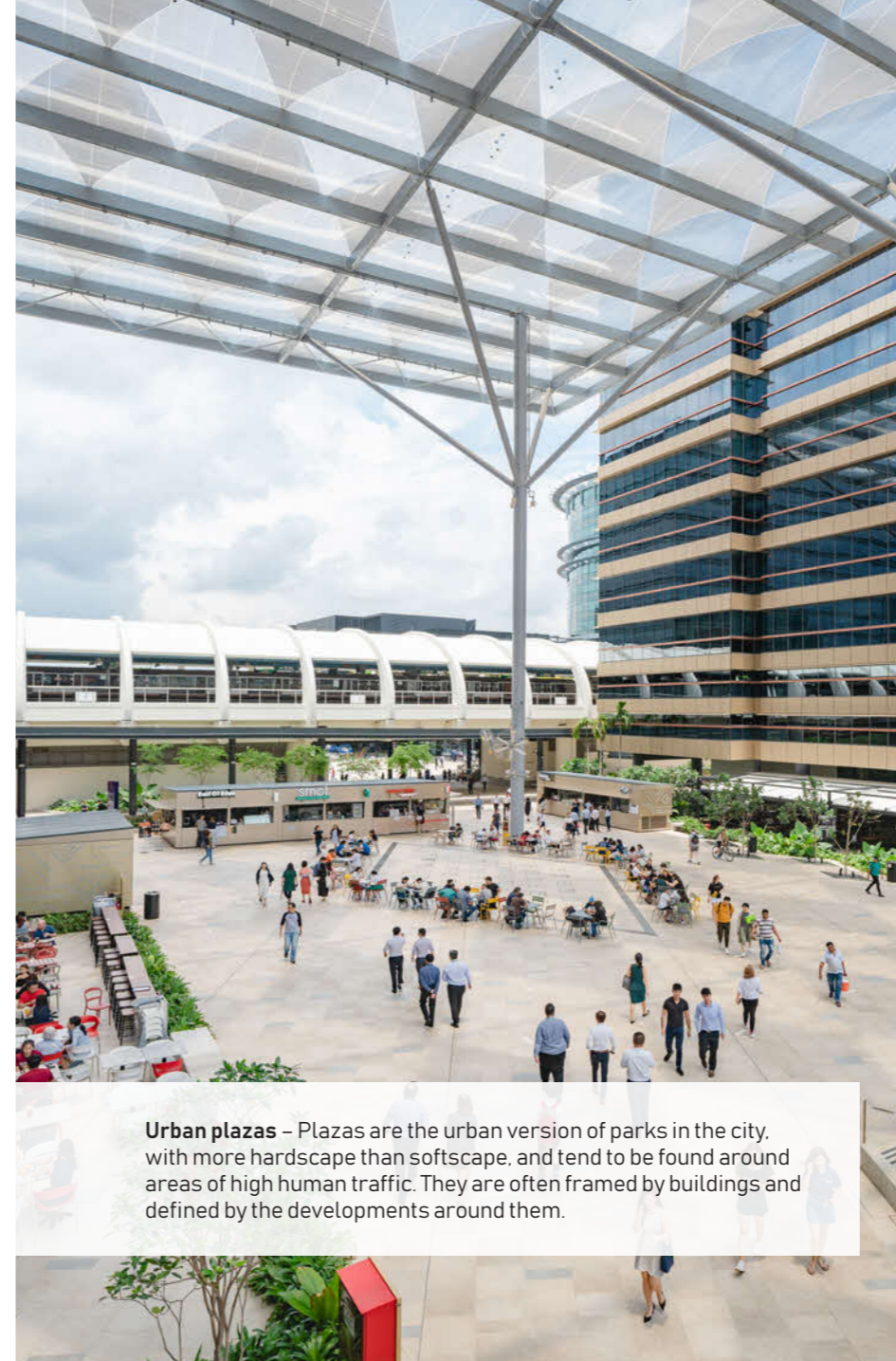
**Courtyards / Forecourts** – These are open spaces within developments that tend to be more intimate and semi-private in nature, mainly serving the occupants of the development. They also act as spaces for orientation or thresholds into the development.



**City rooms** – These are sheltered variants of urban plazas, located within large developments on the ground level. They often feel like large public 'rooms' in the city, sometimes affording impressive views of the surroundings.



**Pedestrian malls / Promenades** – These are linear public spaces that can span multiple street blocks, acting as thoroughfares or corridors in the city, connecting multiple developments together. They are often realised through the pedestrianisation of road space.



Source: DP Architects

## CONCEPTS EXPLAINED

### What are POPS and what do the guidelines cover?

POPS refer to Privately-owned Public Spaces, which are located within private development boundaries and contributed by the private sector, as opposed to public spaces built by the government. They add to the diversity and quality of public spaces in the cityscape to serve the population's needs. As privately-owned spaces that reflect the personalities of the individual developments, they also add to the multi-faceted character of the city.

Locations where POPS are desired are marked out in the Parks and Waterbodies plan, to be realised as part of major redevelopment works or works involving major additions and alterations undertaken by building owners.

To provide greater insight and guidance on how POPS should be designed, in response to the local climate and human behaviour, design guidelines were released in 2015 covering five main aspects:

- Size and Configuration;
- Access and Location;
- Amenities and Public Seating;
- Shade; and
- Signage

These aspects mainly focus on the physical dimension of public spaces, to ensure that they are sufficiently sized, easily accessible, well-shaded and provided with amenities. These considerations are explained more in the coming pages.

Just as important are the non-physical qualities of public space – a sense of vibrancy, conviviality and place, which help make them memorable and emotionally engaging. There are no clear and consistent formulae that can ensure these, hence a series of case studies have been included in this chapter to demonstrate the ways developers and designers have shaped successful public spaces in Singapore.

Creating public spaces that are special and resonate with people is a highly complex endeavour. It requires shaping a 'sense of place' that takes into account history, social and cultural practices and norms.

Turning spaces into memorable 'places' is also known as the art of placemaking, a topic that has been developed into its own booklet accompanying this publication, titled "How to make a great place".

As mentioned earlier in this book, several urbanists and theorists have suggested that there are three components in placemaking, "Physical Form", "Activity" and "Meaning". The next three segments of this chapter will focus on each component in turn<sup>3</sup>.

### How do urban designers shape successful public spaces?

#### 3.1.2: Shape good physical spaces

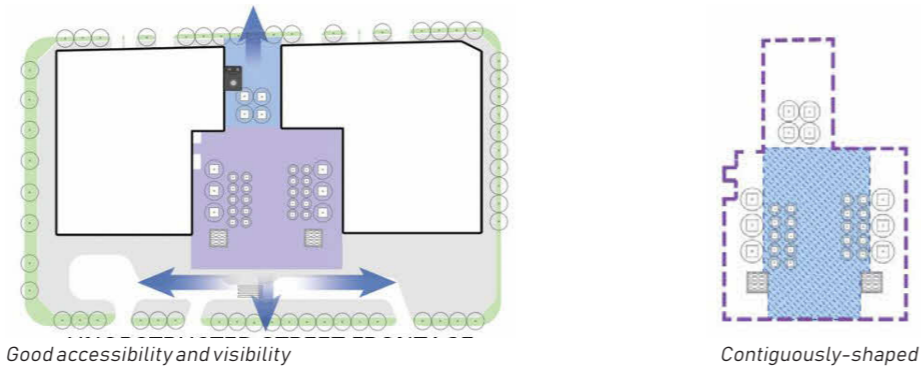
The first step in realising successful public spaces is getting the physical form right.

The guidelines for Privately-Owned Public Spaces (POPS) were developed to ensure good spatial design standards for public spaces in the city. They are elucidated in more detail on these two pages.

To qualify for GFA exemption, public spaces have to be designed to meet these requirements.

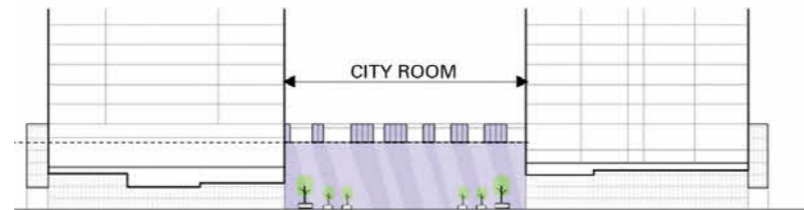
#### Sizing and configuration

- Good sizing and configuration is essential so that the public space has presence and does not feel like leftover space within the development.
- The larger the development, the larger the required size of the public space, to ensure appropriate scale and sufficient capacity for the potential number of users. There shall be at least 1sqm of public space for every 50sqm of GFA for the development, or 25% of the 1st storey building footprint, whichever is smaller.
- At least 75% of the total area shall be a contiguous space that is regular in shape, to ensure good spatial quality and able to accommodate large scale activities.
- If roofed over, public spaces shall be at least double volume or 2 storeys in height, so that the space feels generous and inviting.



Good accessibility and visibility

Contiguously-shaped



Double-volume in height



Plaza at Tanjong Pagar Centre

#### Accessibility and visibility

- Good accessibility and visibility is essential to ensure good human traffic for public spaces.
- Public spaces shall be prominently sited at the ground level with generous open frontages, fronting major streets and pedestrian thoroughfares. The levels of the public space should be seamlessly integrated with surrounding walkways and be barrier-free accessible.

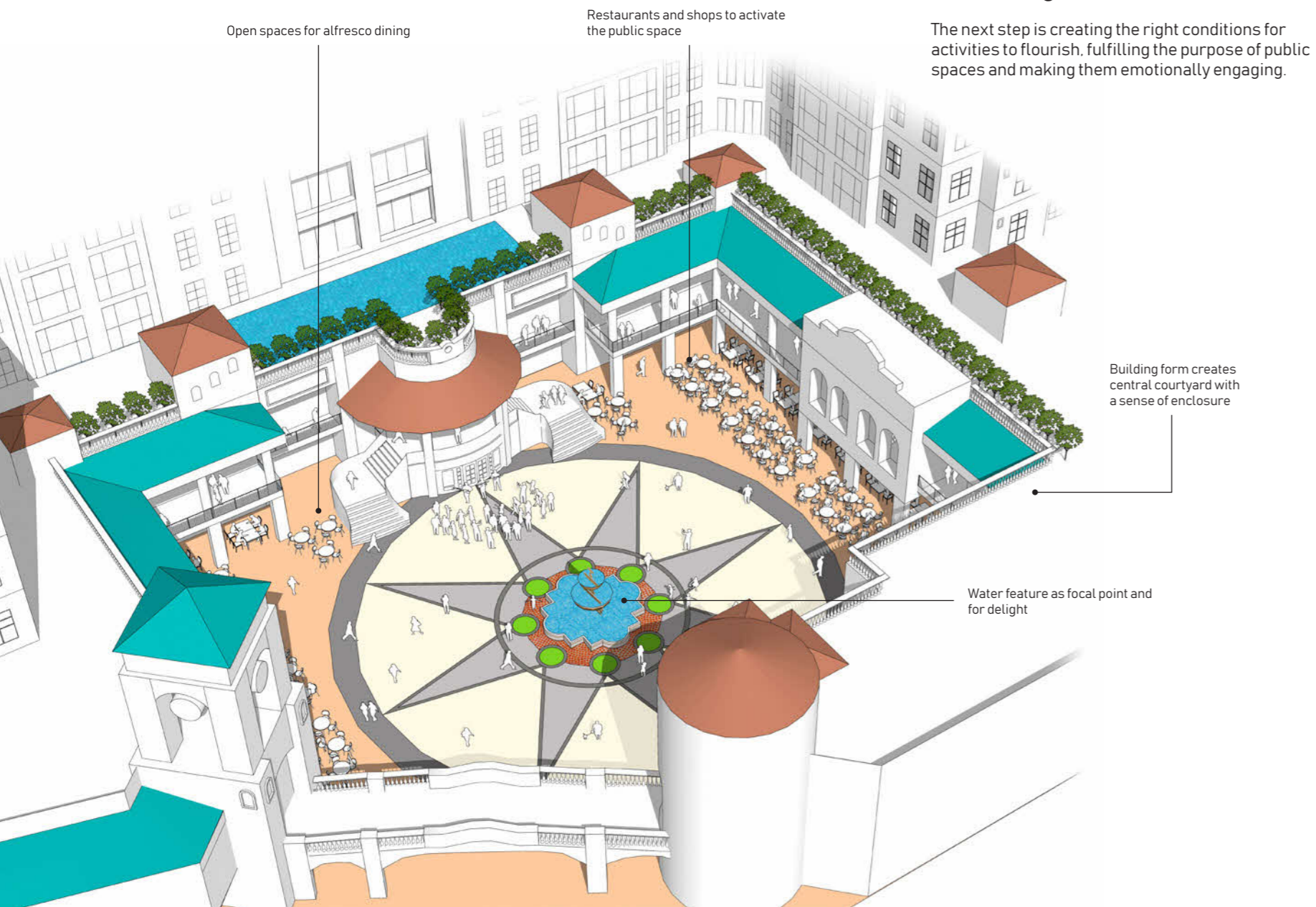
#### Shading and comfort

- Given Singapore's equatorial climate, generous shade is needed to keep outdoor spaces comfortable enough to support street life.
- URA requires at least 50% of the total public space area and 50% of public seating to be shaded throughout the day. Shade can be provided from adjacent buildings, trees, canopies, awnings or other landscape elements. Shaded areas must be in large contiguous patches – glass canopies that use small dots as fritting patterns to cover 50% of the canopy do not result in meaningful shade.
- Developers and architects are required to undertake shadow studies to demonstrate compliance with the requirements, with simulations done at 9am, 12pm and 4pm on 21 June (summer solstice).



Landscaped urban park at Guoco Tower

**Privately-owned Public Spaces (POPS)**  
The POPS guidelines can be found at the following [link](#).



Public space with alfresco dining at Robertson Walk

### Amenities and Seating

- Providing simple amenities such as seating, drinking fountains and even power points is an important gesture that conveys conviviality, making people feel welcome in public spaces.
- Public seating is a key requirement i.e. at least 1 seat for every 20sqm of public space. Seating can come in the form of benches or even ledges at the edge of planters or water features. 1m of bench or ledge length is considered as 2 seats.
- Other useful features include powerpoints, water points and lighting to facilitate the staging of events, and even artwork to bring delight.

### Activity-generating uses

- URA encourages vibrancy in public spaces through requirement of **activity-generating uses** in the first storey frontages of surrounding buildings. These refer to retail shops and F&B outlets that naturally generate footfall. Some commercial use types like banking halls and nightclubs are not considered activity-generating uses.

### Programming

- Local stakeholders can plan and **programme** regular events in public spaces, such as festivals and performances. Ground-up activation tends to be more authentic and in tune with the needs and local aspirations of stakeholders and communities.

### 3.1.4: Create meaning and attachment

The concept of place is psychological as well as physical. A space becomes a place only when it develops meaning and attachment to individuals and the community.

However, 'meaning' is an intangible attribute that is not easy to plan for. Creating meaning in space involves imbuing it with personal or collective significance. It comes from intentional planning and design in a space to a certain degree, then allowing the community to layer their own experiences and memories to the place.

#### Involve community

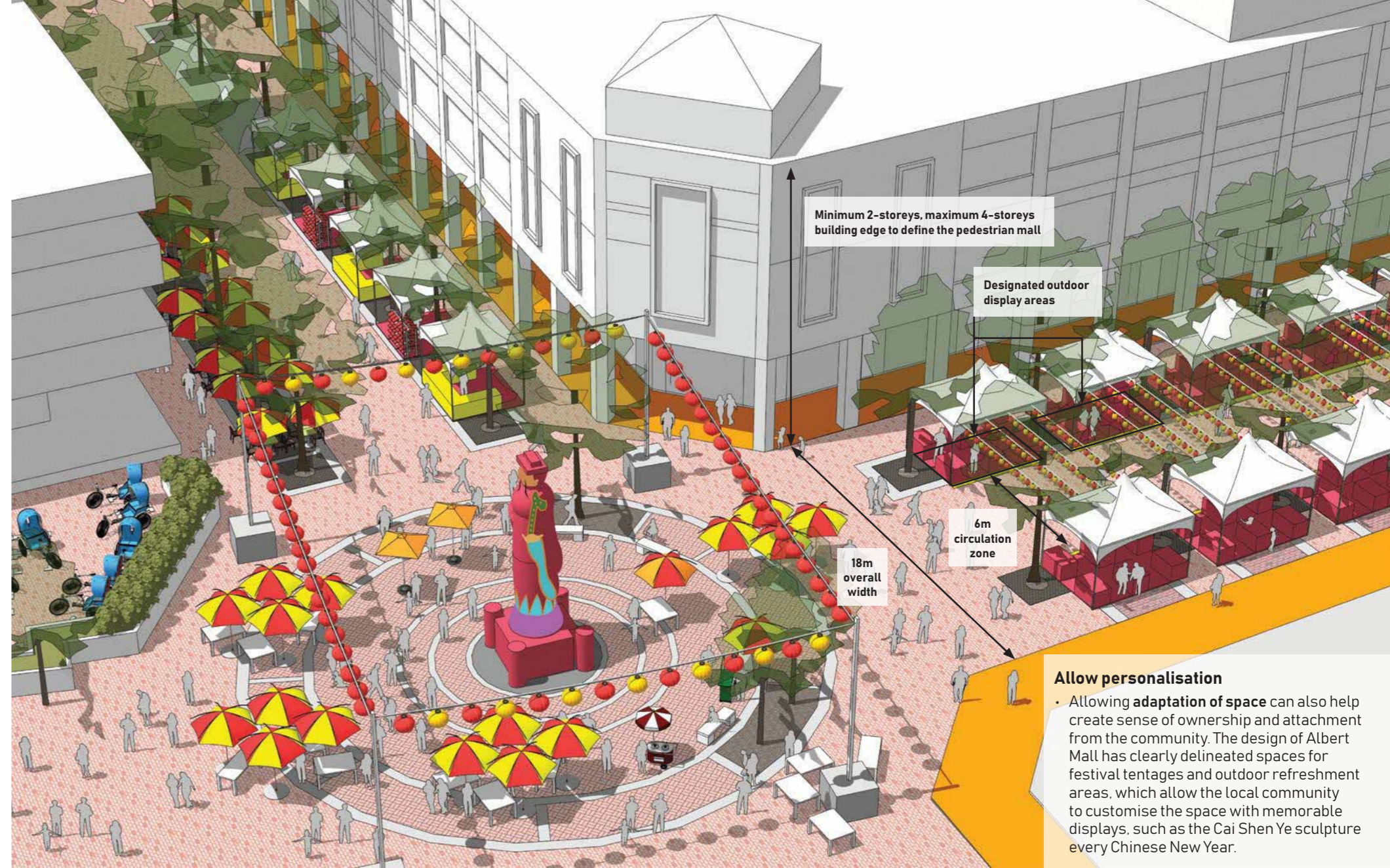
- **Community involvement** is essential in shaping meaning for a place. The annual Ramadan Bazaar at Geylang Serai is organised by local stakeholders at Wisma Geylang Serai, to continue a tradition that was first established in Geylang Serai in the 1970s.



Albert Mall pedestrian Mall at Bras Basah, Bugis

#### Relate to context

- Good design that relates to the local context, history and culture of the site can result in public spaces that resonate better with the community.
- This can include making references to historic elements in the design of the space, through artwork or landscaping, and accommodating activities that are already present in the space.
- The design of public spaces has to **relate to the local context**, responding to the history and memory of the place. In identifying the need for Zhongshan Park along Balestier Road, URA acknowledged the social significance of the open field that used to occupy the site, as it once served as an open space for the community.



Albert Mall at Bras Basah, Bugis

#### Allow personalisation

- Allowing **adaptation of space** can also help create sense of ownership and attachment from the community. The design of Albert Mall has clearly delineated spaces for festival tentages and outdoor refreshment areas, which allow the local community to customise the space with memorable displays, such as the Cai Shen Ye sculpture every Chinese New Year.



### Waterloo Street

Interesting interactions can happen organically when the physical conditions are right. While cross-worshipping was already taking place between the Kwan Im Thong Hood Cho and Sri Krishnan temples at Waterloo Street, the pedestrianisation of the street in the 1990s made it easier for devotees to move between

both temples, attracting flower sellers and fortune tellers to set up nearby. According to reports, a chicken rice seller who lived nearby contributed an urn in front of the Indian Temple for worshippers to place their joss sticks in<sup>11</sup>. This unique tableau showcases the aspect of Waterloo Street as a religious melting pot.



Sri Krishnan Temple, Waterloo Street

### 3.1.5: Shape the *mise-en-scène*!

*Mise-en-scène* is a French term that refers to the deliberate arrangement of elements in a visual space, often used in theatre to describe the placement of **sets, actors, props, lighting and even sound**.

Used in the context of public spaces, awareness of the *mise-en-scène* helps to shape more compelling multi-sensorial environments that enhance the user experience.

This requires careful observation of the site's context, its visitors, the changing conditions according to the time of day, etc.

Just as every action and interaction on stage is deliberate, orchestration of movement in public space can also create better human interactions and memorable encounters.



Colours by the Bay, Esplanade waterfront

### Esplanade waterfront

While dazzling city lights seem to take centre stage at the public spaces located around Marina Bay, it is the soundscapes that tell the more interesting story.

Marina Bay was carefully sized and configured during reclamation planning in the 1980s to ensure sufficient scale for sense of grandeur as well as optimal size for intimacy, such that the bay can be perceived as a whole.

This way, a kaleidoscopic 360-degree effect of vibrancy can be experienced from any one point of the waterfront, without affecting one's enjoyment of performances at dedicated locations such as Esplanade Colours by the Bay.

## CASE STUDY

## How can a “sense of place” be achieved in public space?

Zhongshan Park, 2011

### Creating a focal point for Balestier

The Identity Plan study of 2003 had identified Balestier as one of the more cherished nodes in the city that had an “old world charm”, with a history stretching back to the 1840s and streetscape that remained largely intact in spite of redevelopment pressures.

As part of the efforts to preserve it as an Identity Node, URA developed an “old and new” conservation approach that allowed the retention of 153 shophouses along the street without sacrificing development potential. Balestier market, the only surviving rural market left in Singapore, was also retained as an identity marker along the street.

In addition to the above, URA had planned to launch a hotel development, through the government land sales programme, on a large open field around the central section of Balestier Road, to act as a catalyst for rejuvenation of the corridor.

There was an opportunity to create a significant park within the 1.77ha site that would act as a focal point for the area. The park would open up views of Wan Qing Yuan – the Sun Yat Sen memorial hall along Ah Hood Road, from Balestier Road to give it a sense of place and connection to an important



View of Wan Qing Yuan from Zhongshan Park

piece of local history. In addition the park would recall the open field on the site that had been used as a playing field by the community.

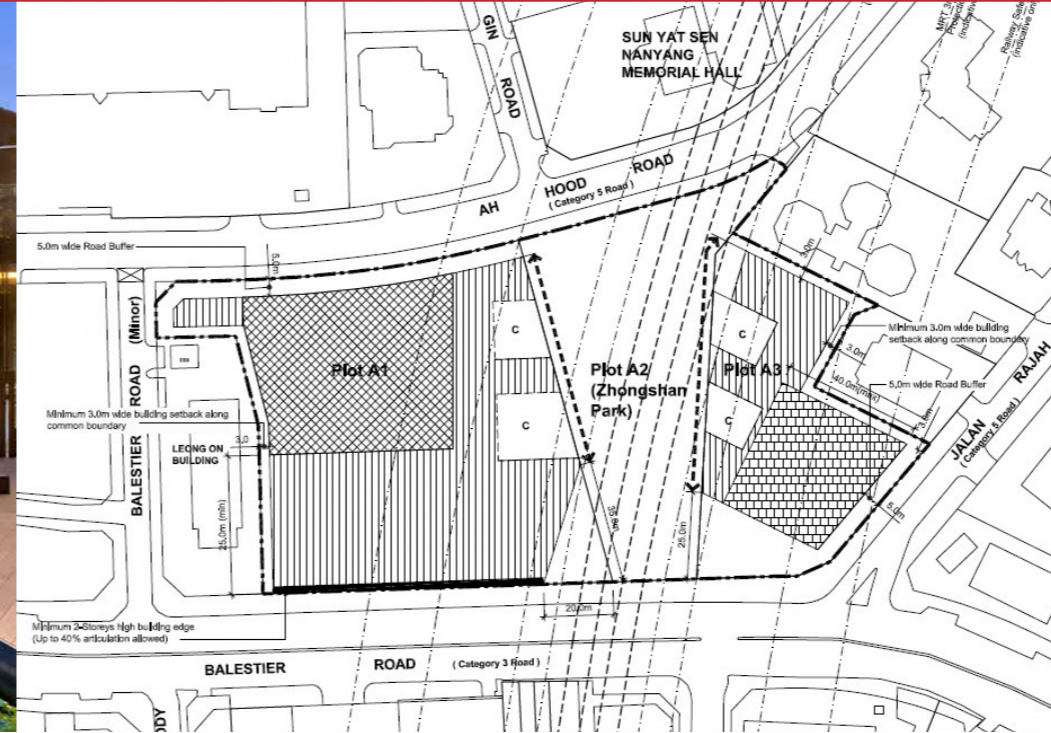
The sale site incorporated the requirement to build a 0.46ha park to be called “Zhongshan Park” within it.

### Shaping the view corridor

The sale site was divided into three plots with the intention for the middle plot to act as the park and view corridor towards Wan Qing Yuan. This made sense as the middle part of the site was also encumbered by underground MRT tunnels.

Mr Wan Khin Wai, who was then the URA Architect working on the sale site conditions, shared that the extent of the park was further shaped by view corridor considerations along Balestier Road. To the east, a splay in the building edge was created to open up views of the park from the eastern end of the street. To the west, a splay in the building edge was introduced to preserve a direct line of sight of Wan Qing Yuan from across the street.

The view corridor also took into account the retention of mature Banyan Trees on the site, ensuring that Wan Wing Yuan would remain visible while framed by the majestic trees.



### Drawing inspiration from Chinese architecture

One of the unique challenges of the site was responding to the significance of Wan Qing Yuan and its connection to Chinese history. By commemorating the space as “Zhongshan Park”, URA was also aware that it would be compared to other Zhongshan Parks around the world, some of which had highly thematic designs.

To ensure that the outcome would not look contrived, URA outlined the intention for a “contemporary hotel that draws inspiration from Chinese culture and architecture” in the sale site conditions, and highlighted the

need for a Design Advisory Panel, comprising established architects in the field, to guide in the interpretation of the design.

URA also encouraged tenderers and their architects to go deeper into the meaning of Chinese architecture and design, by suggesting that they incorporate the spatial principles instead, such as layering spaces, symmetry and the enclosure of courtyards.

The control plans also outlined URA’s urban design intentions for the sides of the park to be framed by landscaped courtyards, which would create transition zones to the internal spaces

and help to break down the mass of the building fronting the park. Outdoor refreshment areas were allowed within the courtyards to activate them, turning them into intimate semi-private public spaces.



Courtyard framing an existing Banyan Tree on site

**Interpreting the spirit of “Chinese-ness”**

A multi-disciplinary team comprising Architects from DP Architects and Landscape Architects from Tierra Design developed the design with the guidance from the Design Advisory Panel.

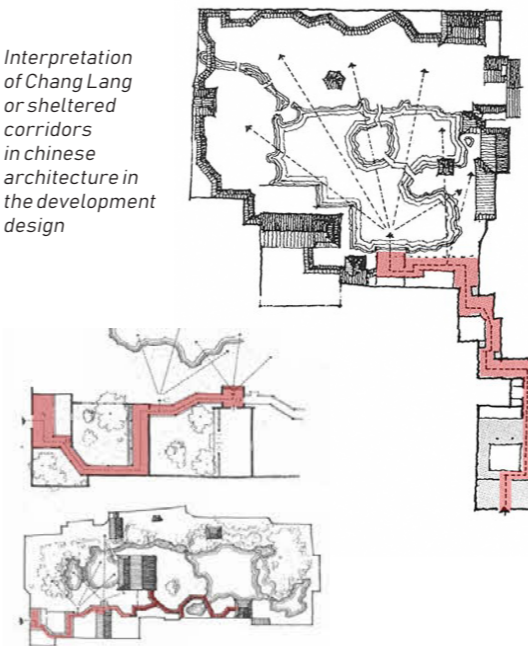
The design concept for Zhongshan Park took reference from patterns commonly found in traditional Chinese architecture, using lattices to organise footpaths around the park. Three different surface treatments were also used to help to create a layering effect, with paved areas nearer to Balestier Road, water elements in the middle and turfed areas towards Wan Qing Yuan.

In addition, the architects took care to frame the edges of the park sensitively, using a series of pavilions to break down the scale of the building frontage, create enclosures and frame the required courtyards.

Another tactic used to break down the bulk of the buildings fronting the park was to introduce screening of the pavilions using aluminium louvres. Layers of louvres with a pattern inspired by bamboo reeds helped create a mural feature wall on the largest pavilion façade. This tied in with the lush nature of planting around the park.



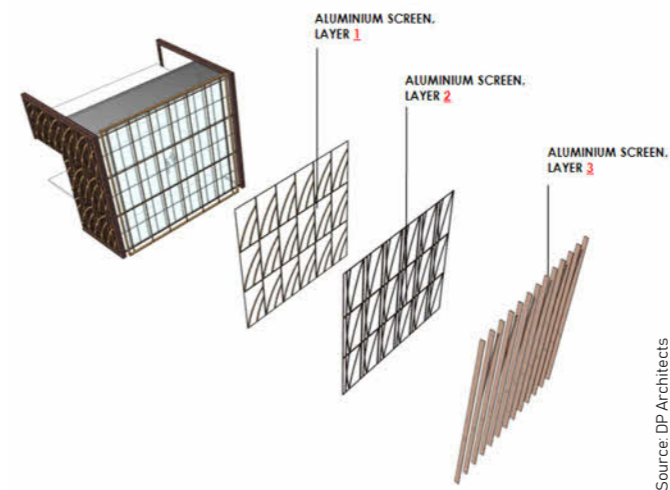
Interpretation of Chang Lang or sheltered corridors in chinese architecture in the development design



Source: DP Architects



Bamboo leaf motif mural facade



Source: DP Architects

While some of the pavilions also had pitched roof forms to reflect traditional teahouses, the DAP assessed that flat roofs were acceptable to create a contemporary architectural design as long as the spatial organization of the park alluded clearly to inspiration from traditional Chinese architecture.

**Recreating the circulation of Chinese gardens**

Another useful suggestion from the DAP was the introduction of a continuous sheltered corridor along the edges of the park, akin to sheltered corridors known as Chang Lang ‘长廊’ found in traditional Chinese gardens, which would help create a transitional zone between the park and the buildings.

This was incorporated into the design, with the architects studying numerous precedents of Chang Lang to shape the walkway, paying attention to the views created of the surrounding landscape as one circulated along the corridor.

The overall effect of these strategies was a contemporary public space that had only subtle stylistic references to Chinese architecture – so that it felt in keeping with the modern development and at home in its location within the city, but also possessed all of the experiential pleasures associated with traditional Chinese gardens. This allowed Zhongshan Park to become a welcoming public space with a strong sense of place along bustling Balestier Road.

## BEHIND THE SCENES

# Discovering the genius of local places in Singapore

DP Architects Pte Ltd was established in 1967 and has a track record of completing some of the most significant buildings in Singapore. The team that led the design of Zhongshan Park, namely Senior Director **Chan Sui Him**, Director **Suneeth Changaroath** and Director **Bernard Tay** share their experience working on the project, as well as views on the design of public spaces in Singapore.

**DPA has completed many significant projects with public spaces in Singapore. Which ones would you say have been more successful in capturing the sense of place that resonates with the community?**

**Sui Him:** For me, an example of a successful space is Bugis Junction. Between the central part and the commercial part of the building is the open-air space. To make a public place successful, you must be able to attract children. In this open-air space, you can find a water fountain turned playground that is sheltered from the western sun by the 4-storey building. Parents bring their kids to play there because it is safe. In the event of rain, people can also seek shelter within the covered walking streets. Surrounding the open space are three popular F&B outlets – Toast Box, Starbucks and McDonald's.

So, when you have eating places that serve various demographics, a children's play area, and shelter, as well as movement of people across the space, it becomes a popular place!



**Bernard:** In this case we need to talk a bit about history and how placemaking came about. A good case study is Golden Mile Complex (GMC). For one, it holds groundbreaking space planning and placemaking ideas from DP founders and pioneers. We now have the opportunity to revitalize the development through placemaking for future generations. 50 years after it was completed.

**Suneeth:** It takes time for a public space to evolve into a place that people enjoy, depending on how it is designed and how people use it. One example is Paya Lebar Quarter, which was led by our chairman, Ms Angelene Chan, and myself. The public square has become a vibrant hub in Paya Lebar central. Its success can be seen in the project's numerous appearances on social media.

**When designing public spaces, what are some things that architects can look out for to shape the sense of place? How do we uncover the genius loci of a "place"?**

**Suneeth:** For Paya Lebar Quarter (PLQ), we took inspiration from its surrounding locale, Geylang Serai. Some of the features of the building referenced the design of the traditional *songket*, which you can see in the patterns and colours of the façade. For Woods Square, the lovely gardens reflect the connection to Woodlands. We also chose natural, wood-based colours in the interpretation of the design.

**Sui Him:** Bernard talked earlier about GMC and understanding the history of a place. Suneeth

shared about Woods Square and connecting a development to its local context. The naming of PLQ relates to the four plots of the development which helps users relate to the space. In short, we try to understand the history of the place and maintain the relationship to the history of the area.

**Zhongshan Park was a unique project for Balestier. How do we respond to the idea of a "Zhongshan Park" while relating to the local identity of Balestier?**

**Bernard:** This is one of the more unique Zhongshan Parks in the world. We didn't look to the ones in mainland China or Taiwan but to the ones in Vancouver and other North American cities, because we are also outside of mainland China. It is important to identify the context in which it is built. Even the former Wan Qing Yuan – now known as Sun Yat Sen Nanyang Memorial Hall – that building is not a Chinese building, but of colonial tropical design.

Also, the architectural context of Balestier is a mix of Chinese, European, Peranakan and other influences. So, the design of Zhongshan Park reflects these different inspirations. We were also unapologetic about reflecting the time and place in which this development was designed, rather than emulating something in the past.

**Suneeth:** For some of the features in the façade, we referenced bamboo, a Chinese motif. The design of the park also took on some references from traditional Chinese gardens, such as the formality of its planning. In a more contemporary interpretation, one of our architects came up with the idea of imprinting on the façade a barcode pattern that translates to "Zhongshan Park".

The restoration of Wan Qing Yuan was carried out by DP Architects in the late 1990s. It was important to us to connect the ground plane seamlessly between Zhongshan Park into the Sun Yat Sen memorial hall. We used similar materials and raised the road for the pedestrian crossing, in fact, working tirelessly to convince LTA to allow us to blend both developments together.

**Sui Him:** A park must have trees. In this location, in the old days – it was more kampong-like, and in kampong-like environments, you will find Banyan trees around. The roots spread very fast, so we actually have walls around the trees to protect the roots. These then became elements that helped to organise the layout of the park.

**In a dense high-rise city like Singapore, why is it important to have public space?**

**Sui Him:** They are definitely important. I think URA has done a good job in introducing the concept of urban rooms, which are like living rooms on the ground level. We as architects have taken that onboard into our designs.

Take Marina Square for example, which was completed in the 80s – there is no ground floor space, everything is elevated and the ground floor is a carpark. That is why it's important for URA to say, leave the ground floor as urban space, as living areas. So, for high-rise buildings, we always try to have space on the ground level, be it a foyer or a public gathering space.

**What do you hope to see for Singapore in the years ahead?**

**Sui Him:** Let's take a look around the world. In Rome, arguably the most important building is

the Pantheon. There is a huge open space around it. Surrounding the square are eateries. The Pantheon has since become a popular gathering space. In Paris, there is the Opera House, where people sit around it and enjoy the sense of place. I would like to see more of such spaces designed for important buildings in Singapore like Victoria Theatre and Concert Hall. More can be done to allow people to enjoy spaces around important buildings. It is also important to plan in such a way that public spaces have good views.

**Bernard:** The preservation of some of these spaces become more and more critical as we start to compete for space. How do we also avoid tearing down memorable buildings unnecessarily as we continue to intensify?

**Suneeth:** This is an area where I believe URA has done well. Singapore has conserved buildings and precincts of cultural and historic significance like Little India and Joo Chiat, to preserve our social heritage.

**Bernard:** I have another thing to add. While we were working on Zhongshan Park, one of the mentors told me – I was quite junior at the time – that Zhongshan Park is a very significant project that I would one day bring my grandchildren to visit and tell them, "Look, your grandfather had a part to play in designing this place". It was a reminder to think carefully about what we build today as they are meant to serve the generations to come.

The full version of this interview can be found at this [link](#).

**THE WAY FORWARD****FROM LIVEABLE  
TO LOVEABLE CITY****Shape a distinctive, dynamic  
and delightful Singapore**

Over the years, URA has continuously expanded urban design efforts to make Singapore's urban fabric more liveable, enriching it with pedestrian networks, public spaces and lush greenery.

City-wide guiding plans and district-specific urban design guidelines have shaped legibility and imageability for the city at various scales and levels.

Innovative implementation mechanisms like Design Competitions and Concept Price Tenders have also resulted in developments with strong design quality.

Singapore has come a long way since URA was established in 1974. As we move from a liveable city to a loveable one too, what lies ahead in URA's urban design efforts for Singapore?

**Towards evidence-based  
urban design**

With technological advancement, there is opportunity to use data collection and analytics to transform the work of urban design.

**Microclimate**

As the city gets more built up, one key priority is shaping the urban fabric so that it delivers better microclimate outcomes. URA has introduced wind analysis and shadow analysis requirements in various locations, especially upcoming development areas where wind corridors and ambient shade can be built into the urban fabric from the start.

**Parametrics**

Parametric design uses computational power to generate development options based on algorithms, so that URA can optimise the urban fabric for better outcomes on microclimate, walkability and sociability. With parametric design comes the development of the digital twin, the virtual version of the physical city, that allows URA to test out changes and analyse the design proposals and performance before they are finalised and implemented.

**Smart City**

Information technology is enabling Singapore to solve urban problems to become a truly Smart City. Sensors in the urban environment are being used to collect data like wind speeds, traffic levels, pedestrian footfall, etc. which can be fed back to computational systems for analysis, allowing better policy and planning decisions to be made.

**From nodes and districts  
to corridors**

The footprint of urban design is also growing – with focus shifting from the city centre towards the Regional Centres and special character areas like Dairy Farm, Bayshore and Lentor Hills.

With a constellation of distinctive districts and charming nodes built up in Singapore's cityscape, the next step is connecting them up with a network of corridors that also prioritise public transit and active mobility outcomes for better accessibility.

For a start, five Identity Corridors have been introduced in the Long Term Plan of 2022. Through urban design, they will protect longer contiguous stretches of urban fabric that have endearing qualities, and shape emerging development corridors so that they also retain distinctive various characters and identities.

Upcoming distinctive districts along Kallang River Identity Corridor



Pedestrianisation of Armenian Street



Activation of State Land at Tanjong Pagar

## Create delightful public spaces

Over the years, URA has introduced various initiatives to ensure the creation of well-designed public spaces around Singapore, and empower communities to take ownership of their local spaces to activate them.

### Co-create public spaces with stakeholders

URA launched the POPS (privately-owners public spaces) guidelines in 2017 to guide towards better design for public spaces. Since then, about 30 POPS have been created across Singapore. URA and Singapore Land Authority introduced a programme to transform state-owned properties into attractive places in 2019, whereby tenderers are required to propose ideas to activate the buildings and being unique programmes to the area, called RSVP (Reinventing Spaces into Vibrant Places).

### Empower stewards of public spaces

URA and HDB administer a seed-funding programme known as the Lively Places Fund which supports local placemaking initiatives. One such project saw the community undertaking the painting of murals on an outdoor stairway to enliven their neighbourhood in October 2022. Another key initiative is supporting car-lite programmes that repurpose road spaces into temporary public spaces with exciting activities. To date, URA has supported 68 car-free zones on 31 streets through the "Streets for People" programme.

With growing appreciation among the public and stakeholders for well-designed public spaces, URA will continue to foster partnerships with various stakeholders, e.g. agencies, pilot Business Improvement Districts and the design industry to sustain the creation and activation of impactful public spaces.



Interactive play furniture at Marina Bay promenade

## A distinctive and loveable city to cherish

As Singapore matures, it should continue to be one that present and future generations are proud to call home. Places with memories and stories will provide a sense of belonging. Building designs that reflect local identity and heritage will keep the city unique. URA will continue to keep the city inclusive and engaging so that it stays a great place for people to realise their dreams and grow old in.

Some of the strategies to achieve this were shared at the Long Term Plan Review of 2022. They include creating markers of identity and belonging, shaping more distinctive and endearing public spaces, and co-creating places from the ground up. URA will continue to partner diverse communities to create places and spaces that are cherished by all.



Temporary road closures at Haji Lane, Kampong Gelam



Temporary road closure event at Keong Saik Road



## Shape our future together

Shaping a city requires collaborative partnership from public, private sectors and the community. URA continues to work with the various professional bodies like Singapore Institute of Planners and Singapore Institute of Architects to develop our plans for the future.

As an extension of this strategy, URA also regularly conducts Ideas Competitions to solicit feedback and proposals from the industry, students and general public.

Urban design is made richer through the exchange of ideas between the government, industry and stakeholders. Through this publication, it is hoped that developers, architects and designers will understand the guiding principles for various urban design requirements, so that through considered responses, Singapore is enriched to become a more distinctive and delightful city.

*Student exhibition at URA Centre*



*Pasir Panjang Power Terminal Ideas Competition*



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National Parks Board (NParks)  
Public Utilities Board (PUB)  
Singapore Tourism Board (STB)

### Private / Non-profit organisations and institutions

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AECOM Singapore  
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Arts House Limited  
Capitaland Group  
DP Architects  
Greena Consultants  
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Little India Shopkeepers and Heritage Society (LISHA)

Look Architects

MKPL Architects

Multiply Architects

Safdie Architects

Serie Architects

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Singapore Land Group

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### Community organisations and individuals

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Patrick Bingham-Hall

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Tony Wilson

### Resources and references

[Wikimedia images](#)

Ch 1.4 Landmarks & Gateways  
CapitaSpring, taken by Koronowo  
<https://commons.m.wikimedia.org/wiki/File:CapitaSpring1.jpg>

Ch 2.2 Roofscape  
Marina Bay Sands, taken by dronepicr  
[https://commons.m.wikimedia.org/wiki/File:Aerial\\_of\\_the\\_roof\\_top\\_pool\\_Marina\\_Bay\\_Sands\\_Hotel\\_\(36592484922\)\\_2.jpg](https://commons.m.wikimedia.org/wiki/File:Aerial_of_the_roof_top_pool_Marina_Bay_Sands_Hotel_(36592484922)_2.jpg)

Ch 2.4 Streetscapes  
Toa Payoh Town Centre, taken by Terence Ong  
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Serangoon Road, taken by Zairon  
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[Other images](#)

Ch 2.2 Roofscape  
Capitaspring section, from Greena Consultants / Tony Wilson on Behance

Ch 2.2 Roofscape  
Interlace Condominium, from govinsider.asia

## ENDNOTES

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## RELEVANT LINKS

### Introduction

Urban Design Guidelines

<https://www.ura.gov.sg/Corporate/Guidelines/Urban-Design>

Master Plan

<https://www.ura.gov.sg/Corporate/Planning/Master-Plan>

Long Term Plan

<https://www.ura.gov.sg/Corporate/Planning/Long-Term-Plan-Review/Space-for-Our-Dreams-Exhibition/Overview>

### Chapter 1

Business Improvement Districts

<https://www.ura.gov.sg/Corporate/Get-Involved/Shape-A-Distinctive-City/Placemaking-and-Partnership/Business-Improvement-District>

Singapore River Promenade Guidelines

<https://www.ura.gov.sg/Corporate/Guidelines/Urban-Design/Singapore-River>

Street Block Plans

<https://www.ura.gov.sg/Corporate/Planning/Master-Plan/Control-Plans/Street-Block-and-Envelope-Control-Plans/list-of-street-block-envelope-control-plans>

### Chapter 2

Industry Guide of Good Practices to Minimise Wall-like Developments

<https://www.ura.gov.sg/Corporate/Guidelines/Circulars/dc10-02>

Marina South Urban Design Guide

<https://www.ura.gov.sg/-/media/Corporate/Guidelines/Urban-Design/Marina-South/Marina-South-Urban-Design-Guide.pdf>

Jurong Lake District Urban Design Guide

<https://www.jld.gov.sg/events-and-resources/publications/jld-pud-guide/>

M&E Screening Guide

<https://www.ura.gov.sg/Corporate/Guidelines/Circulars/dc22-01>

Façade Articulations

<https://www.ura.gov.sg/-/media/Corporate/Guidelines/Development-control/Circulars/2019/Nov/dc19-18/OR/Annex-B.pdf>

Outdoor Advertisements within the Central Area

<https://www.ura.gov.sg/Corporate/Guidelines/Circulars/dc09-20>

Outdoor Signs within the Central Area

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Outdoor Signs outside the Central Area

<https://www.ura.gov.sg/Corporate/Guidelines/Circulars/dc09-21>

Activity-Generating Uses

<https://www.ura.gov.sg/Corporate/Guidelines/Development-Control/Non-Residential/Commercial/UD>

Outdoor Refreshment Areas

<https://www.ura.gov.sg/Corporate/Guidelines/Development-Control/gross-floor-area/GFA/OutdoorRefreshmentAreas>

### Chapter 3

Privately-owned Public Spaces (POPS)

<https://www.ura.gov.sg/Corporate/Guidelines/Development-Control/gross-floor-area/GFA/Privately-OwnedPublicSpacesPOPS>



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